

# 4-H Ontario's droidermaid 

THE 4-H PLEDGE
"I pledge:
My Head to clearer thinking
My Heart to greater loyalty
My Hands to larger service
My Health to better living
For my club, my community and my country."
THE 4-H MOTTO


Learn to do by doing
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## Welcome to 4-H Ontario's Chocolate Project - Enjoy the "Food of the Gods"

Chocolate is often referred to as "Food of the Gods". It is an ancient food, but is just as popular now as ever! Chocolate is truly one of life's most delicious pleasures. Its rich flavours and exquisite creamy texture hold an almost universal appeal to people of all ages. No one, it seems, can resist the temptation; from the simplest of childhood confections to the sophisticated cuisine of gourmets. This project introduces and explores chocolate, an indulgence the world over.

## Objectives

- To learn about the cacao tree and its cultivation.
- To appreciate all the processes involved in manufacturing chocolate.
- To discover the history/legends of chocolate.
- To learn how to cook with chocolate - the tempering process and correct temperatures.
- To learn about the different kinds of chocolate and their uses.
- To learn about the nutrition of chocolate and claims made about chocolate.
- To use chocolate in many different ways.
- To enjoy chocolate.


## How to Use This Manual

4-H Ontario's Chocolate Project is made up of 3 parts:

## 1. The Reference Book

The Reference Book is laid out in six meetings:

| Meeting 1 - Avoiding a Chocolate Catastrophe | pg. 14 |
| :--- | :--- |
| Meeting 2 - Crazy for Cacao | pg. 33 |
| Meeting 3 - Making Beans into Cookies | pg. 55 |
| Meeting 4 - The History of Chocolate | pg. 70 |
| Meeting 5 - A Chocolate Party | pg. 85 |
| Meeting 6 - Facts, Fun and Fancy Chocolate | pg. 102 |

Each meeting has been broken down into an Introduction with Sample Meeting Agendas, References and Resources, Topic Information and Activities.

Sample Meeting Agendas are at the beginning of each meeting. These agendas give suggestions for appropriate pairings of topic information, activities and recipes, along with judging and communication activities. More topic information and activities are provided than can be included in a two hour meeting. There is enough content in this project to complete consecutive clubs with little overlap. Remember that the attached agendas are suggestions, and that these suggestions will not work for all groups. Think about your group's skills and attention levels, and remove items accordingly. It is your function as the leader to cut unneeded items and tailor your meetings to the skill level of your members.

Activities should be used in combination with the discussion of topic information to teach members in a hands-on, interactive learning environment. Most activities are broken down into the following sections to assist you in organizing and preparing for club activities:

- Purpose - briefly outlines the main goal of the activity
- Age Group - indicates the age of members to whom the activity should be targeted. It is important to note that some members may have learning or maturity levels above or below their age and that the success of some activities may also depend on the interest and experience of members, regardless of age.
- Time Allotted - the expected time required to complete the activity during club time.
- Preparation \& Equipment - a list of supplies needed to complete the activity and/or preparation that must be done in advance of the meeting to run the activity.
- Instructions - directions to give members to complete the activity.
- Debrief - a very important section. While completing many of the activities is a fun experience, it is important that the members are learning something as well. The debrief section links the activity to the topic information.

There are also take home activity suggestions under "At Home Chocolate Challenges". Some of these activities are optional, while others are expected to be completed before the next meeting. This is up to the leaders' discretion. As the leader, decide what activities and/or recipes will most benefit the members and assign as an "At Home Chocolate Challenge".

## 2. The Record Book

This booklet is designed for members to record information throughout the club. Recording their goals and accomplishments, what they have learned, and how much they have practised.

The Record Book should be given to each member at the beginning of the first meeting. Ask members to keep it in a binder so they can add to it easily. Print or photocopy pages from the Reference Book that you think will benefit the members either as a resource, or in an activity.
 Pages labelled with the clover icon (shown) are suggested pages to distribute to members, either as a complete booklet at the beginning of the club or in smaller units at each meeting. As the Record Book is added to over the course of the club it will become a type of "members' manual".

Go through the Record Book with the members and explain the charts and forms. Encourage them to use their Record Books, and record as much information as possible.

## 3. The Recipe Book

This booklet includes several recipe options. Many of the activities in your meetings will require recipes. Each recipe provides information on the equipment and ingredients needed, directions, preparation and cooking/baking times, and the yield of the recipe (number of servings).

## Planning a Meeting

Plan your meetings well. Make sure to read all the information well in advance so you are prepared and ready to cook up a chocolate storm!

## Before Each Meeting

- Read the topic information and activities thoroughly and photocopy any relevant resources for the members' Record Books. Particularly useful material should be marked with a clover leaf. The clover leaf means that the marked sheet would be a useful photocopied handout for the members.
- Be familiar with the knowledge presented in the topic information. Think of imaginative ways to present the information to the members. Do not rely on just reading the information aloud.
- Gather any equipment, ingredients, and/or resources that need to be brought to the meeting.
- Review available resources, plan the meetings and choose activities and themes that compliment the ages and interests of your members.
- Each 4-H project must be held over a period of at least 4 separate meetings, totaling a minimum of 12 hours. Typically, 4-H meetings are approximately 120 minutes ( 2 hours) in length. Before each meeting, create a timeline to ensure that you are providing an adequate amount of instructional time for club completion.

Included in the following pages is a Leader's Planning Chart to help with the planning of meetings. In addition to the chart, keep track of what went well and what should be changed next time. That way, each time this project is run, the content of the meetings can be different!

When planning each meeting, a typical 4-H meeting agenda should include the following:

- Welcome
- 4-H pledge
- Roll Call
- Secretary's Report
- Treasurer's Report (if any)
- Press Report
- New Business: local and provincial 4-H activities/ opportunities, upcoming club activities
- Meeting content, activities and recipes
- Clean-up
- Social recreation and/or refreshments
- Adjournment


## Judging and Communications

Each meeting must include either a judging or public speaking activity.

- Judging activities give the members an opportunity to use judging techniques as part of the learning process. Through judging members learn to evaluate, make decisions and communicate with others. They also develop critical thinking skills, confidence and self-esteem. Many examples are given throughout this book - but use your imagination! As long as members are setting criteria, and critically thinking about where items fit within that set of criteria, they are learning the basic skills of judging!
- A communications activity has been provided for each meeting, but can be included in the Roll Call or social recreation time too. These activities do not need to involve the topic of chocolate as the outcome is more about understanding the concepts of effective communication.



## As a club volunteer your responsibilities are to:

- Complete the volunteer screening process and attend a volunteer training session.
- Notify the local Association of the club, arrange a meeting schedule and participate in club meetings, activities and the Achievement program
- Review project material in the Reference, Record and Recipe Books to familiarize yourself with the information and adapt it to fit your group - be well organized, and teach the material based on your group's age, interest, and experience level.
- Organize the club so members gain parliamentary procedure, judging and communication skills.
- Have membership lists completed and submitted along with fees collected (if applicable) by the end of the second meeting.
- Have members fill out a Health and Safety Form and identify any health concerns. Ensure that all members, leaders and parent helpers know the appropriate actions during an emergency.

As a club member your responsibilities are to:

- Participate in at least $2 / 3$ of his/her own club meeting time. Clubs must have a minimum of 12 hours of meeting time.
- Complete the project requirements to the satisfaction of the club leaders
- Take part in the project Achievement Program
- Fill in and complete the Record Book
- Make ( ) recipes and record results (up to leaders' discretion)


## Achievement Program Ideas/Suggestions

- Make gift baskets for retirement homes or the less fortunate.
- Demonstrate chocolate making at a mall or grocery store.
- Run an educational workshop before a holiday to teach people how to make chocolates.
- Hold a chocolate bake sale where each member bakes his/her favourite chocolate recipe.
- Hold a chocolate tasting event to educate the members' families and friends, and even the public about different kinds and uses of chocolate.
- Plant a Chocolate Garden in the community. Plant an entire garden or just window boxes, pots or planters. Advertise the event, and invite friends and family to come help!


## Special Projects

These projects are done outside of meeting time and are for members interested in doing more - often senior members. It's up to you as the leader to decide if you will require members to complete a Special Project for club completion. Here are some ideas:

- Write three press releases on chocolate topics.
- Prepare a scientific classification for the cacao tree.
- Draw a cacao tree mural showing pollination, or show a detailed cacao tree in its surroundings.
- Track the price of cacao on the stock market for the duration of the project and write a summary.
- Research single origin tracking for various commodities - what are the pro's and con's of this system to the consumer, and to the producer? Compare to the traceability of beef or lamb in Ontario.


## Leader Tips

## Hints for Working with Chocolate

- If you are going to melt chocolate, cut the chocolate up into even-sized pieces. It makes melting easier and faster.
- Take your time, and heat chocolate gently.
- Always melt chocolate over a low heat in a double boiler. Too high of a heat will cause the water in the double boiler to boil - creating condensation on the bottom of the upper pan. This heats the chocolate too much and the chocolate will burn.
- Heat chocolate over hot, not boiling water!
- A glass or ceramic bowl is better to melt chocolate in rather than a metal bowl. That way you can control the temperature more effectively.
- Temperature with chocolate is the "key" - Never heat chocolate above $44^{\circ} \mathrm{C}\left(110^{\circ} \mathrm{F}\right)$. A candy thermometer is a handy tool.
- Do not make chocolates on a hot, humid day. The kitchen should be cool when working with chocolate.
- Warm fingers will leave fingerprints on chocolates.
- Chocolate will still melt after it has been removed from the heat source. Therefore, only partially melt chocolate and then continue stirring it to melt the remainder.
- Never cover melting chocolate with a lid. Condensation drops will cause the chocolate to seize.
- Milk chocolate and white chocolate will burn and seize more quickly and easily than darker chocolate, so watch the chocolate closely.
- Have ingredients, that you are going to add to the chocolate, at room temperature.


## Chocolate Remedies

- If chocolate has seized, add 5mL (1 tsp) cooking oil or solid shortening per 30g (1oz) chocolate and stir. Repeat until the chocolate has regained its smoothness.
- Tempered chocolate can be stored at room temperature. If untempered chocolate has been used, place the finished product in the refrigerator immediately to harden the fat crystals and keep the glossy finish.
- Burned chocolate cannot be saved!!


## Tour Ideas

- Visit a chocolate factory.
- Go to a confectionery store or baking supply store to purchase supplies.
- Visit a chocolate museum or exhibition.


| Bloom | The gray film that forms on the outside of solid chocolate. It occurs when the chocolate is stored at temperatures over $25^{\circ} \mathrm{C}\left(75^{\circ} \mathrm{F}\right)$. The cocoa butter begins to melt and rises to the surface. It does not affect the flavour but does not look appetizing. |
| :---: | :---: |
| Cacao | Name of the tree, the seeds or beans inside the cacao pod. This refers to all products before the processing of the cacao bean. |
| Chocolate Liquor | The thick, brown paste or liquor that results when chocolate nibs are ground to liquefy the cocoa butter. This is the essence of all chocolate. It is non-alcoholic. |
| Chocolatier | One who makes and/or sells chocolate. |
| Chocolate Nib | The inner seed or "meat" of the cacao bean. It contains over 50\% cocoa butter, so is high in flavour and energy (calories). Some chefs are now using nibs in recipes, or for snacking (when chocolate covered). Even as a topping on ice cream. |
| Cacao Bean | Fruit of the cacao tree. |
| Cacao Pod | The hard, melon shaped pods, $15-20 \mathrm{~cm}$ long, weighing 450g that contain 20-40 cacao seeds/beans. |
| Cauliflory | The attachment of the flowers and fruit directly on the trunk of the cacao tree. |
| Cocoa | Refers to the products after the cacao bean has been processed, eg. cocoa powder, chocolate. |
| Cocoa Butter | The fat released from pressing or grinding the cacao beans. |
| Conching | One of the last steps in processing chocolate. It is the mixing (in barrels) of the ingredients, putting air in the chocolate, and creating smoothness by coating the sugar and cacao particles with cocoa butter. Rodolphe Lindt invented this process in 1879. |
| Enrobing | The process where food items like candy bar centres, nuts, etc. are coated in chocolate. You can do this by dipping items into tempered chocolate. |
| Fermentation | Raw cacao beans are placed on the ground or in wooden bins and wild yeasts are allowed to ferment the pulp surrounding the beans producing acids which cause the temperature to rise and the pH to fall which results in the cacao seed dying. The internal walls of the seed break down causing a change in the bitter flavour of the original cacao bean. |

## Ganache

Mexican Chocolate

Mole

Seize

Tempering

Truffles

Winnowing

Mixture of cream and chocolate that is slowly heated to create a chocolate with a glossy sheen. It can be poured over cakes or can be chilled and used to make truffle centres.

Solid chocolate flavoured with cinnamon, almonds and vanilla.
From the Mexican word "moli" which means concoction. Mole is a rich, dark brown sauce. The main ingredient is chilies but it also contains a small amount of Mexican (bitter) chocolate.

The term used when melted chocolate becomes lumpy and stiff. It happens when just a drop of liquid (usually water) comes in contact with the chocolate during heating, or when the chocolate is overheated.

The technique of stabilizing chocolate through a melting and cooling process at specific temperatures. Tempered chocolate retains its shape and glossy surface. Tempered chocolate melts at a higher temperature than untempered chocolate. The goal of tempering chocolate is to create a certain type of sugar crystal in the cocoa butter that is very stable.

A type of chocolate consisting of a ganache centre (made of cream, chocolate, and flavouring), usually round or ball shape that is dipped or coated in chocolate and then rolled in coca powder, coconut, chopped nuts, sprinkles, etc. Named after the French Truffle (a fungus).

The process which separates the dry shells of the cacao beans from the cacao nibs which are then ground to make chocolate.

## Additional References and Resources

- Candy Making Beginners Guide. Wilton Candy Making Products
- Fondue and Tabletop Cooking. Better Homes and Gardens. 1970.
- Holland, Barb. Milk's Microwave Cookbook. 1989.
- LeRiche, S., Sharpoe,C., and D. McDougall. The Chocolate Book. 1983.
- Pare, Jean. Chocolate Everything. Company’s Coming. Company's Coming Publishing Ltd. 2000.
- Pare, Jean. Gifts from the Kitchen. Company’s Coming. Company’s Coming Publishing Ltd. 2001.
- Scharffenberger, J and R. Steinberg. The Essence of Chocolate. Hyperion. 2005.
- www.cadbury.co.uk
- www.danschocolate.com/Glossary.html
- www.fieldmuseum.org/Chocolate/kids-fads4.html
- www.hersheys.com
- www.karachocolates.com
- www.kidscandy.org
- www.kidztown.com
- www.mce.k12tn.net/chocolate/games/match1.htm
- www.wildernessclassroom.com/students/archives



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## Objectives

- Review safety in the kitchen to prevent accidents
- Realize the importance of accurately measuring ingredients to make a successful product
- Give members the knowledge of how to make substitutions if they are missing an ingredient



## Roll Calls

Name one safety tip to remember in the kitchen. What utensils do you use when measuring ingredients for baking? Have you ever been sick from food poisoning? If so, what food did you eat?

Sample Meeting Agenda - 2.25 hrs

| Welcome, Call to Order \& Pledge |  | 10 min |
| :---: | :---: | :---: |
| Roll Call |  | 5 min |
| Parliamentary Procedure | Elect executive, hand out Record Books and discuss club requirements. Fill out club and member information in Record Books, and have each member fill out their "Member Expectations and Goals" page. | 20 min |
| Topic Information Discussion | Discuss kitchen and chocolate safety in full, making sure all members are aware of hazards and how to prevent accidents. | 20 min |
| Recipe | Activity \#5 - Measure Those Ingredients! - All members (Chocolate Chip Oatmeal Cookies pg. 9) | 15 min |
| Topic Information Discussion | While the cookies are baking further discuss measuring, its importance and proper methods. Introduce the concept of "substitutions" and why knowing how to substitute is useful when baking. | 10 min |
| Activity Related to Topic Information | Activity \#4-Accuracy Counts - All members | 10 min |
|  | Activity \#7-Substitution Game - All members | 10 min |
| Judging Activity | Activity \#9 - Judging Cookies - All members | 20 min |
| Wrap up, Adjournment, Social time and enjoy the chocolate treats! |  | 10 min |
| At Home Chocolate Challenge | 1. Prepare Super Fudge Brownies in a Jar or in a Large Bag, pg. 6 in Recipe Book, and give to someone special. A gift of home-baked "convenience"! <br> 2. Senior members should prepare Easy Brownie Pizza pg. 7 and record results. <br> 3. See Meeting 2 - Activity \#6-Presentation - Have Intermediate and Senior members prepare Fair Trade Presentations for the next meeting. |  |

## References and Resources

- Batter Up! Ontario 4-H Council. 4-H 18094 LE
- www.dummies.com/how-to/content/measuring-ingredients-for-baking.html


## Kitchen Safety

A few basic points to remember when working in the kitchen to make it a fun and safe time:

## Accident Prevention

- Make sure that you have permission to cook and use the appliances in the kitchen.
- Tie back long hair and roll up long sleeves as these could catch on fire when you lean over.
- Wash and dry your hands before starting. Wet hands are slippery.
- When using the stove, remove any clutter: paper towels, boxes, towels, pot holders which could catch on fire.
- If you are too short to reach the counter top use a stool so that you are not reaching. As reaching may cause a fall or spill.
- Keep cupboard doors and drawers closed so that you will not hit your head.


## Prevent Fire by Avoiding Hazards - DO's and DON'Ts

DO...

- clean up any spilled grease as it burns very quickly. If a fire should start, cover it with a lid or bigger pan to smother the fire.
- have baking soda, a lid and an ABC fire extinguisher close at hand if you should need them.
- avoid reaching over the stove for items. Keep things you need right beside you.
- turn all pot handles inwards so that they will be out of the reach of younger children, and you will not knock them off the stove with your arm.
- keep all appliances with cords on the counter top (do not let the cord hang down where a child could pull the appliance over). Replace any frayed or broken cords.
- protect yourself against steam when opening a cooking item, especially when using the microwave. Open the lid or covering away from your face. Steam can cause serious burns.
- use oven mitts when handling hot bowls, dishes and pans. Dish towels are too bulky for this job.
- only use microwave safe dishes when using the microwave.
- always make sure there is a smoke alarm in the house.


## DON'T...

- carry a burning pan outside as that could spread the fire more.
- pour water or flour on the fire as that will only spread the fire more.
- leave a cooking area unattended to answer the phone or to work on the computer. It does not take long for things to burn and time passes quickly when you are doing something else.
- leave the stove on and unattended.


## To Treat Injuries

- If a minor burn should occur, immediately place the area under cold running water and keep it there for several minutes. This will prevent further burning, and will help to reduce pain and blistering. Make sure parents are notified immediately.
- If the burn is any more serious, contact family physician or go to the hospital.


## Chocolate Safety

- Chocolate can burn very easily. Therefore it is usually melted over a slow heat in a double boiler (2 pots fitting together with water in the bottom one).
- White chocolate is even more sensitive to being overheated.
- Chocolate does not like water. When melting chocolate make sure that no water gets in the chocolate as it will seize the chocolate (make it harden immediately).
- Use a chocolate thermometer so that the correct temperature is reached and burning is avoided.
- Melted chocolate is hot - be very careful when pouring or working with it.
- Wipe up any spills on the floor to prevent slipping and falling.


## Food Safety - It's in YOUR Hands

There are 4 steps that you can do to reduce the risk of food poisoning:

| Step | Action | Method |
| :---: | :---: | :---: |
| 1 | CLEAN | - Wash your hands (for at least 30 seconds, make sure under the nails are clean), utensils and surfaces with hot, soapy water before, during and after preparing foods. <br> - Sanitize countertops, cutting boards and utensils with a mild bleach and water solution so cross contamination from other foods is prevented. |
| 2 | SEPARATE | - Keep raw meats and poultry away from other foods during storage and preparation. <br> - Separate cutting boards for raw meats and vegetables. Always keep foods covered. <br> - Store foods according to directions on the package. <br> - Check the "best before" date. <br> - Thaw food correctly. <br> - If a food does not look right, smell right or feels different, throw it away. |
| 3 | COOK | - Cook food thoroughly. Cooking times and temperatures vary for different foods. Cooked food should be held and served at $60^{\circ} \mathrm{C}$. <br> - Prepare food quickly and do not let foods stay at room temperatures for long periods. <br> - A food thermometer is very important to ensure that food is stored, cooked and served safely. |
| 4 | CHILL | - Refrigerate or freeze perishables, prepared foods and leftovers within 2 hours. <br> - Internal refrigerator temperature should be between $0^{\circ}$ and $4^{\circ} \mathrm{C}\left(40^{\circ} \mathrm{F}\right)$. Frozen foods should be kept at $-18^{\circ} \mathrm{C}\left(0^{\circ} \mathrm{F}\right)$. <br> - Chill foods quickly by putting the food in smaller, shallow containers. <br> - Once food has thawed it must be cooked. After thoroughly cooking it can be frozen again. |

For more information and activities refer to the 4-H Ontario projects, "To Your Good Health" or "Foods".

## Measuring Up

A recipe is a combination of ingredients to produce a delicious product. In fact, recipes are a combination of ingredients that react or combine with each other in a chemical combination - just like a science experiment at school. However our "experiments" are edible! Proper measuring prevents adding too much, or not enough of an ingredient, so that the end-product turns out just right.

To properly measure ingredients, you need:
Measuring Spoons - from 1.25 mL (1/4tsp) to 15 mL (1tbsp)
To measure small amounts of a liquid, like vanilla, use measuring spoons. For dry ingredients, take the back of a table knife and level off the top. This will ensure an accurate measurement. Remember, everyday cutlery will not give an accurate measurement.

Dry Measuring Cups - usually plastic, in a set ranging from 60mL (1/4c) to 250 mL (1c)
To measure a dry ingredient like flour or sugar, use the dry measuring cups. Spoon the ingredient into the cup and using a table knife (flat side) level off the top of the cup. Note: sometimes the recipe will state "lightly packed" - this means that you should take a spoon and gently press the ingredient into the cup and then level off. This is often used for brown sugar, coconut and shredded cheeses.

Measure soft fats or margarine by scooping the fat into the dry measuring cup and leveling it off with a table knife.

Wet Measuring Cups - usually glass in 250 mL (1c), 500 mL (2c) and 1 L (4c) sizes
To measure liquids, place your glass measuring cup on the counter and pour the liquid into the cup. Bend down and check if the liquid is at the correct measurement at eye level. Looking from above can make the measurement incorrect.


## A CHOCOLATE TIP:

Foods like corn syrup, peanut butter, honey and molasses are very sticky to work with, making them hard to get out of the cup. Spray the cup with a non-stick spray, grease with a little oil, or rinse with cold water before adding the ingredient, and it will come out easier.


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## Measuring Solid Fats

To measure solid fats like butter, shortening or lard, look at the packaging. The packaging will be marked off into measurements. Use this as a guide, and slice off the correct amount.

Another way to measure hard fats is called the "Water Displacement Method" which is actually more accurate. The principle is that you start with 250 mL ( 1 cup) water and subtract the amount of fat desired. If you need 125 mL ( $1 / 2$ cup) fat, subtract 125 mL ( $1 / 2$ cup) from 250 ml ( 1 cup), which gives you 125 mL ( $1 / 2$ cup). Fill the cup with $125 \mathrm{~mL}(1 / 2 \mathrm{cup}$ ) cold water and add the fat until the water rises to 250 mL ( 1 cup) level. The fat displaces the water and the level rises to fill the measuring cup. In other words, you are replacing water with fat. Drain off the water and add to the other ingredients.

Handy Measurement Conversions

| 250 mL | $=$ | 1 cup |
| :---: | :---: | :---: |
| 175 mL | $=$ | $3 / 4 \mathrm{cup}$ |
| 125 mL | $=$ | $1 / 2 \mathrm{cup}$ |
| 75 mL | $=$ | $1 / 3 \mathrm{cup}$ |
| 60 mL | $=$ | $1 / 4 \mathrm{cup}$ |
| 15 mL | $=$ | 1 tbsp |
| 5 mL | $=$ | 1 tsp |
| 2 mL | $=$ | $1 / 2 \mathrm{tsp}$ |
| 1 mL | $=$ | $1 / 4 \mathrm{tsp}$ |
| 1 ounce | $=$ | 30 grams |
| $20 \times 20 \mathrm{~cm}$ pan | $=$ | $8 \times 8$ inch pan |
| $175^{\circ} \mathrm{C}$ | $=$ | $350^{\circ} \mathrm{F}$ |

## A CHOCOLATE TIP:

Do not measure over the bowl you are using to mix in. If you happen to spill or overflow the spoon, the measurements will not be accurate, and it is very hard to take out extra ingredients. If the wrong amounts are added the end product may not taste as you thought it should. The wrong chemistry!

## Wait a second ?!

What does "heaping cup" mean - just don't level it off. What about a "dash" - it is 2-3 drops, or less.

## Substitution Solutions

Sometimes you are getting ready to prepare a certain recipe, but are missing an ingredient. Often you can substitute with other ingredients. Below is a list of some substitutions:

## Dairy Products

| 250 mL (1c) homo milk | = | $125 \mathrm{~mL}(1 / 2 \mathrm{c})$ evaporated milk +125 mL (1/2c) water |
| :---: | :---: | :---: |
| 250 mL (1c) skim milk | = | 75 mL (1/3c) skim milk powder + water to make 250 mL (1c) |
| 250 mL (1c) buttermilk | = | 15 mL (1tbsp) vinegar or lemon juice in a measuring cup, add milk to make 250 mL (1c), let stand for 5 minutes |
| 250 mL (1c) sour cream | = | 225 mL (7/8c) buttermilk or plain yogurt plus 45 mL ( 3 tbsp ) butter |
| 250 mL (1c) yogurt | = | 250mL (1c) buttermilk |
| 250mL (1c) light cream | = | 225 mL (7/8c) homo milk plus 45 mL ( 3 tbsp ) butter |
| 250 mL (1c) whipping cream | = | 175 mL (3/4c) homo milk plus 75 mL (1/3c) butter - it does not whip |
| 250mL (1c) butter | = | 250mL (1c) margarine |

## Staples

| $250 \mathrm{~mL}(1 \mathrm{c})$ cake flour | $=$ | $250 \mathrm{~mL}(1 \mathrm{c})$ minus $30 \mathrm{~mL}(2 \mathrm{tbsp})$ all purpose flour |
| :--- | :--- | :--- |
| $250 \mathrm{~mL}(1 \mathrm{c})$ all purpose flour | $=$ | $250 \mathrm{~mL}(1 \mathrm{c})$ plus $30 \mathrm{~mL}(2 \mathrm{tbsp})$ cake and pastry flour |
| $250 \mathrm{~mL}(1 \mathrm{c})$ whole wheat flour | $=$ | $250 \mathrm{~mL}(1 \mathrm{c})$ all purpose flour |
| $15 \mathrm{~mL}(1 \mathrm{tbsp})$ cornstarch (for <br> thickening) | $=$ | $30 \mathrm{~mL}(2 \mathrm{tbsp})$ all purpose flour |
| $250 \mathrm{~mL}(1 \mathrm{c})$ white sugar | $=$ | $250 \mathrm{~mL}(1 \mathrm{c})$ firmly packed brown sugar |
| $250 \mathrm{~mL}(1 \mathrm{c})$ honey | $=$ | $300 \mathrm{~mL}(11 / 4 \mathrm{c})$ white sugar plus $50 \mathrm{~mL}(1 / 4 \mathrm{c})$ liquid |
| $5 \mathrm{~mL}(1 \mathrm{tsp})$ baking powder | $=$ | $1 \mathrm{~mL}(1 / 4 \mathrm{tsp})$ baking soda plus $2 \mathrm{~mL}(1 / 2 \mathrm{tsp})$ cream of tartar |
| $5 \mathrm{~mL}(1 \mathrm{tsp})$ lemon juice | $=$ | $2 \mathrm{~mL}(1 / 2 \mathrm{tsp})$ vinegar |
| $125 \mathrm{~mL} \mathrm{(1/2c)} \mathrm{raisins}$ | $=$ | $125 \mathrm{~mL}(1 / 2 \mathrm{c})$ prunes or dates, dried currants, sour cherries, <br> cranberries, or blueberries |
| $250 \mathrm{~mL}(1 \mathrm{c})$ oil | $=$ | $250 \mathrm{~mL}(1 \mathrm{c})$ butter or margarine |

*Also, remember, 1 whole egg $=2$ egg yolks.

## Pan Sizes

| 1.2L (8 inch) round pan | $=$ | 1.5L (8x4 inch) loaf pan | $=$ | 10-12 muffin cups |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1.5L (9 inch) round pan | $=$ | 2L (8 inch) square pan | $=$ | 14-16 muffin cups |  |  |
| 2.5L (9 inch) square pan | $=$ | Two 1.2L (8 inch) round | $=$ | 20-24 muffin cups |  |  |
| 2L (11x7 inch) rectangle pan | = | 2L (9x5 inch) loaf pan | $=$ | 16-20 muffin cups | $=$ | 2.5L (9 inch) square pan |
| 3.5L (13x9 inch) rectangle pan | $=$ | Three 1.2L (8 inch) round pans | $=$ | Two 2L (9x5 inch) loaf pan | $=$ | Two 2L (8 inch) square pans |
| 3L (10 inch) Bundt pan | $=$ | Two 1.5L (9 inch) round pans | $=$ | Two 2L (9x5 inch) loaf pans | $=$ | Two 2L (8inch) squares pans |

Chocolate

| $11 / 2$ squares semisweet chocolate | $=$ | 60 mL (1/4 c) semi-sweet chocolate chips |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 squares semisweet chocolate | $=$ | 75mL (1/3c) chocolate chips |  |  |  |  |
| 3 squares semisweet chocolate | = | 125mL (1/2c) chocolate chips |  |  |  |  |
| 6 squares semisweet chocolate | = | 250mL (1c) chocolate chips |  |  |  |  |
| 1 oz (30g-1 square) unsweetened chocolate | = | 50 mL (3tbsp) cocoa +15 mL (1 tbsp) shortening, butter or margarine |  |  |  |  |
| 1oz (30g- 1 square) semi-sweet chocolate | $=$ | 15g (1/2 oz) unsweetened chocolate +15 mL (1tbsp) white sugar + 15 mL (1 tbsp) butter |  | 50 mL (3 tbsp) unsweetened cocoa powder + 15 mL (1tbsp) white sugar + 15 mL (1 tbsp) butter or shortening | $=$ | 45 mL (3 tbsp) semisweet chocolate chips |

* Do Not substitute milk chocolate for recipes that require semisweet or bittersweet chocolate as milk chocolate is more heat sensitive than other chocolates, and has a much different flavour and sweetness.


## Equivalency Calculation Chart

Often you will find that some measurements are in the Imperial system, and some are in the Metric system. Here are some equivalents and a calculation chart:

| To Change | To | Calculation |
| :--- | :--- | :--- |
| Ounces (oz) | Grams (g) | $\times 28$ |
| Pounds (lbs) | Kilograms (kg) | x.45 |
| Teaspoons (tsp) | Millilitres (mL) | $\times 5$ |
| Tablespoons (tbsp) | Millilitres (mL) | $\times 15$ |
| Fluid Ounces (fl oz) | Millilitres (mL) | $\times 30$ |
| Cups (c) | Litres $(\mathrm{L})$ | x .24 |
| Fahrenheit temperature $\left({ }^{\circ} \mathrm{F}\right)$ | Celsius $\left({ }^{\circ} \mathrm{C}\right)$ | Deduct 32, then multiply by 5, and then divide by 9 |

Some other useful equivalents are:
1 square of baking chocolate = 1 ounce
$1 / 4$ pound butter or margarine $=125 \mathrm{~mL}(1 / 2 \mathrm{c})$
4 ounces almonds or walnut meats $=250 \mathrm{~mL}$ (1c) chopped nuts

## THE DONENESS TEST - 3 Ways:

1. Put a toothpick in the centre of a cake - if it comes out clean it is done.
2. Lightly press a finger in the top of a cake - if it springs back quickly it is done.
3. If the cake or squares are a golden brown or pull away from the sides of the tin - they are done.

## Chocolate Storage

Bulk chocolate (in wafer pieces or large blocks), as well as chocolate coatings should be stored in a cool, dry place such as a closet or cupboard. Tempered chocolate should be wrapped tightly or placed in an airtight container, as chocolate will take on other odours if not wrapped.

## Temperature

- Store below $25^{\circ} \mathrm{C}\left(75^{\circ} \mathrm{F}\right)$ and above $18^{\circ} \mathrm{C}\left(65^{\circ} \mathrm{F}\right)$.
- Do not store chocolate in the refrigerator unless the room temperature is above $25^{\circ} \mathrm{C}\left(75^{\circ} \mathrm{F}\right)$. If you must store it in the refrigerator, wrap it tightly to prevent any moisture from getting in and changing the texture.
- Chocolate must not be stored in the freezer as it will discolour and lose its shine.


## Length of Time

- Milk and white chocolate should not be stored for more than 9 months due to the milk solids that they contain which could become rancid.
- Chocolate filled with marzipan, fudge, coconut or fondant, stored at $20^{\circ} \mathrm{C}\left(68^{\circ} \mathrm{F}\right)$ or lower, will keep in a closed container for 6 weeks or more.
- Molded chocolate stores well for months if well wrapped. Ideal temperature $20^{\circ} \mathrm{C}\left(68^{\circ} \mathrm{F}\right)$ up to $24^{\circ} \mathrm{C}$ ( $75^{\circ} \mathrm{F}$ ).
- Chocolate filled marzipan stores well for months if well wrapped. Ideal temperature is $20^{\circ} \mathrm{C}\left(68^{\circ} \mathrm{F}\right)$ up to $24^{\circ} \mathrm{C}\left(75^{\circ} \mathrm{F}\right)$.


## Activities

## Activity \#1 - Poster

Purpose:

## Age Group:

Time Allotted:
Preparation and Equipment: Flat surfaces (table, counter, etc.), paper and/or Bristol board, pencils, coloured pencils, markers, ruler, glue, scissors, other craft supplies as available, and magazines, or other locations for pictures.

## Instructions:

1. Prepare work site.
2. Instruct members to create a poster covering either one main kitchen or cooking safety point, or a poster covering basic safety points (plural).

What to include:
Information: who, what, when, where and why
Appearance: colour, graphics and pictures and interesting and readable fonts
Headings: grab the reader's attention, interesting or funny headings are good attention-getters
3. Have members present their posters to the club.

## Alternative:

Posters could be created in pairs. Have members enter the poster into a local fair, or put on display in a library, Health Unit, or school. If choosing this option, you may want to allow longer poster creation time.

## Debrief:

- Are there any key safety points missing from the posters? If yes which one(s)?
- Why is it important to keep safety in mind in the kitchen? For yourself, and others.
- What elements make an effective poster?


## Activity \# 2 - Hazards of the Kitchen

## Purpose:

## Age Group:

Time Allotted:
Preparation \& Equipment: Recipe cards or paper, pens, pencils, props from the kitchen if applicable and video equipment (optional).

## Instructions:

Arrange members in groups of 3-4 (adjust for club size) and instruct groups to create a skit on "Hazards of the Kitchen". Give 10 minutes to work on the skit.

Have groups act out the skits for the other club members. Videotape the skits to play back for the members (optional). The videos can be used for feedback on presentation skills.

## Debrief:

- Does your family have emergency information close at hand in case of accidents in the kitchen?
- What would you consider the number one safety tip when working in the kitchen?
- How did it feel to act out your plan in front of an audience? Was it easier to present in front of your club members then it would be to the public? Why or why not?


## Activity \#3 - Measuring Game

Purpose: To reinforce standard measurements in baking.
Age Group:
Time Allotted:
10 minutes
Measuring cups and spoons, masking tape (to cover the measurement on cups /spoons), and paper and pencils (optional).

Ahead of the meeting- cover the measurements on a selection of measuring cups and spoons. You may choose to make it like a quiz where each is numbered and therefor paper and pencils will be helpful.

## Instructions:

In allotted time, members are to try and recognize/guess the measurement of each cup/spoon.

## Debrief:

- Would it be difficult to bake with your measuring equipment covered?
- If you did not have measuring equipment, what might you use instead?


## Activity \#4 - Accuracy Counts

Purpose: To reinforce proper measuring in baking.
Age Group: All members
Time Allotted: 10 minutes
Preparation and Equipment: For each pair or for the group:

- $\quad 250 \mathrm{~mL}$ (1c) glass measuring cup
- $\quad 125 \mathrm{~mL}(1 / 2 \mathrm{c})$ dry measuring cup
- 250 mL (1 cup) Solid fat - shortening or lard or butter
- Water
- Table knife
- Spatula


## Instructions:

1. Decide if the activity will be done by each pair or as a group as this will effect number of "measures" required. If in pairs, match senior members with junior members.
2. Have 2 members measure solid fat - one by the displacement method and one by scooping and pushing it into the cup.
3. Turn each out on a piece of waxed paper or on a plate and compare the amounts.
4. Take the scooped out one and do a displacement measure on it to check for accuracy.

## Debrief:

- How did the dry measure method compare in accuracy to the wet measure?


## Activity \#5 - Measure Those Ingredients!

Purpose: To practise measurements in baking.

Age Group:
Time Allotted:
Recipe:

All members
Dependant on recipe chosen. Approx. 30 minutes.
Chocolate 4-H Brownies pg.5, Quick Chocolate Drop Cookies pg. 8 or Chocolate Chip Oatmeal Cookies pg. 9 in the Recipe Book.

Preparation \& Equipment: Dependant on recipe chosen.

## Instructions:

Pick a recipe, or split the group in three and each group can make a different recipe! Each member of the group should measure one ingredient while the other members are watching to learn the correct method of measuring.

## Debrief:

- Which ingredient was easiest to measure? Why?
- Did you run into any problems when baking? If so, how did you resolve them?
***Use the cookies, made in this activity, in the judging Activities \#9 \& \#10. ${ }^{* * *}$


## Activity \#6 - How Many M\&M’s?

## Purpose:

Age Group:
Time Allotted:

Reinforce standard measuring techniques for baking.
Intermediate members (13-15) or All members (10-21)
15 minutes
Preparation and Equipment: $60 \mathrm{ml}(1 / 4 \mathrm{c}$ ) cups, 125 ml ( $1 / 2 \mathrm{c}$ ) cups and 250 ml ( 1 c) cups, M\&Ms
Lay out in stations or have one of each cup size for each member and a supply of M\&Ms (minimum 250 ml per member or team)

## Instructions:

Decide if the activity will be done in groups, pairs or individually. Have the members fill the 60 mL cup with M\&Ms. Have members fill the 605 mL cup twice - observe if it fills the 125 mL cup. Have members fill the 60 mL cup four times - observe if it fills the 250 mL cup accurately.

When activity is finished- enjoy the snack.

Optional Addition: Have members guess the number of M\&M's that fit in a 60 mL cup, 125 mL cup and 250 mL cup. Have volunteers count the M\&M's and see who's guess was the closest!

## Debrief:

- How accurate was your group in using dry measures?


## Activity \#7 - Substitution Game

Purpose: $\quad$ To increase skills in decision making and problem solving, while reinforcing information on substitution of ingredients.

Age Group: All members
Time Allotted: 10 minutes
Preparation and Equipment: Space for members to stand or sit in a circle, beanbag, roll of socks, ball of yarn, or similar, and a listing of substitutions at hand in case members get stuck and need assistance.

## Instructions:

Have members stand or sit in a circle. One member starts the game by tossing the beanbag to someone in the circle and asking them for a substitution for white sugar.

The person who catches it must answer, and then proceeds by tossing the beanbag to a new person and asks for a different substitution. Continue until all have participated at least once.

## Debrief:

- Which ingredients were the hardest to substitute?
- What made this activity difficult?


## Resource:

www.practicalpantry.com/staples/page22.html

## Activity \#8 - Brownie Comparisons

## Purpose:

## Age Group:

Time Allotted:
Recipe:

To have members compare the advantages and disadvantages of convenience foods.

Senior members (17-21) or all members
30-60 minutes. Dependant on recipe chosen.
Fudgy Microwave Brownies pg. 3 and/or Fudgy Brownies Recipe pg. 4 in Recipe Book

Preparation and Equipment: A store-bought brownie mix and an equipment called for in the chosen recipes. Three $22 \times 22 \mathrm{~cm}$ ( $8 \times 8$ inch) baking pans. Copies of the "Comparison's" page for each member. Receipts, and or cost listings of ingredients.

## Instructions:

Have members prepare the store bought brownie mix, the brownies from scratch, and the microwave recipe. Members should accurately record the preparation time, and cooking time.

To calculate the Cost Per Serving, members will need to calculate the approximate cost of ingredients for the homemade recipes by estimation. Recipe ingredients are in small amounts, so some creative guessing will be necessary. For example, "I used 1 cup of flour, and the entire bag is approximately 10 cups. The cost of the bag was $\$ 5.00$, so the cost per cup is .50 c ". The members will then need to calculate the cost per brownie. Using the ingredient cost estimation and the cost of the store-bought mix, divide those total costs by the number of servings (number of brownies).

Ingredients/Mix Cost
Cost per serving =
Number of Servings

Compare the cost, time to prepare, and then quality characteristics: flavour, texture, appearance.

## Debrief:

- What have you learned about homemade vs. store bought or convenience foods?


## Resource:

See 4-H Ontario's Good Foods Fast Project for more information on activities like this.

## Comparisons

| Food/Recipe | Prep. Time | Cooking <br> Time | Cost Per <br> Serving | Appearance | Taste |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

Which food took the shortest total time (preparation time and cooking time) to prepare?

Which food has the lowest cost per serving?

Which food did you think was the most appetizing (appearance and taste)?

What are your conclusions?

## Activity \#9 - Judging Cookies

## Purpose:

Age Group:
Time Allotted:
Recipes:

To encourage members to critically think about what makes a good cookie, and score accordingly.

All members
20 minutes
Toll House Chocolate Chip Cookies pg. 11 , and Mrs. Field's Chocolate Chip Cookies pg. 10

Preparation and Equipment: Use 4 cookies made before the meeting or from a batch made previously in the meeting. The "Baked Goods Scorecard" found on the following page.

## Instructions:

Review the attributes of good cookie found below. Have the members judge and give reasons for the class of cookies.

To judge baking a standard of excellence is needed. As baked goods are meant to be eaten, tasting is an important part of judging. The flavour of the food should be characteristic of the food, with no flavour being overwhelming. If tasting is not allowed in a competition then the judging depends on aroma and texture. Aroma ties in with flavour in the judging scorecard. Texture is the way a product looks or feels (when you taste it in your mouth). Judges must be certain that a food is cooked or baked completely.

## Cookies - Quality Characteristics:

Appearance: smooth, uniform shape, delicately browned (not pale, burnt, blistered, uneven). Baked goods containing whole grains will have a smaller volume and a coarser texture. *If a food is baked in a microwave oven, it will not have the characteristic brown appearance of baked items.

Tenderness: tender-crisp or soft depending on the recipe and kind of cookie (not hard, crumbly or tough). The texture could also include: toughness, elasticity, flakiness, gumminess, stringiness, crispness and/or slicing quality. The texture will vary depending on the type of food.

Flavour: mild, pleasantly sweet flavour (not flat, or too sweet).
If members are timid or unsure, remind them that this is something everyone has already done! Each time we bite into a cookie, we judge it. Is it delicious, or burnt? Is it soft or crunchy?

## Debrief:

- Did tasting the cookies make your decisions on placings easier or harder?
- Ask a member to volunteer and give reasons to the group.

```
Baked Goods Scorecard /100
Flavour and Aroma
- appropriately sweet, salty, spice tart or bland
- nice mix of flavours, with no flavour being too strong
- appropriate aroma for the baked good
- free from inappropriate flavours
Appearance
- pleasing, appetizing appearance
- appealing colour, delicately browned (not pale, burnt, blistered or uneven)
- proper size and shape
```


## Texture

- appropriate texture for the baked item
- tender/crisp/soft - depending on recipe (not hard, crumbly or tough)
- free from streaks (inadequate mixing)
- appetizing texture

```
Advanced Baked Goods Scorecard ..... /100
Flavour and Aroma ..... /30- appropriately sweet, salty, spice tart or bland- nice mix of flavours, with no flavour being too strong- appropriate aroma for the baked good- free from inappropriate flavours
Nutrition and Cost ..... /30- Does the product provide good value for the money spent?
- Does the product provide adequate nutrition?
- Is the product nutrient-dense?
Appearance ..... /20
- pleasing, appetizing appearance
- appealing colour, delicately browned (not pale, burnt, blistered or uneven)
- proper size and shape

\section*{Texture}
- appropriate texture for the baked item
- tender/crisp/soft - depending on recipe (not hard, crumbly or tough)
- free from streaks (inadequate mixing)
- appetizing texture

\section*{Activity \#10-Advanced Judging of Cookies}

\section*{Purpose:}

Age Group:
Time Allotted:
Recipes:

To encourage members to critically think about what makes a good cookie, and score accordingly, while considering factors beyond taste and texture.

Senior members (17-21)
20 minutes
Toll House Chocolate Chip Cookies pg. 11, and Mrs. Field's Chocolate Chip Cookies pg. 10

Preparation \& Equipment: Use 4 cookies made before the meeting or from a batch made previously in the meeting. The "Baked Goods Scorecard" found on the following page.

Copies of the recipes and labels for nutrition information, and receipts to calculate the cost per serving.

\section*{Instructions:}

Advanced judging could be done considering the Nutrition, Energy/Calorie Breakdown and Cost of baked items.

\section*{Nutrition:}
- Does the product provide adequate nutrition?
- Are the ingredients high in fat?
- Are sugar and salt kept to a minimum?
- Are whole grains used?
- Has Canada's Food Guide been considered when preparing the food?

\section*{Energy/Calorie Breakdown:}
- What is the energy/calorie content of each sample?
- Is the product nutrient-dense? (high number of nutrients in proportion to the calorie content)

\section*{Cost:}
- Does the product provide good food value for the money spent?
- What is the cost per serving?

\section*{Debrief:}
- If nutrition, and cost were not factors in the judging, would your final order change?
- Why is it important to think about nutrition and cost, not just taste, when baking and buying cookies?

\section*{cratey}

\section*{Objectives}
- Learn about cacao and understand the harvesting process
- Become knowledgeable about cacao farming and the challenges of this type of agriculture
- Learn the different ways to melt chocolate and mold it

\section*{Roll Calls}

What is your favourite type of chocolate bar?
Name a fact you know about where chocolate comes from.
Have you ever purchased something that was Fair Trade certified? What was it?

Sample Meeting Agenda - 2.5 hrs
\begin{tabular}{|l|l|l|}
\hline Welcome, Call to Order \& Pledge & Minutes and Business & 5 min \\
\hline Roll Call & \begin{tabular}{l} 
Take Home Activity \#6 - Presentation - Intermediate and Senior \\
members present to the Junior members
\end{tabular} & 30 min \\
\hline Parliamentary Procedure & Discuss the basic points on Cacao (tree, varieties, flowers, pod) & 10 min \\
\hline Communications Activity & Activity \#2 - Mapping Cacao - All members & 10 min \\
\hline Topic Information Discussion & Activity \#7 - Making Chocolates - All members & min \\
\hline \begin{tabular}{l} 
Activity Related to Topic \\
Information
\end{tabular} & \begin{tabular}{l} 
While chocolates are setting, introduce members to the two types of \\
cacao farming.
\end{tabular} & 5 min \\
\hline Recipe & \begin{tabular}{l} 
Activity \#4 - Debate - Sun or Sustainable - All members - When this \\
activity is complete, return to the chocolates and finish.
\end{tabular} & 20 min \\
\hline Topic Information Discussion & \begin{tabular}{l} 
1. Bring a chocolate chip cookie recipe to the next meeting. \\
2. Practise molding chocolate. Information is found within this meeting - \\
photocopy clover pages for members. \\
Activity Related to Topic \\
Information
\end{tabular} & \begin{tabular}{l} 
3. Prepare one of the three hot chocolate recipes found in the Recipe Book - Hot \\
Chocolate Mix pg.12, Hot Chocolate pg. 12 or Hot Chocolate Coffee Mix pg. 13.
\end{tabular} \\
\hline Wrap up, Adjournment, Social time and enjoy the chocolate treats! & 5 min \\
\hline At Home Chocolate Challenge &
\end{tabular}

\section*{References and Resources}
- Candy Making for Beginners. Wilton. Woodridge, IL Wilton Enterprises 1982
- LeRiche, S., Sharpe, C, and D. McDougall. The Chocolate Book. Our Place Publications, Milton, Ont. 1983
- Resource Materials. Field Museum, Chicago. "Fascinating Facts": www.fieldmuseum.org/Chocolate/ education_pdf/facts.pdf
- Resource Materials. Field Museum, Chicago. www.fieldmuseum.org/chocolate/grow_farm1.html
- Wilton Scharffenberger, J. and R. Steinberg. The Essence of Chocolate. Hyperion, New York. 2006.
- http://bakedecoratecelebrate.com/techniques/meltingcandymelts.cfm
- http://transfair.ca
- http://en.wikipedia.org/wiki/Chocolate_chip
- www.xocoatl.org/science.htm
- www.joyofbaking.com/ChocolateChips.html
- www.wilton.com
- www.xocatl.org
- www.hwvi.com/growing_chocolate.html
- www.amnh.org/sciencebulletins/biobulletin/biobulletin/story688.htm
- www.globalexchange.org/campaigns/fairtrade/cocoa/chocolatekids.html
- www.cadbury.co.uk/html/facts/cocoa12.htm
- www.hwvi.com/growing_chocolate.html
- www.facts-about-chocolate.com/chocolate-history.html
- www.sierraclub.ca/national/programs/health-environment/food-agriculture/campaign. shtml? \(x=558 \#\) chocolate

To start off, let's clear up a few terms:
Cacao refers to the domesticated plant and all its products before processing. Cocoa is the products manufactured from the bean-like seeds of the cacao tree. Chocolate is the seeds of the cacao plant after processing, whether liquid or solid.

\section*{The Cacao Tree}
- The cacao tree has a species name of Theobroma cacao. Theobroma means "food of the gods". The cacao tree is a relatively small tree that grows under the shade of other trees in the rainforest. It is native to the tropical Amazon forests where it was originally found growing in clumps along riverbanks. It looks something like the English apple tree.
- It grows from 7.5 m ( 25 feet) -15 m ( 50 feet), but cultivated trees are usually trimmed shorter for easy harvest.
- Young trees need shade from direct sunlight and wind. Farmers plant other trees such as coconut, plantains and bananas alternately with cacao. Rubber trees and other forest trees are also used for shade and then later removed.
- A cacao tree can live for 200 years, however they are usually replanted after 25 years to ensure economical usefulness.
- It is shade tolerant and moisture loving. It favours the riparian zone of vegetation, along the river margins. The riparian zone is the boundary between land and a stream or river.
- It grows 20 degrees on both sides of the Equator.
- Naturally the cacao tree has a 2 m deep taproot. In cultivation, plantations start trees from cuttings which do not have a taproot.
- The cacao tree requires a deep, slightly acidic soil that is moist and well-drained.
- Temperatures of \(21-32^{\circ} \mathrm{C}\) year round are required (no temperatures below \(15^{\circ} \mathrm{C}\) ), with 100 to 250 cm of rain throughout the year. The cacao tree does not like monsoons or droughts, and cannot survive altitudes above 1000 m , preferring to be below 300 m .
- The main stem of the tree is called the Chupon, and the leaves budding off the main stem fan.


What countries produce cacao?
Africa (Ivory Coast, and Ghana), Indonesia, Brazil, Mexico, Ecuador, Costa Rica, and the Caribbean to name a few.

\section*{Varieties of Cacao Trees}

There are three main varieties of cacao trees:
1. Criollo - this is the rarest and the most expensive. It is native to Central America, the Caribbean and the northern South American states. This type is difficult to grow as they are susceptible to environmental threats and have low yields per tree. It is cultivated in small quantities. It produces "very fine" grade chocolate and is prized by high end Chocolatiers. This accounts for 5-10\% of world production. Flavour is delicate, with almost no bitterness, low in classic chocolate flavour, rich in secondary flavours that last longer. A small bit of this type is often combined with a large amount of Forastero.
2. Forastero - is grown in Africa. This variety is hardier and has higher yields than the Criollo. This accounts for 80-90\% of all commercial cacao. Flavour is strong in classic chocolate, but has a short duration
and does not have secondary flavours- a bland chocolate. This cacao is used as a base blended with superior types of cacao. It has a perfumed aroma and a fruity, bitter taste.
3. Trinitario - is a hybrid of Criollo and Forastero, combining the best aspects of each. This accounts for \(10-15 \%\) of world production. It originated in Trinidad and is resistant to disease. This is referred to as "very fine" grade chocolate. It has a fruity aroma and slightly acid - it is spicy and sharp. Legend states that in the 17th century a hurricane destroyed the trees on the plantation of Crillo, on the island of Trinidad. Thinking the trees were all dead, the farmers replanted Forastero, but got spontaneous hybrids - creating Trinitario and making a fortune out of a disaster.

\section*{Leaves}
- The cacao tree has large glossy leaves that are red when young (less affected by the tropical sun - they hang vertically to minimize sun damage) and bright green and oblong ( \(15 \mathrm{~cm} \times 8 \mathrm{~cm}\) ) when mature.
- The tree is deciduous so it loses its leaves, with new leaves growing 2-4 times a year.
- An amazing fact is that the cacao tree can move its leaves 90 degrees from vertical to horizontal and back. This is to get better sun exposure, and to protect the young leaves. The node at the base of the leaf changes its stiffness with the temperature.
- There may be moss and colourful lichen found on the bark of the cacao tree, with small orchids growing on the branches.


\section*{Flowers}
- The flowers are tiny, waxy pink or white 5-petaled and grow straight out of the trunk or main branches (most unusual).
- The flowers do not appear until the tree is 3-4 years old.
- The flowers are odourless, and complex in structure making pollination a challenge.
- The midge is the only insect that can navigate through the flower.
- Flowers are present throughout the year but are most abundant just before the rain starts.
- If pollinated these will form pods or fruit. Pollination occurs in the morning, and if the flower is not pollinated it will die within 24 hours.
- It takes 5-8 months for a blossom to make a ripe fruit.
- Only 3 out of every 1000 flowers are pollinated, fertilized and make a fruit.
- The cacao tree is quite unusual as it can have flowers and fruit on the tree at the same time, all year long.


Images: Tatters:)_http://creativecommons.org/licenses/by/2.0/ \& scott.zona_ http://creativecommons.org/licenses/by/2.0/

\section*{The Midge}
- Pollination is by midges (gnat-like insects) - a very tiny fly no larger that the head of a pin. This tiny fly is responsible for the world's supply of chocolate. The Midge is a mm (.04") long and belongs to the Ceratopogonidae family, Forcipomyia genus. They live and breed in the rain forests and love the shade and humidity.
- The midge has the fastest wingbeats in the world: 1000 times per second.

\section*{The Fruit or Pod}
- 20-40 seeds are encased in a large hard, melon-shaped pod, about the size of a pineapple. These seeds would be enough to make 7 milk or 2 dark chocolate bars.
- The pods grow directly off the trunk of the tree- called "cauliflory".

\section*{CHOCOLATE FACT:}

The cacao seed lives only 2 weeks.
- Each tree produces 20-30 pods a year.
- The pod changes colour as it matures: from a green, to yellow, orange, red and purple when ripe.
- The pod has ridges or veins running lengthwise and they can vary from \(10-40 \mathrm{~cm}\) in length and weigh 450 g .
- Pods can be produced all year. A ripe pod can be left on the tree for \(2-3\) weeks before spoiling. Even if overripe, the pod will not split to release the seeds.
- The seeds within the pod are bitter tasting cacao beans and are the source of cocoa. Each seed is the size of a lima bean. They contain the chemicals theobromine and caffeine which give them the bitter taste.
- The seeds are surrounded by pulp that is edible - it is yellow, slippery and sweet, tasting slightly lemony. The monkeys spread the seeds as they only want the pulp to eat. The cacao tree cannot release its seeds without the help of animals.
- An entire year's crop from 1 tree is 450 g chocolate, which is approximately 10 chocolate bars.
- The wood of the cacao tree is used as fuel, and as a source of potash for soap making.

\section*{CHOCOLATE FACT:}

It takes 400 cacao beans to make .5 kg (1 pound) of chocolate liquor, 4 cacao beans to make 1 ounce of milk chocolate, and 12 cacao seeds to make 1 ounce of dark chocolate!


Images: Lall_ http://creativecommons.org/licenses/by/2.0/ \& barloventomagico_ http://creativecommons.org/licenses/by\(n c-n d / 2.0 /\)

\section*{Cacao Farming}

\section*{Commercial Sun Plantations}

Commercial plantations, where the rainforest has been cleared and only cacao trees are planted, have been developed. This is called "monocropping". Cacao plants that grown in the full sun produce a greater yield, but for a shorter time. A tree naturally can grow and yield for 25 years. On a sun plantation after 10 years it will stop producing fruit.

Some of the problems of sun plantations are:
1. Pollinators - the midges breed and thrive in the rainforest and do not like the hot sun on the sun plantations.
2. Natural Predators and Pesticides - on sun plantations, cacao trees are prone to disease and pests. Whereas in the rainforest there are a variety of insects, plants and mammals who control the pests.
3. Income - for crop protection and to keep production yield high, farmers depend on expensive chemical pesticides and fertilizers. Also, in a monocropping situation, cacao is the farmer's only source of income. Therefore the farmer's income is dependant on only one source of income which is subject to world price fluctuation, and crop failures.

In many regions where commercial sun plantations are located the rainforests have been ravaged, the land depleted, and the cacao trees suffer from diseases.

\section*{Sustainable Farming: Cabruca Planting}

Cabruca is the new method of planting cacao trees just on the edge of, or inside the rainforest. In this method only a few rainforest trees are cut down. The forest nourishes the cacao trees and protects them from plantation diseases like witch's broom fungus (prevalent in monocropping). The aim is to sustain the farmers' income, improve the life span of the cacao trees, and safeguard the environment.

\section*{Advantages:}
- The trees will benefit from nearby pollinators and natural pest control.
- The farmers can also benefit from "intercropping" - cultivating cacao with other canopy trees that produce valuable goods: rubber, Brazil nuts, and cashews.
- The farmer can intermingle cacao with other cash crops of mango, African plum, avocado, guava, cola, lime and chile peppers.
- This method of farming will ensure the farmer a longer income as the trees will be produce longer.
- Lower maintenance costs as expensive pesticides will not be required.
- Organic foods bring higher prices on the market, so higher incomes for the farmers is possible.
- Additional income from the other crops like peppers.
- Increase the biodiversity of birds, lizards and insects.
- Pollination by the midge has been found to be higher in the Cabruco method of growing. In sun plantations, there is only a 1-3\% pollination rate.

\section*{Threats:}
- The threat to this system is the lumber companies who want to harvest the larger trees and thus remove the shade for the cacao trees.
- Less production than sun plantations.

\section*{Cacao Harvest}

\section*{Harvesting}

Harvesting is very labour intensive with the pods being removed from the trees by machetes (longhandled, mitten-shaped steel knives). Pods that are very high up on the tree are removed by knives attached to poles being careful not to damage flowers, soft bark, or developing buds.

Ripe pods are gathered every few weeks during the peak season. It takes experience to know a ripe pod. Ripe pods are found on the tree at all times during the growing season. There is usually a main harvest and then a smaller one. Pods are collected and carried in baskets on the workers' heads to be piled for splitting.

The pods are split by hand using a machete (hit the pod once or twice to split it open) and the seeds or beans (covered with the sweet pulp) are removed. A good breaker breaks 500 pods/hour.
Each pod contains 20-40 beans. The beans are a cream colour, but when exposed to the air they change to a lavender or purple colour.

\section*{Fermentation}

The pulp surrounding the beans begins to heat up and ferment. This fermentation can last 3-9 days and removes the raw, bitter taste of cacao. Fermenting converts the sugars in the beans to acids (lactic and acetic). During this process the pulp is removed. Fermentation creates temperatures of \(50^{\circ} \mathrm{C}\left(125^{\circ} \mathrm{F}\right)\) which kill the germ of the bean and activate existing enzymes in the bean creating the chocolate flavour when the beans are roasted.

Box Method: The beans are put into boxes called fermentary boxes which have drainage holes or gaps in the slats of the base so air can circulate and the liquid products of fermentation can drain off. The beans are mixed twice during this time.

Heap Method: Traditionally the beans were heaped into a pile and covered with banana or plantain leaves, and were turned daily.

\section*{Drying}

Fermentation causes the bean to change to a rich brown colour. After fermentation the beans are wet and filled with moisture. They must be dried to prevent spoilage. The beans are dried in the sun by placing them on trays or bamboo matting for several days or with special drying equipment, which is most commonly used now. During drying the beans lose half or all their moisture and half their weight. Some companies dry the beans for longer than a few days to bring out the flavours.

\section*{Shipping}

After drying, the beans are shipped in 60-80 kg (130-200 pound) sacks. They are stored briefly at shipping centres to be inspected by buyers.

\section*{Buying/Selling}

Buyers cut open a number of beans to see that they were properly fermented. Purple centres show incomplete fermentation. Market price is determined by worldwide crop size, quality of the crop, and world economics. Cocoa Exchanges are located in Chicago, New York, London, Hamburg and Amsterdam.

\section*{Cacao Farming - Being a Conscientious Consumer}

\author{
Labour/ Environmental Concerns
}

Chocolate history has had its dark side as well. Workers in unsafe conditions, who are poorly paid, still produce a lot of the world's chocolate. Also many, many acres of rainforest have been destroyed to make room for sun plantations. Developing countries where cocoa is produced some chemicals may still be used that are banned in Canada. Farmers do not receive adequate payment for the cacao beans, and are pressured to keeps their costs low. Therefore, they use child labour and sometimes even slavelike labour to reduce costs.

\section*{Fair Trade Policy}

Fair Trade (Policy) means that you pay a basic minimum price for cocoa as well as social premiums to the communities where cocoa is produced. This will ensure the farmer an adequate income, and will promote organic, shade-growing techniques that will preserve the rainforest.

The impacts of "Fair Trade Certified" for producers is:
- More income
- Better access to education and health
- Protection for the environment
- Building strong communities
- Sustainable livelihoods

Today chocolate connoisseurs want to buy more Fair Trade and single origin chocolate which help ensure better working conditions for the workers. This also helps to produce better quality chocolate. Higher quality chocolate is grown in a more natural environment closer to the rainforest.

\section*{Look for the Fair Trade logo on cocoa (Transfair).}

A Fair Trade logo means that an Independent Certification Process has ensured:
- Fair prices are paid to both men and women.
- Premiums have been paid to improve social conditions in the communities where the cocoa was produced.
- Producers have been paid in advance to help with long term planning.
- No forced or child labour has been used to produce this crop.
- Sustainable production methods have been used.

Consumers are beginning to demand chocolate that is environmentally friendly, Fair Trade and organic. This consumer demand has increased production of this chocolate. For example in 2002, only 17,585 kilograms of Fair Trade Cocoa was produced, but in 2008 638,930 killograms of Fair Trade

LOOK FOR THIS LOGO Cocoa was produced!

Visit http://transfair.ca/en for more information.

\section*{Melting Chocolate}

Melting chocolate is a simple but sensitive process. Too much heat will scorch chocolate and even the smallest amount of water will cause the chocolate to become lumpy (seize). Some different ways to melt chocolate are:

Electric Frying Pan - set at the lowest setting. Put the chocolate in non-plastic containers and place in the dry frying pan, or set the containers in water in the frying pan. Once the chocolate is melted turn off the frying pan. The temperature is so low that no water is needed in the frying pan. Coffee mugs, poached egg cups or baby food jars are good for melting small amounts of chocolate.

Electric Warming Tray - set temperature at lowest setting and follow above instructions. Once the chocolate is melted turn off the warming tray.

Microwave - place chocolate in a microwave safe bowl. Microwave uncovered on medium (50\% power) for up to 3 minutes (start with 2 minutes, and then additional 30 seconds), gently stirring after each minute until smooth. Heat for 1 minute, then 30 seconds until most of the chocolate is melted and smooth.

Double Boiler - heat the water in the bottom half and remove it from the stove. Place the chocolate in the top half and stir until melted.

Cake Pan - place a cooling rack in the pan and fill the pan with hot water. Place a small container with the chocolate in it into the hot water bath. Stir until melted.

Slow Cooker - this is an ideal way to melt a large amount of chocolate ( \(2-3 \mathrm{~kg} / 3-5\) pounds). Set at a low temperature setting. Start with melting 0.5 kg (1lb), and when that is melted add more. This takes about 45 minutes to melt 2 kg ( 5 lbs ).


The method shown here is similar to the Double Broiler Method. It uses boiling water in the bottom dish, and chocolate melts in the top inserted dish. Image: StephenMitchell_ http://creativecommons.org/licenses/by-nc-sa/2.0/

\section*{Chocolate Melting Tips}
1. Caution - Make sure no water drips into the chocolate as this will make the chocolate thicken because chocolate is an oil-based food. If a drop of water should get on the chocolate, take a spoon and carefully remove it - do not stir it into the chocolate. Note: it can be remedied by adding a small amount of oil.
2. Chocolate heated to too high of a temperature will thicken and look dry. Remove it from the heat and stir until it is cooler and thins out.
3. Chocolate is ready to use when it is at or slightly above body temperature.
4. If the temperature is above \(29^{\circ} \mathrm{C}\left(85^{\circ} \mathrm{F}\right)\) and the humidity is over \(80 \%\) chocolate is difficult to work with. A cool room \(18-21^{\circ} \mathrm{C}\left(65-70^{\circ} \mathrm{F}\right)\) is the best for working with chocolate; the chocolate will set quickly with no need for refrigeration.

\section*{Can't I Just Use Chocolate Chips?}

Chocolate chips are made to withstand moderate oven heat while still retaining their shape, so it is not recommended to use chocolate chips when a recipe calls for melted chocolate. Chocolate chips when melted become a thick, muddy and grainy chocolate that is difficult to use. This is because of the lower cocoa butter content; less cocoa butter (25-30\%). Some brands use vegetable fat as an ingredient. Chocolate chips are used mainly in cookies and brownies.

\section*{Candy Melts}

These are confectionery-coating wafers that are a combination of sugar, milk solids, colours, vegetable oils and flavouring. The melted coating is then used to cover chocolate - think M\&M's or Smarties. Candy melts are sometimes called "summer coatings" or "coating wafers". They are fast melting and give a smooth texture making candy making, coating or dipping very easy. They can be melted using different methods:

Microwave Option 1 - in a microwave safe bowl or measuring cup (makes clean-up easier as you can pour directly from the measuring cup). Use \(40 \%\) power or defrost for 1 minute, then an additional 30 seconds depending on quantity.

Microwave Option 2 - put wafers in disposable, microwave safe bag and melt as above. Turn the bag over to make sure there is even melting. When the coating wafers are melted, snip off the end of the bag and put into molds. When finished dispose of the bag.

Microwave Option 3- use a melting bottle (a plastic bottle that you fill half way with wafers). Heat at \(40 \%\) or defrost for 1 minute, and then 15 -second intervals.

Double Boiler - Heat water in the bottom half, and place wafers in the top. Stir constantly until melted.

Slow Cooker (as above under Melting Chocolate)

Warming Tray (as above under Melting Chocolate)

\section*{Candy Melts Tips}
1. Candy melts should be stored in a cool, dry place between \(17-20^{\circ} \mathrm{C}\left(60-70^{\circ} \mathrm{F}\right)\). Do not store in the refrigerator as this will cause the melts to break down and not melt properly.
2. If candy melts have been overheated, add 15 mL (1tbsp) vegetable oil to 0.5 kg (1lb) candy melts. Stir until the consistency is obtained.
3. If you overheat cocoa flavoured coatings add \(75 \mathrm{~mL}(1 / 4 \mathrm{c})\) chocolate chips per \(1 / 2 \mathrm{~kg}\) (1lb) of coating for a richer flavour, rather than the oil or shortening.
4. Do not thin melted chocolate with water as it won't work!

\section*{Flavourings}

Flavourings can be added to melted chocolate but they must be oil-based. Oil-based flavourings are very strong, so add only 1 or 2 drops.

\section*{Molding Chocolate}

\section*{Candy Molds}

These are made of plastic and are available from confectionery stores, bulk supply stores, or anywhere that carries cake-decorating supplies. There are many shapes and designs available. With proper care and storage, these will last for years. Lay candy molds flat when storing so they will not bend. Molds should be washed with warm water, but no soap. Soap will dry out the molds and will cause them to crack and break.


\section*{How to Mold Chocolate}
1. Take the melted chocolate, and pour into molds using a measuring cup, paint brushes, or a small teaspoon.
2. Fill the mold to the top of the shape. Do not overfill as the edges will then have to be trimmed off.
3. When filled, tap the mold on the countertop to remove any air bubbles. Refill if needed.

\section*{Cooling}

Cooling, setting or hardening means that the chocolate has become a solid. It can be cooled by:
- Air drying or cooling at room temperature. If the room is too warm it will take a while to harden and the back of the chocolate could develop white streaks. Unmolding is then more difficult.
- Refrigerator - this is the best place for larger pieces and 3D molds.
- Freezer - this is the fastest method, but the chocolate could develop white streaks or spots. This is the easiest method to unmold.

\section*{Unmolding}

Don't rush - make sure the chocolate is well set before you try to unmold it.
1. Lift the mold above your head and look at the bottom of the chocolate mold. If you slightly twist the mold you should see air move around the chocolate and these areas will be lighter in colour. The chocolate will look frosty on the bottom, meaning it is ready to unmold.
2. Turn the mold over (upside down) on to a towel covered table or tray and give the mold a gentle tap. The candy should just fall out. If it doesn't, try another tap. If it still does not come out, place the mold back in the freezer for a few minutes and repeat the procedure. Plastic molds when cold will crack, so do not twist very much.
3. If the edges need trimming, carefully do so with a kitchen peeling knife.

> A CHOCOLATE TIP:
> Rubbing molds with cotton batting before use will polish the molds and create a shinier chocolate.

\section*{Molding Chocolate - Ways to Play}

\section*{Candy Fillings}
1. Using a mold, make a coating of chocolate on the inside of the mold shape with melted chocolate. You can do this by pouring the chocolate into the mold and turning the mold; moving the chocolate to cover the entire area. You can also use a small paintbrush to coat the mold.
2. Make sure that the entire inside of the mold is covered with no light spots showing through. When using a clear plastic mould hold it up to the light and the light spots will show where the chocolate has not covered.
3. When the chocolate layer is dry or set, gently press the desired filling into the shape leaving enough room to seal them with a covering of melted chocolate. See Meeting 5 for Fillings.

\section*{Painting}
1. Different coloured chocolate wafers or summer coatings can be used to create coloured chocolates.
2. Melt the wafers in small jars or mugs.
3. Paint using a sucker stick, a toothpick, or a small paint brush that won't lose its bristles and is used just for making chocolates.
4. Paint directly onto the mold.
5. Let 1 colour harden before adding another.
6. Do not have the chocolate too warm or it will melt the chocolate coating that has already been painted.
7. Tap the mold on the countertop to remove any air bubbles and then cool.

\section*{Crinkle Cups}
1. Line custard cups or ramekins with aluminum foil.
2. With a small pastry brush paint the inside of the cup with chocolate. Chill for 10 minutes and then reapply another coat of chocolate. Cool and carefully remove from foil.
3. Alternate 1: You can use also use small foil cups (purchase in grocery store) and paint the inside of them with chocolate. Cool and carefully remove from foil.
Alternate 2: You can also line the custard cup or ramekin with plastic wrap. Use a small spoon to drizzle chocolate down the sides and bottom. Chill overnight and remove plastic carefully.
4. Try using different colours of chocolate, creating an interesting visual effect!


Image: indigo_jones_http://creativecommons.org/li-censes/by-nc/2.0/

\section*{Sucker Molds}
1. Put a sucker stick in the groove in the mold and cover with chocolate.
2. Make sure the sucker stick is completely covered with chocolate.
3. Then carefully give the stick a complete turn to ensure it is covered with chocolate. Add additional chocolate if needed.
4. Cool.

\section*{Chocolate Cups}
1. Take a small balloon (water balloon type or smaller), slightly inflate and tie the end.
2. Hold the tied end up and spray the balloon \(1 / 2\) way up (from bottom to top) with a spray-on fat or oil. This will make removal later easier.
3. Put melted chocolate in a bowl and let it cool slightly. Holding the tied end, carefully dip the balloon into the chocolate to make a tulip-shaped cup. To do this, partially dip the bottom of the balloon in the chocolate 4 times in 4 different directions to create the look of 4 petals. Set the balloon on a flat surface to cool. CAUTION: Be extra careful when using balloons, as chocolate that is too hot will burst balloons.
4. Chill overnight with the balloon inflated.
5. When dry and firm, snip the balloon slightly near the knot to slowly let the air escape.
6. Carefully remove the balloon.
7. Serve filled with ice cream or a fruit mixture for an elegant presentation! Use the Ice Cream In A Bag recipe on pg. 14 of the Recipe Book.

CAUTION: Be careful of latex allergies. Ask all members if they have a sensitivity to latex, and if an allergy is present no latex balloons can be used in this activity. Even if no member has a known allergy, it is suggested non-latex balloons are used as a caution.

Check out http://blog.kingarthurflour.com/2008/12/23/the-big-chocolate-blowout-chocolate-ballooncups/ for pictures and more instructions.

\section*{Activities}

\section*{Activity \#1 - Monologue / One Act Play}

Purpose: To build communication and teamwork skills, while reviewing the growth of a cacao tree material.

Age Group: All members
Time Allotted: 30-40 minutes (includes preparation and presentation time)
Preparation and Equipment: Paper, pencils and cacao tree production information.

\section*{Instructions:}

Divide members into teams if required. Have each member or group of members prepare and present a monologue pretending to be a cacao tree - discussing how it grows, where it grows, pollination, etc. Illustrate if desired - this will take more time.

OR teams can try acting out the life of a cacao tree- how the leaves can move, storm threats, etc.

\section*{Debrief:}
- Review presentation skills- positive comments and one constructive piece of feedback.
- Review the interesting characteristics of the cacao tree and advantages of these differences from other plants.

\section*{Activity \#2 - Mapping Cacao}

Purpose: To identify where cacao is produced, by the use of maps, gaining a further understanding of the world.

Age Group: All members
Time Allotted: 10 minutes
Preparation and Equipment: World map to locate countries, copies of the "Mapping Cacao Worksheet" on the following page, pens and pencils.

\section*{Instructions:}

Have members find countries where cacao is grown on a large world map. Members should then colour or designate the countries on their own map.

\section*{Debrief:}
- Discuss where on the map the indicated countries are. Do these locations match the conditions outlined in the project material?

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Mapping Cacao Worksheet


\section*{Activity \#3 - Advertising the Best Bean}

Purpose: To reinforce bean varieties, use of voting to make decisions, and promote creativity and effective communication while building skills in teamwork and decision making.

Age Group: All members
Time Allotted: 30-35 minutes
Preparation and Equipment: Pencils, markers and paper or a computer. Information on the bean varieties (Forastero, Criollo, and Trinitario) and the internet, slips of paper with the three varieties on them (teams will draw from), and ballots for voting if required.

\section*{Instructions:}

Divide members into teams (based on club numbers some teams may need to repeat bean variety). Have teams draw which bean variety they will create a commercial for. Instruct teams to design the commercial for this single origin type of cacao bean chocolate.

Have the teams pitch their commercial idea to the group. Following the pitches, have the club act as the "public" and devise a poll to see which campaign is most effective. Depending on the group - use ballots or a show of hands.

Optional: Video tape and play back to members so they can perfect their presentations skills, or show at the Achievement Program and/or Awards Night.

\section*{Debrief:}
- If members are comfortable sharing - let them discuss what influenced their decision.
- What elements made the commercials effective? Keep all comments positive.

\section*{Activity \#4 - Debate - Sun or Sustainable}

Purpose: To learn how to defend a position, while reinforcing material on cacao production. Builds teamwork and communication skills.

\section*{Age Group:}

Time Allotted:
All members
20 minutes (10 min preparation, 10 min debate)

\section*{Instructions:}

Split the club into two teams. Have the 2 teams debate the value of sun versus sustainable cacao farming.

OR suggest to members they have inherited a cacao plantation from a long-lost relative. What would you do with it? Which method would they use and why? Members with differing opinions should justify and debate their reasons with one another.

\section*{Debrief:}
- Review any key points that may have been missed in the debate.

\section*{Activity \#5 - Mock Stock/Commodity Market}

Purpose: For members to experience supply versus demand in the market place, and realize its effect on pricing.

Age Group:
Time Allotted:
Recipe:

All members
45 minutes ( 30 min . preparation, 15 min . market scenario)
Aunt Marg's 5 Minute Chocolate Fudge pg. 15 , Super Chocolate Fudge pg. 16 or Chocolate Bars pg. 17 of the Recipe Book.

Preparation and Equipment: Tokens or chips, chocolate bars, cupcakes or squares of fudge. Dependant on recipe chosen.

\section*{Instructions:}

Members make chocolate bars, squares of fudge or cupcakes.
Have each member grab some tokens, without stating the purpose of the activity. They can grab as little or as many as they like. Once the members have finished taking their tokens, put a value on the tokens - let's say \$10 each.

Instruct members you will be selling only one of the previously made chocolate treats, and the person who pays the highest amount will be the only one who gets to eat the treat. Start the biding at \(\$ 10\), and have members bid on the treat until it is purchased by one member for the largest amount of tokens.

Following this, once the highest bidder has eaten his/her treat, inform members you have just received a large shipment of chocolate treats, which are now for sale. Have members bid on these treats, and note the cheaper "bargain" price they are now selling for.

\section*{Debrief:}
- What factors affected the price of the chocolate treats?
- How did low supply and high demand affect the selling price?
- What happened when there was high supply (large quantities) of the chocolatey treat suddenly available to all members?
- What are the benefits and risks of the stock market?

\section*{References:} http://library.thinkquest.org/3096/?tqskip1=1\&tatime=0827 http://finance.yahoo.com

\section*{Activity \#6 - Presentation}

Purpose: To engage in critical thinking by presenting information in a usable format. To build communication and research skills.

Age Group:
Intermediate and Senior members (14-21)
Time Allotted:
1 hour ( 30 min . at home work, 30 min . of presentations)
Preparation and Equipment: All preparation work should be done at home, however check with presenting members on what equipment they will require to present to the rest of the group.

\section*{Instructions:}

Have members choose to do one of the following options:
1. Prepare and present a discussion or power point presentation on Fair Trade practices. Focus on what "Fair Trade" means, and the conditions that must apply for this logo to be used.
2. Debate Fair Trade versus Free Trade. This should be prepared by a team of two members.
3. Make an educational video presentation on trade practices.

Members should then show their presentations to the entire club
Tips:
- This would also be a good project to publish in a local paper or 4-H Ontario's Leadership in Action magazine.
- See 4-H Ontario's Agricultural Awareness Project for tips on presentations. The "Promotion Card" section will be especially helpful.

\section*{Debrief:}
- What presentation methods used were the most effective?
- Review any additional information on Fair Trade chocolate that was not covered in the presentations.
> *** Potential as an excellent special project activity and / or a take-home activity. *** This is also a great communications activity!

\section*{Activity \#7-Making Chocolates}

\section*{Purpose:}

\section*{Age Group:}

Time Allotted:
Preparation \& Equipment: Chocolate to melt, bowl, wooden spoon, candy molds, coloured chocolate wafers and/or summer coatings and small brand new paint brushes.

\section*{Instructions:}

Split members into teams. Each team has a task to preform in front of the rest of the group as a demonstration. One group will melt the chocolate, another will pour the chocolate into the molds and clean up. The final group will melt the coloured chocolate wafers and/or summer coatings once the chocolate in the molds has cooled.

Once the chocolates are cooled and popped out of the molds, members can paint designs (using the paintbrushes or toothpicks) on the chocolates with the melted coloured chocolate wafers and/or summer coatings.

It's up to the club whether they want to enjoy their labours, or package and deliver the painted chocolates to their family and friends.

\section*{Variation:}

This activity could also work well with each group melting and molding a different type of chocolate. Members can then trade their flavours and shapes.

\section*{Debrief:}
- Why are hand-painted chocolates so expensive to buy?
- Did everything go as planned? What would you change when molding and painting chocolates the next time?

\section*{Activity \# 8 - Pricing and Selling Chocolates}

Purpose: To build decision making, problem solving and critical thinking skills, as well as business skills and sense.

Age Group: Intermediate and Senior members (14-21) Or, if pairing seniors and juniors, all members

\section*{Time Allotted:}

30 minutes (10 min. for Part A, and 20 min. for Part B)
Preparation and Equipment: Paper, pencils, calculator, coloured pencils and markers, receipts for chocolate making supplies

If you do not have enough receipts at this point- research the cost of key ingredients and list for members' use.

\section*{Instructions:}

\section*{Part A}

Have the members determine the cost of a chocolate, and decide how much a chocolate should sell for using the receipts. Members should be reminded to allow for some profit for the time involved.

Calculations to assist would include- total cost of a batch, cost of a chocolate based on number of servings from the batch amount. Additions for time spent (an hourly cost) determined by member consensus.

\section*{Part B}

In groups, have members design a magazine ad for the chocolates, Each group should present their idea.

\section*{Debrief:}
- Discuss why chocolate often appear expensive - why might that be?
- How did the price of your chocolate affect the way you created your ad? For example, high end chocolates need to be marketed in a different way then inexpensive chocolates for kids.
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\section*{Objectives}
- Understand the complex system of manufacturing cacoa
- Discover the origin of a favourite cookie
- Make chocolate chip cookies
- Understand what elements make a good chocolate chip cookie

\section*{Roll Calls}

Which do you prefer: semi sweet, white, milk or dark chocolate? Why? What is your favourite chocolate chip recipe? What does it include? Name a fact you learned about cacao at the last meeting.


Sample Meeting Agenda - 3 hrs
\begin{tabular}{|l|l|l|}
\hline \multicolumn{2}{|l|}{ Welcome, Call to Order \& Pledge } & 5 min \\
\hline Roll Call & Minutes and Business. & 5 min \\
\hline Parliamentary Procedure & \begin{tabular}{l} 
Introduce members to the cacao factory process. Make sure members \\
know the importance of tempering.
\end{tabular} & 10 min \\
\hline Topic Information Discussion & Activity \#1 - Acting it Out - All members & 10 min \\
\hline Communications Activity & Hold a discussion and debate on the different kinds of chocolate. & 10 min \\
\hline Topic Information Discussion & Activity \#3 - Chocolate ID - All members & 10 min \\
\hline \begin{tabular}{l|l} 
Activity Related to Topic \\
Information & Activity \#6 - What Makes a Chocolate Chip Cookie - All members
\end{tabular} & 20 min \\
\hline Judging Activity & Activity \#7 - Judging Chocolate Squares - All members & 60 min \\
\hline Wrap up, Adjournment, Social time and enjoy the chocolate treats! & 10 min \\
\hline At Home Chocolate Challenge & 1. Prepare Chocolate Chip Biscotti pg.21, Mint Chocolate Chip Ice Cream Pie \\
\hline
\end{tabular}

\section*{References and Resources}
- Gill, Alexandra. Death by Chocolate. Globe and Mail. March 19th, 2008. www.theglobeandmail. com/life/article673622.ece
- J.Pare. Chocolate Everything. Company’s Coming. Company's Coming Publication Ltd. 2000.
- Field Museum. "Chocolate: Educators Resources". Chicago. Resource Materials
- LeRiche, S, Sharpe, C. \& D. McDougall. The Chocolate Book. Our Place Publications. Milton, 1983.
- http://en.wikipedia.org/wiki/Chocolate
- http://recipes.howstuffworks.com/chocolate.htm
- http://inventore.about.com/library/inventors/blchocolatechipcookies.htm
- http://kancrn.kckps.k12.ks.us/cookie/index.cfm
- www.cadbury.co.uk/html/facts/cocoa13.htm

\section*{The Cocoa Factory}

The manufacturing process of cocoa requires time and care. Each shipment of beans is carefully catalogued stating the particular type of bean and its origin. This is important later for blending the exact flavours. The beans are stored in an area isolated from the rest of the building so the sensitive cacoa bean does not take on any off-flavours.

\section*{Cleaning:}

The beans are passed through a machine that removes dried cacao pulp, twigs, stones, and pieces of pod. The beans are then weighed and blended according to a company's specifications.

\section*{Roasting:}

The beans are roasted in large rotary cylinders for 30 minutes to 2 hours at \(135^{\circ} \mathrm{C}\left(250^{\circ} \mathrm{F}\right)\). The actual time depends on whether the end use is cocoa or chocolate. As the beans turn over a nd over, their moisture content drops, their colour changes to a rich dark brown and the chocolate aroma becomes noticeable.

\section*{Winnowing and Kibbling:}

The beans are quickly cooled. Kibbling is breaking the beans into smaller pieces, and winnowing is blowing away the brittle shells. The resulting pieces are nibs. Nibs are \(53 \%\) cocoa butter.

\section*{Grinding/Milling:}

Nibs are taken to steel pin mills where they are ground with the friction and heat of the milling making the nibs into a thick chocolate coloured liquid called a "mass" or chocolate liquor. This liquor is non-alcoholic. This mass contains \(55-58 \%\) cocoa butter and when cooled in a mold becomes a solid - unsweetened or bitter chocolate. This is what all chocolate and cocoa products are made from. At this point the processing separates depending on whether you want to make cocoa or chocolate.

\section*{Cocoa Powder:}

The chocolate liquor that is wanted for a cup of cacao


Image: Sanjay Acharya_http://creativecommons. org/licenses/by-sa/3.0/ is pumped into a huge press and pressure is applied to remove about half the cocoa butter. The compressed cocoa is then made into a powder by milling (pulverized), and then sifted (sieved) into a fine powder for use as a beverage or in cooking. Cocoa powder contains about 20\% protein, 40\% carbohydrate and 40\% fat.

\section*{Cocoa Butter:}

The cocoa butter is the flavourless fat that is squeezed out during processing to create powdered cocoa. It is a solid at room temperature and melts at \(36-40^{\circ} \mathrm{C}\left(89-93^{\circ} \mathrm{F}\right)\) - which is just below body temperature. Cocoa butter does not oxidize or turn rancid (bad) quickly. Under normal storage conditions cocoa butter can be kept for years without spoiling.


\footnotetext{
*Remember, it is a long, and precision controlled process to make chocolate!!
}

Extra is added to create the texture in bars - more cocoa butter means a smoother, creamier, less bitter bar. Less cocoa butter means a sharper, dryer, more powdery, more flavourful bar. Chocolate liquor is blended with cocoa butter in different amounts to get the product desired. eg. Milk chocolate is made by adding unsweetened chocolate, sugar, cocoa butter, vanilla, and milk.

\section*{Conching:}

A conch is a container filled with metal beads which act as grinders. Conching is when the mixture goes through heavy rollers or "conches" to affect the texture. A kneading or massaging action occurs for a few hours or even several days and the blended chocolate mass is kept in a liquid state due to the friction. This process adds flavour by differing amounts of agitation and aeration (adding air). High quality chocolate is conched for 72 hours, and lower grade chocolate for \(4-6\) hours. When this process is complete the chocolate mass is stored in tanks at \(45-50^{\circ} \mathrm{C}\left(113-122^{\circ} \mathrm{F}\right)\) until final processing.

\section*{Tempering: The final process}

If the size of the crystals formed in chocolate are not controlled the end product will have visible crystals, and the surface of the chocolate will be mottled and matte, not shiny. Un-tempered chocolate crumbles rather than snaps when broken. The sheen and crisp bite of chocolate occur because the chocolate has small cocoa butter crystals due to being properly processed (tempered). Tempering ensures that you have the right kind of sugar crystals present. If not tempered correctly the chocolate does not harden properly, or the cocoa butter separates out (eg. like cream separates from milk).

There are 6 types of crystals, but only "Type V" is the kind wanted. Type V is glossy, firm, has the best snap, and melts near body temperature \(\left(37^{\circ} \mathrm{C}\right)\). To achieve proper tempering and Type V crystals:
1. The chocolate must be carefully heated and then cooled. The chocolate is heated to \(45^{\circ} \mathrm{C}\) ( \(115^{\circ} \mathrm{F}\) ) to melt all 6 types of crystals.
2. It is cooled to \(27^{\circ} \mathrm{C}\left(80^{\circ} \mathrm{F}\right)\) which allows types IV and V crystals to form, but we only want Type V .
3. At this temperature the chocolate is stirred to create small crystal "seeds", making small crystals in the chocolate.
4. The chocolate is once again heated to \(31^{\circ} \mathrm{C}\left(88^{\circ} \mathrm{F}\right)\) to melt all Type IV crystals leaving only Type V.
5. If the chocolate is further heated, the "temper" will be destroyed and the process would need to be started all over again.
* To try tempering chocolate see Activity \#4 - Tempering Chocolate.


Temperers are tempering machines with computer controls that produce consistent tempered chocolate for large volumes. While a Temper Meter measures the temper of the chocolate, and ensures accuracy and consistency.

The tempered chocolate is then put in a mold, cooled, packaged and shipped. For food manufacturers the chocolate is often shipped in its liquid state.

Image: fiveinchpixie_http://creativecommons.org/licenses/by-nc-sa/2.0/

\section*{Cocoa Factory Facts}

Quality Control - There are strict regulations on hygiene and sanitation. Tests are constantly being done on viscosity, cocoa butter content, acidity, firmness, purity and taste. They must also follow the regulations and standards set by Health Canada.

Costs - The factory equipment to process cocoa and make chocolate is heavy, massive and complex representing many millions of dollars of investment.

Secrets - Secrecy among chocolatiers regarding their formulas for blending beans, roasting times, conching times, and their ingredient lists is common.

Single Origin - In the manufacturing of chocolate a blend of chocolate is often made using different kinds of beans- just like with coffee beans. Today some chocolate merchants want a single origin chocolate. They want to be able to trace the cacao bean from the tree, through the "chocolate chain", to the finished product - which means no mixing of beans.

\section*{Storage}

Anything made with tempered chocolate should be stored at room temperature. Tempered chocolate when wrapped tightly or placed in an airtight container will stay fresh for 1 year in a cool, dry place below \(25^{\circ} \mathrm{C}\left(75^{\circ} \mathrm{F}\right)\) and above \(18^{\circ} \mathrm{C}\left(65^{\circ} \mathrm{F}\right)\), like in a closet or hallway. The chocolate must be sealed in plastic so it will not take on other odours.

Anything made with untempered chocolate should be stored in the refrigerator immediately to harden the fat crystals and keep the glossy finish. Do not store chocolate in the refrigerator or freezer for any length of time as any moisture that enters the package will change the chocolate. It will also lose its shine in the freezer.

Bloom is the gray film that forms on the outside of solid chocolate. It happens when chocolate is stored at temperatures over \(25^{\circ} \mathrm{C}\left(75^{\circ} \mathrm{F}\right)\). The cocoa butter begins to melt and rises to the surface. It does not affect the flavour but does not look very appealing.

\section*{Processing Beans for Cocoa Tea}

In many cacao producing countries, the beans are used to make "cocoa tea". The fermented beans are ground into a fine paste, mixed with spices and rolled into balls, sticks or cubes that are dried. These balls are used for making "cocoa tea" which sometimes is called a "hot cup of chocolate". The cocoa balls contain cocoa powder and cocoa butter, which means that the taste of the final "tea" is very rich. Similar to dissolving a dark chocolate bar in a hot milk/water mixture.

Several different types of cocoa balls are made - vary in size, in the quality of the bean used, and in the amount and type of spices added. To use, the cocoa balls are dissolved in boiling water, strained, and sugar and milk added. Usually 1 cocoa ball makes 1-2 cups of "cocoa tea".

\section*{Kinds of Chocolate}

It depends on what is added or removed from the chocolate liquor. Each kind of chocolate reacts differently to heat and moisture.

\section*{Unsweetened or Baking Chocolate:}

The cooled, hardened version of chocolate liquor used as an ingredient in recipes or as a garnish. No sugar has been added.

\section*{Bittersweet and Semi-Sweet Chocolate:}

The darkest eating chocolate with at least \(35 \%\) chocolate liquor. It has extra cocoa butter and sugar added, and is used in recipes.

\section*{Sweet Dark Chocolate:}

Has 15-35\% chocolate liquor and less than \(12 \%\) milk solids. It may also contain other ingredients: condensed milk, cocoa butter, sugar and vanilla.

\section*{Milk Chocolate:}

Chocolate liquor with extra cocoa butter, sugar, milk and vanilla added. The most popular form of chocolate. In the U.S. milk chocolate contains: at least 10\% chocolate liquor and 12\% homo milk.

\section*{Cocoa:}

Chocolate liquor with much of the cocoa butter removed making a fine powder. Keep in a cool, dry place, tightly covered.

\section*{Dutch Process Cocoa or "Dutched":}

Cocoa or chocolate liquor that has been specially processed to neutralize the natural acids in chocolate. Slightly darker and has a much different taste then regular cocoa (milder). This process was invented by a chemist Coenrad Van Houten in Holland, hence "Dutching".

\section*{Purchasing Chocolate Chips}

Chocolate chips are small chunks of chocolate often sold in flat bottom, teardrop shapes. They are available in many different sizes and flavours. Chocolate chips contain less cocoa butter ( \(25-30 \%\) ) than other chocolate. They are often used in baking of cakes, cookies, sweet pizzas, etc.

You should purchase chocolate chips by deciding which

\section*{CHOCOLATE FACT:}

To honour the creation of the chocolate chip cookie - on July 9, 1997 Massachusetts designated the chocolate chip cookie as the official State Cookie. ones you like the taste of best. The flavour will change slightly depending on which chips you use, but baking instructions will not. Test out different brands and flavours, documenting which you like best for which recipes. Just remember, a good quality chocolate should have a nice chocolate smell, a smooth and glossy appearance, and no taste of chemicals. It should be smooth and velvety - not grainy or overly greasy on the tongue.

\section*{The Quest for the Real Chocolate Chip Cookie}

\section*{Version 1: The Nestle Version}

Ruth Graves Wakefield of the Toll House Inn, Whitman, Massachusetts invented the Chocolate Chip Cookie in 1933. She graduated from the Framingham State Normal School Department of Household Arts in 1924. She worked as a dietitian and lectured on food until she and her husband purchased the Toll House Inn, a tourist lodge. This was a Cape Cod-style toll house halfway between Boston and New Bedford. The house had been built in 1709 as a rest place for travelers. The passengers paid tolls, changed horses and had home-cooked meals.

Ruth prepared the recipes for the meals served to the guests at the lodge and became popular for her desserts. She always sent some of her cookies home with people who dined at her restaurant. A favourite was the Butter Drop Do cookie. The recipe called for baker's chocolate and one day the inn did not have any chocolate. So, Ruth substituted a semi-sweet chocolate bar cut up into small pieces. The chocolate bar pieces did not melt completely, they only softened. Her cookies became popular and the recipe was published in a Boston newspaper.

The chocolate bar had been a gift from Andrew Nestle of the Nestle Chocolate Company. The new chocolate chip cookie became popular and sales of Nestle chocolate semi-sweet bars increased. A deal was made! Ruth Wakefield would provide the recipe for the Toll House Cookie to be printed by Andrew Nestle on Nestle packaging, and Ruth would have a lifetime supply of chocolate.

Ruth continued baking and published a series of cookbooks. One such book was "Ruth Wakefield's Recipes: Tried and True" - which had 39 printings!

Nestle began scoring the chocolate bar so it would break into pieces more easily. Then in 1939 they started offering morsels. The Toll House Inn was sold in 1966 and became a nightclub, then in 1970 returned to being an inn. It burned in 1984. Ruth Wakefield died in 1977.

\section*{Version 2:}

There is controversy of how Nestle obtained the recipe.
Carol Cavanaugh, a former employee of the Toll House Inn and her father, George Boucher, former head chef at the inn tell a different story. They state that Mrs. Wakefield while mixing a batch of the sugar cookie dough had bars of Nestle's chocolate fall into the dough as a result of vibrations from a Hobart mixer. The chocolate was stored on a shelf above the mixer. The chocolate was then broken up by the mixer and combined into the dough. Mrs. Wakefield thought the cookie dough was ruined and wanted to throw it away. Mr. Boucher stopped her and convinced her to bake the cookies rather than wasting the dough. Mrs. Cavanagh states that Mrs. Wakefield did not sell the recipe to Nestle, she only gave them the right to print her recipe on the packages of their chocolate morsels.

Which is the true story???
Sources: www.candyaddict.com, www.women-inventors.com, \& http://web.mit.edu/invent/iow/wakefield.html Image: Editor at Large_ http://creativecommons.org/licenses/by-sa/2.5/


\section*{Activities}

\section*{Activity \#1 - Acting It Out}

Purpose: To build communication and teamwork skills, while reviewing the process a bean goes through to become chocolate.

Age Group:
Time Allotted:

All members
30 minutes (includes preparation and presentation time)

Preparation and Equipment: Copies of the The Cocoa Factory topic information for each group.

\section*{Instructions:}

Have members split into six groups and have each group prepare a two minute skit. Each group's skit should demonstrate one of the six processes a cacao bean must go through to become chocolate (cleaning, roasting, winnowing, grinding, conching and tempering). Encourage members to be creative with their actions, and to refrain from using props.

Have the groups present in order.

\section*{Debrief:}
- Review presentation skills- positive comments and one constructive piece of feedback.
- Were there any steps that were missed?
- What other foods might go through a similar process?

Visit www.hersheys.com/discover/tour video.asp to watch an informational video on growing, harvesting and processing cacao beans and manufacturing chocolate.
*** An excellent communications activity. ***

\section*{Activity \#2 - Melting Chocolate in My Mouth!}

\section*{Purpose:}

Age Group:
Time Allotted:
Preparation and Equipment: 3 pieces of plain chocolate bars for each member (1 frozen, 1 cooled and 1 at room temperature). Paper and pencils.

Before the meeting place 1 of the pieces for each member in the freezer (for 3 hours), and 1 of the pieces in the refrigerator.

\section*{Instructions:}

Have each member put one piece of chocolate at a time in his/her mouth and record how long they each take to melt - do not chew. Record the times.

\section*{Debrief:}
- Compare the time it takes to melt the room temperature chocolate, the refrigerated chocolate, and the room temperature chocolate.
- Compare the taste of each. Which tastes better?

\section*{Activity \#3 - Chocolate ID}

Purpose: Builds critical thinking and decision making skills, with a hands on activity reinforcing meeting content.

Age Group: All members
Time Allotted:
10-20 minutes (modify for club size and number of samples)
Preparation and Equipment: Squares of different kinds of chocolate,enough for each member to sample each selection, and labels for each on cards for matching.

Include chocolate bars with 99\%, \(70 \%\) and \(30 \%\) (cocoa content).

\section*{Instructions:}

Have the members taste and identify the different kinds of chocolate. Use the labels present, and have the members match the labels to the chocolate.

\section*{Debrief:}
- What were the differences in the taste of the chocolate as the cocoa content increased?
- Which chocolate did you prefer the taste of?
- What would you use each kind of chocolate for?

\section*{Activity \#4 - Tempering Chocolate}

\section*{Purpose:}

Age Group:
Time:
Equipment:

Hands on skill building, starting members working with bulk chocolate.
All members
30 minutes
Candy thermometer, double boiler, pretzels, marshmallows, fruit and chocolate.

\section*{Instructions:}
- Cut chocolate into small pieces (almond size). Melt \(2 / 3\) of the chocolate in a double boiler (water in the bottom part). For milk chocolate, heat to \(43^{\circ} \mathrm{C}\left(110^{\circ} \mathrm{F}\right)\), or for dark chocolate \(46^{\circ} \mathrm{C}\left(115^{\circ} \mathrm{F}\right)\).
- Remove from heat, and add remaining chocolate. Let cool to \(29^{\circ} \mathrm{C}\left(84^{\circ} \mathrm{F}\right)\).
- Return to double boiler, leave for 5-10 seconds. Stir melted chocolate, remove from heat and gently stir. Heat to \(30.5^{\circ} \mathrm{C}\left(87^{\circ} \mathrm{F}\right)\) for milk or white chocolate. \(32^{\circ} \mathrm{C}\left(89^{\circ} \mathrm{F}\right)\) for dark chocolate, but no higher.
- Fill the bottom of the double boiler with water at \(32^{\circ} \mathrm{C}\left(90^{\circ} \mathrm{F}\right)\) to hold chocolate at the proper temperature for molding and dipping. Chocolate should be shiny and smooth if properly tempered. If dull and streaky it has not been properly tempered.
- Have members dip pretzels, fruit, marshmallows in the dipping chocolate or pour into molds.

\section*{Debrief:}
- Review why tempering chocolate is important.

\section*{Activity \#5 - Identifying Chocolate Brochure}

\section*{Purpose:}

\section*{Age Group:}

Time Allotted:

To compare differences between kinds of chocolate, while building critical thinking, teamwork and communication skills.

Intermediate and senior members (15-21)
40 minutes
Preparation and Equipment: For brochures: pencils, markers \& paper, or computer program.
For comparison options- labels/information on nutrient content in pure chocolate types ( \(99 \%, 70 \%, 30 \%\) cocoa content). It might also be advisable to research food and nutrition composition tables.

\section*{Instructions:}

Individually, or in pairs, have members prepare a pamphlet to help general consumers understand the difference between kinds/percentages of chocolate.

\section*{Brochure Development Tips:}

Brochures are effective communication tools because they can be distributed to people, who can then keep the information with them.

What to include: The 5 W's (who, what, when, where, why), headings that grab the reader's attention and interesting or funny headings are good attention-getters. A brochure's appearance should also include colour, graphics, pictures, and interesting but readable fonts

\section*{Debrief:}
- Is there anything a person should keep in mind- from a nutrition perspective?
- Were you surprised by any of the results? If so - how?
- Do you agree that brochures are effective communication tools? Why or Why not?
\[
\text { *** Potential as an excellent special project activity and / or a take-home activity. }{ }^{* * *}
\]

\section*{Activity \# 6 - What Makes a Chocolate Chip Cookie?}
\begin{tabular}{ll} 
Purpose: & \begin{tabular}{l} 
To use creative thinking while problem solving and comparing different \\
recipes of the same product.
\end{tabular} \\
Age Group: & All members \\
Time Allotted: & 20 minutes \\
Preparation and Equipment: & \begin{tabular}{l} 
Flip chart paper, markers, pencils, paper and the recipes they brought \\
from home (Meeting 2's At Home Chocolate Challenge).
\end{tabular}
\end{tabular}

\section*{Instructions:}

\section*{Part A - What is a Typical Chocolate Chip Cookie?}

Have members write a definition for a chocolate chip cookie, and list typical ingredients. Have members suggest other ingredients that could be used and/or substituted. The usual main ingredients are: sugarboth white and brown, flour, a small bit of salt, eggs, a leavening agent (baking powder), a fat (butter or shortening), flavouring (vanilla), and chocolate chips or pieces. Some recipes also include nuts.

\section*{Part B - Changing How the Cookie Crumbles}

Using the recipes they have brought from home, challenge members to now create a "new" chocolate chip cookie recipe from their original, using substitutions and additions. Remind members a recipe is a specific ratio of ingredients - like a chemistry experiment. Also the amount or ratio of ingredients can and will alter the cooking time. Members can also choose to alter the cooking time, causing the cookies to be more soft or crisp. Do you even need to bake your recipe?

Some variation ideas are:
- Adding M\&M's and altering fat to shortening
- Flavour the dough "chocolate" by adding cocoa or melted chocolate
- Replace chocolate chips with white chocolate or peanut butter chips, or both!
- Mrs. Field's Cookies have macadamia nuts and white chocolate chips
- Replace vanilla flavouring with peanut butter flavouring
- Monster cookies - has M\&M candies, peanut butter, oatmeal added to the basic recipe
- Change the type of chocolate chips from milk to dark
- Vegan chocolate chip cookies using egg replacer

\section*{Part C - New Ways to Do an Old Trick}

Finally challenge members to think of new ways to make the cookies. The typical method of mixing cookies is that the sugars and fat are creamed together with a wooden spoon or electric mixer. The eggs and vanilla are added followed by the flour and leavener (which makes the cookies rise). Are there different way this could be done? With different equipment? The chocolate chips and nuts are usually added at the end to prevent them from breaking - Is there another way to do this?

\section*{Debrief:}
- Due to the changes you have made, would the cost of making the cookie rise or decrease?
- If your ingredient list no longer includes chocolate chips - is your recipe still a "Chocolate Chip Cookie" recipe?

\section*{Activity \#7 - Judging Chocolate Squares}

\section*{Purpose:}

\section*{Age Group:}

Time Allotted:
Recipes:

\section*{Equipment:}

To encourage members to critically think about what makes a good square, and score accordingly.

All members
30-60 minutes
Nanaimo Bars pg. 18 , S’mores Bars pg. 19 or Chocolate Holiday Square pg. 20 in the Recipe Book.

Paper and pencils. Also dependant on recipes/mixes chosen. Purchase beforehand one package of store-bought frozen squares, and one batch from a local bakery.

\section*{Instructions:}

\section*{Part A - Baking}

Make one batch of squares from scratch, and one batch from a mix. Make sure you make the same variety of squares as the purchased ones.

\section*{Part B - Judging Criteria}

Using the "Scorecard Worksheet" members need to decide, through consensus, on the attributes that make a perfect square (of the variety chosen ie. Nanaimo, S'mores etc.). What is the criteria that they should be judged on? Which of these criteria is more important? Note to the members that a total score of 100 should be used. See the Baked Goods Scorecard in Meeting 1 for help.

\section*{Part C - Judging}

Now, using the created scorecard, have members judge the four batches of squares. Ask a member to volunteer and give reasons to the group. If you wish, give final reasons to the group yourself.

\section*{Debrief:}
- Did you find judging easier after creating and reviewing the criteria?
- Why is it important to think about nutrition and cost, in addition to taste, when baking and buying squares?

\section*{Scorecard Worksheet}
\begin{tabular}{|l|l|l|l|}
\hline Criteria & Total Points Possible & Point Given \\
\hline & & & \\
\cline { 1 - 2 } & & & \\
\hline & & & \\
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\hline & & \\
\hline & & \\
\hline & & \\
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\hline & & \\
\hline & & \\
\hline
\end{tabular}
* This worksheet can be used for more that just judging squares! Photocopy and use it as a template for setting criteria on anything you want to judge.
4. inns insindyy

\section*{Objectives}
- Investigate the origin of chocolate
- Explore the middle centuries of the history of chocolate
- Learn about the advancement of chocolate in recent history
- Introduce using chocolate in a different way/different course showing the versatility of chocolate

\section*{Roll Call}

Name a moment in your personal history that included chocolate. Have you ever eaten chocolate in a main course? How?
Name a main course recipe that could include chocolate.

Sample Meeting Agenda - 2.75 hrs
\begin{tabular}{|l|l|l|}
\hline \multicolumn{2}{|l|}{ Welcome, Call to Order \& Pledge } & 5 min \\
\hline Roll Call & Minutes and Business & 5 min \\
\hline Parliamentary Procedure & \begin{tabular}{l} 
Explain the history timelines - focusing on 101 and 201. Members \\
should understand historically where chocolate came from, and its \\
rise to popularity worldwide. Having a senior member/ Junior Leader \\
present this information would also be effective.
\end{tabular} & 20 min \\
\hline Topic Information Discussion & Activity \#4 - Map Addition - All members & 10 min \\
\cline { 2 - 4 } & Activity \#2 - Chocolate Coins - All members & 15 min \\
\hline \begin{tabular}{l} 
Activity Related to Topic \\
Information
\end{tabular} & Activity \#5 - Getting the Word Out About Chocolate - All members & 30 min \\
\hline Communications Activity & \begin{tabular}{l} 
Introduce "Savoury Main Course Chocolate" to members. Discuss with \\
them how this form of chocolate consumption relates to the history \\
covered during the meeting.
\end{tabular} & 10 min \\
\hline Topic Information Discussion & Beans Mole pg.24, and/or Ham Mole pg.25 in the Recipe Book. & 45 min \\
\hline Recipe & Wrap up, Adjournment, Social time and enjoy the Mole! & 5 min \\
\hline At Home Chocolate Challenge & 1. Make Chili Mole by adding 15mL (1 tbsp) of cocoa to your favourite chili \\
\hline
\end{tabular}

\section*{Leaders Tip}

This is a detailed coverage of chocolate history. For that reason, it has been divided into 3 sections: 101, 201, 301. These can be covered or abbreviated at 1 meeting or expanded over more. A bit of history could be discussed at each meeting, and/or a Youth Leader could present selected information.

\section*{References and Resources}
- Globe and Mail. "Shaken by chocolate woes, Ganong goes outside for help." G. Pitts. July 2008.
- http://chocolatesensations.ca/html/facts.html
- http://en.wikipedia.org/wiki/Chocolate
- www.fieldmuseum.org/chocolate/kids_facts3.html
- www.pastrywiz.com/chocolate/index.html
- www.facts-about-chocolate.com/chocolate-history.html
- www.wmnh.org/sciencebulletins/biobulletin/biobulletin/styory688.htm
- www.tildology.com
- www.xocoatl.org/bars.htm

\section*{Chocolate History 101}

\section*{Maya Indians/Mayans}

We have the Maya Indians of Central America to thank for discovering the delights of chocolate in 600AD.

They grew wild cacao trees in the rainforests of the Yucatan Peninsula (now part of southern Mexico). They cleared areas of lowland forests, and grew their own trees. These were the first cacao plantations.

However, they did not eat the chocolate. They drank "xocalatl" or "chocolatl" meaning "bitter drink" or "bitter water". This drink was made from roasted cacao beans, water and a little spice. They also used chocolate mixed with corn and water to make a gruel (a sort of cereal).

In 750AD they discovered that when the drink was poured from one vessel to another, it created a foam on the chocolate drink. The Mayan people liked the foam and considered it the best part. Documents in Maya hieroglyphics state that chocolate was used for ceremonial purposes, as well as in everyday life. Archaeologists in 2007 found residues of cacao in a vessel at a site in Puerto Escondido, Honduras, dating about 1100 to 1400 BC!

\section*{Rituals \& Ceremonies}

Cacao beans played an important role in Mayan's lives in ceremonial rituals. They used them as an offering to the gods in puberty rites, as in marriages and funerals. They also had a god of cacao, Ek Chuah.

Cacao beans were given as gifts at ceremonials and religious occasions. They believed that the beans were a gift sown by the gods, and endowed wisdom if eaten. They also performed sacrifices each year to ensure a good harvest from the cacao tree.

\section*{Aztecs Conquer the Mayas}

By 1400AD the Aztecs had invaded most of their Maya neighbours' land, and developed a taste for chocolate as well. Cacao became the key to the trade empire of the Aztec people: as a drink, money, offerings to the gods, and tributes to rulers. All of the areas that were conquered by the Aztecs required that taxes, or "tributes" be paid in cacoa beans. Aztec emperors were buried with jars of chocolate at their sides. Aztec warriors protected traders on their voyages due to the cacao beans' preciousness. The Mayans and Aztecs believed that the cacao beans originated from Paradise and would bring wisdom and power to anyone consuming them.

\section*{Currency}

Have you ever traded something you had for a piece of a friend's chocolate bar? That was bartering, which Ancient peoples did too!

Cacao beans were valued as currency or money. Cacao beans were also used as a unit of calculation. Both the Mayans and Aztecs traded beans for other things like cloth, food, kitchen tools, jade and ceremonial feathers. The beans were carried to market in canoes or in large baskets strapped to the traders' backs, while wealthy merchants employed porters to carry the beans for them. Beans were used and reused as currency until the bean was no longer good. It was then used to make chocolate. Some dishonest merchants even made counterfeit cacao seeds out of clay. Cacao beans were used as currency in Latin America until the 19th century!

An early explorer found that:
3 cacao beans bought an avocado
4 cacao beans could buy 1 pumpkin
10 cacao beans could buy a rabbit
100 cacao beans for a turkey
100 cacao beans were needed to buy a slave!

\section*{CHOCOLATE FACT:}

All transactions were in terms of number of beans, not weight or bulk. Montezuma, the 5th Aztec Emperor, had huge stores of cacao beans - 960 million beans!

\section*{European Discovery of Cocoa}

In 1502 Christopher Columbus landed in Nicaragua on his 4th voyage to America, and was the first European to encounter chocolate. However he chose to ignore the Aztec drink, which is heavily spiced and bitter. This unpalatable concoction was so thick a spoon could stand up in it. Recipe follows:
- Cacao bean
- Cinnamon
- Red peppers
- Aniseed
1. Ingredients are dried and powdered being careful not to overdry. Then stirred together over a fire until a paste is formed.
2. Add achiotte (a red colouring agent).
3. Make into tablets to become cold and hard.
4. Dissolve tablets in hot water and add atolle (a cornmeal gruel drink) and stir until frothed.

Hernando Cortes, another Spaniard, conquered Mexico in 1519 but was not impressed with the cacao bean either. However, he was lured by the idea of wealth and planted cacao plantations. When he first landed he was received by the Aztec Emperor Montezuma in his opulent court. Cortes was served the royal drink, Xocatl, in golden goblets. Montezuma supposedly drank 50 or more portions per day!

The conquistadors returned to Spain in 1528 and brought cacao beans with them. Cocoa (with added vanilla and sugar) soon became the drink of the Spanish court, and was very fashionable in high society. They frothed the chocolate using a stick called "molinillo". The Spanish guarded this "secret drink" from the rest of Europe for 100 years!

\section*{The Secret is Out!}

In the early 17th century the Spanish monks, whose job it was to process the cacao beans, finally let the secret out. Soon chocolate was said to be a delicious, health-giving food across Europe, but could only be afforded by the rich. Just as the Spanish court did, it was named "the drink" of the French court as well.

Chocolate was the first caffeine to reach Europe, a few years before tea and coffee. In 1657 it travelled across the English Channel and soon anyone with money in England could buy cocoa. In 1606, an Italian, Antonia Carletti visited Spain and returned with the royal recipe for chocolate. Coffee houses serving chocolate started in Venice and Florence.

As the popularity of chocolate grew other countries began growing cacao in their territories as well, with plantations springing up and thousands of people were enslaved to produce cacao. To keep up with the high demand for cacao beans, the Spanish first enslaved the Mesoamericans to produce cacao, and soon after Africans.

\section*{Chocolate in the Church}

In 1569 Pope Pius V was served a cup of chocolate and found it so disgusting that he could not imagine anyone wanting to drink it. However, he declared it permissible to drink through the Lenten feast.

Fashionable women could not get through Mass without a cup of chocolate, so it was common to see legions of maids serving their mistresses chocolate during Mass. A rather disruptive practise.

The only recorded actual "Death by Chocolate" occurred in 1766 in San Cristobal de las Casa, Chiapas, Mexico. The Bishop objected to chocolate being consumed during mass, and the townspeople refused to follow this edict. He was murdered by a secretly poisoned cup of chocolate!

\section*{Chocolate History 201}

For the next many hundreds of years, chocolate gains popularity and becomes more commonplace as people of lower incomes can also enjoy chocolate. The Industrial Revolution also brings many changes, making the production of chocolate easier and cheaper.

1657: The first chocolate house is opened on Bishopgate Street in London, England by a Frenchman. Chocolate cost 6-8 shillings per pound. That's approximately \(\$ 60-\$ 80\) dollars in today's standards. Chocolate is available to only the rich at this time.

1660: Maria Theresa of Austria marries Louis XIV of France. She shares her love of chocolate with the people of France, and for the first time people outside the royal court enjoy chocolate.

1662: A well-known English physician, Henry Stubbe, advocates that one ounce of chocolate contains more fat and nourishment than a pound of meat. He even wrote medical prescriptions prescribing chocolate!

1663: Pralines (nuts covered in a caramelized sugar) are created by a cook in Germany.
1711: Charles VI moves from Madrid, Spain to Vienna, Austria taking chocolate with him.
1720: Italians start serving chocolate.

1728: The first factory for processing cacao beans was established by Walter Churchman, an English Quaker, and was purchased in 1761 by Joseph Fry. The Quakers of England played a large role in the development of chocolate. They refrained from drinking alcohol, so they promoted consuming chocolate. Due to this, they became involved in the manufacturing. Quaker names in the chocolate industry include: Cadbury, Fry, Rowntree and Terry's.

1730: Use of the steam engine, which mechanized chocolate production and increased the availability of chocolate, drops the price of chocolate to \(\$ 3\) a pound (affordable for most).

1732: A French inventor, Monsieur Dubuisson, creates a table for grinding cacao beans. It is heated from below, enabling workers to stand while grinding, and makes production much easier.

1764: Chocolate is introduced to the United States. The Baker Chocolate Company is started in Dorchester, Massachusetts by James Baker and John Hannon. They coined the phrases "Baking Chocolate" and "Baker's Chocolate".

1774: Louis XIV creates the position in court of "Royal Chocolate Maker to the King".
Late 1700 's: People of Spain consume nearly 12 million pounds of chocolate per year.
1780: For the first time, chocolate is made by machine in Barcelona, Spain.
1789: Napolean insists that chocolate is available (to himself and his senior advisors) during his military campaigns in the Napoleonic Wars.

1795: J.S.Fry and Sons use steam engines to grind cacao beans for the first time in England.

1819: A Swiss man, Francois-Louis Cailler, returns from Italy after studying chocolate making and establishes the first Swiss chocolate factory in Corsier, Switzerland.

1822: John Cadbury, a Quaker, opens a tea and coffee shop in Birmingham, England. He tries to convince people to drink chocolate because it is much healthier than alcohol.

1828: Coenraad Van Houten, a Dutch chocolate maker, produces a hydraulic press to make cocoa powder. He also devises a way to wash the cocoa in an alkali solution, which makes it easier to mix with water. It is called "Dutch" cocoa.

1847: J.S. Fry and Sons makes the first modern chocolate bar by combining extracted cocoa butter with a chocolate paste, and added sugar. These early chocolate bars had a bitter taste and were not enjoyed by many.

1853: High import taxes on chocolate are reduced, leading to increased affordability and popularity of chocolate.

1861: The Cadbury's make the first heart shaped box of chocolates for Valentine's Day.

1872: The world's oldest company trademark is established. Baker's Chocolate Company uses the painting La Belle Chocolatiere, by Swiss artist Jean-etienne Liotard, on their products.

1875: Daniel Peter, a Swiss, forms milk chocolate by combining condensed milk with bitter dark chocolate (a process which is later perfected by Henri Nestle).

1879: Rodolphe Lindt invents the "conch" machine that stirs liquid chocolate to remove any lumps and creates a smooth chocolate fondant, which "melts in your mouth". In 1889 Springli of Zurich bought Lindt's factory and trademark for 1,500,000 gold francs.

1879: The Tobler factory is founded, producing "Toblerone." The bar's shape honours the Swiss Alps, seen from the factory's windows.


1893: Milton Hershey attends the World Columbian Exposition in Chicago. Impressed by the chocolate making equipment; he purchases it on the spot. He then ships it to Pennsylvania and starts the Hershey Chocolate business; creating the first Hershey chocolate bar, and producing chocolate coatings for caramels, baking chocolate and cocoa.

1896: Leo Hirshfield makes the Tootsie Roll, and sells them in his New York candy shop for a penny.
1897: People in England consume 36 million pounds of chocolate.

\section*{Chocolate History 301}

The 1900's were a time of great advancements in the chocolate industry. Many of the pioneering chocolate companies then, are still present in the chocolate industry today.

1900: Hershey introduces the milk chocolate bar.

1906: The first brownie recipe is printed in the 1906 edition of The Boston Cooking-School Cook Book, edited by Fannie Farmer. The recipe is a less rich and chocolaty version of the brownies we know today.

1907: Hershey's Kisses are introduced. Although it is not known for sure, the popular theory is that Kisses got their name from the sound or motion of the chocolate being deposited during the manufacturing process. Hershey's now produces 33 million kisses a day.

1913: Jules Sechaud, a Swiss confectioner, creates chocolates that can have unique fillings by making chocolate shells.

1922: The Reese's Peanut Butter Cup is created by Hershey's, using their milk chocolate.

1932: The 3 Musketeers Bar is introduced. Named after its original design that had 3 pieces and three flavours: chocolate, vanilla and strawberry. In the 1940's it became just 1 flavour but the same nougat formula.

1938: Nestle's Crunch Bar is created in Fulton, New York, and combines other ingredients with chocolate. This five cent chocolate bar is a big success in the economic climate of an America still struggling from the Depression.

1939: Nestle introduces chocolate chips.

WWII (1939-1945): The U.S. Army commissions Hershey's to produce a chocolate bar that could be included in soldiers' rations. The "Field Ration D" bar weighed four ounces, would not melt at high temperatures, and was high in food energy value. The trick was the bar also needed to not taste too delicious, as soldiers were to not be tempted to eat the bar, unless in an emergency. Hershey's also created a bar for the Persian Gulf War in 1990 - the Desert Bars that "melts in your mouth, not in the sand".

1941: Forrest Mars introduces M\&M's. Candies with a chocolate centre and coated with candy. Their slogan was "The milk chocolate that melts in your mouth, not in your hands". The original colours included brown, yellow, red, green and violet. Violet was later replaced with \(\tan\) in 1949, and then tan was replaced with blue in 1995. Orange was introduced in 1976 and green in 1997. 21 colours are now available to order.

\section*{CHOCOLATE FACT:}

If all the M\&M's produced were placed side-by-side they could circle the world 48 times or go to the moon and back 6 times.

Visit www.m-ms.com for more fun information

1955: Hebert Candies introduces white chocolate, and Mars Inc. produces the first white chocolate bar.

1973: Hershey's theme park, Chocolate World, is opened in Hershey, PA

1994: The European Union establishes Europe-wide food standards. Belgium, France, Spain, Italy and Germany want "chocolate" to mean in excess of 50\% cacao. England, home of Cadbury (which produces tons of chocolate less than 10\%) opposes this. A decision is made that anything in the EU can be called chocolate as long as it contains \(1 \%\) chocolate, and each bar must state the \% cacao. In the USA chocolate must be 10\% chocolate.

2000: More pure bars are available. Pure chocolate bars contain more than \(65 \%\) cacao. The ingredients are: cacao paste, sugar, cocoa butter, lecithin and vanilla.

Today: The chocolate industry is a multi-billion dollar business. The United States is one of the largest consumers of chocolate (50\% of the world market).

Labeling is mandatory and nutritional facts must be listed on each chocolate product. Labels may contain the following information: variety, place of origin (where it was grown), date of harvest, date of manufacture, \(\%\) cocoa butter and cacao paste, \(\%\) vanilla and lecithin, parent company of manufacturer. Chocolates that are organic or fair trade certified are also labeled accordingly.

Fair trade chocolate is consumer demanded and very popular. The history of cacao harvesting is dark, as the harvesting was done by slaves and young children for hundreds of years. Today the most current issue is Fair Trade chocolate, ensuring fair wages for workers and monies paid to their communities for social improvements. By improving the wages and income, Fair Trade is trying to discourage the use of youth for cheap labour.

\section*{Who Eats Chocolate?}

Although a lot of chocolate is grown in Africa, not many Africans eat it. It is produced mostly for exporting.

Although the popularity of chocolate is growing in China and Japan, there is still not a large "chocolate culture" in Asia. The Chinese only eat 1 bar of chocolate, for every 1,000 eaten by the British!

Mexicans drink chocolate and use it as a spice, rather than as a sweet. They use it as a mole and serve chocolate drinks at social gatherings and special occasions.

Switzerland has the highest consumption. They consume 22 pounds of chocolate per year, per person.

In 2006, consumers across the globe spent 74 billion US dollars on chocolate and chocolate related products!!!

\section*{Our Chocolate Culture Today}

Today most cities and towns have a chocolate store, and certainly carry all sorts of chocolates for everyday and special occasions. Coffee shops and restaurants almost always offer hot chocolate on their menus. Really chocolate surrounds us on a daily basis. Think of all the chocolate activities and experience you can partake in. Here are a few:

Fashion Shows - Held occasionally, these shows feature elaborate outfits made from chocolate.
Classes - Classes offered to learn the art of chocolate making. Some classes are even available online.
Spa Treatments - Treatments that feature chocolate which moisturizes and softens skin. The scent of chocolate is also proven to trigger a release of chemicals in your brain producing similar feelings to being in love, pleasure and indulgence. Talk about relaxation!

Yoga - This experience combines yoga, music, aromatherapy, and a tasting of chocolate - all stimulating the participant's senses.

Art - Occasionally chocolate art is on display. Carving, sculpting and molding chocolate sculptures is a new art form.

Tradeshows - These chocolate tradeshows are held in New York, Paris, Shangaî, Japan, Moscow and Cairo lasting 4 days each.

Festivals - Countless chocolate festivals are held across the world featuring the " 4 Food Groups" of chocolate, defined as: milk chocolate, dark chocolate, white chocolate and chocolate truffles.

Museums - Belgium, Argentina, and Pennsylvania (to name just a few) all have museums dedicated to chocolate.

Records - The Guinness Book of World Records includes chocolate records for the largest brownie and largest chocolate Easter egg to name a few.

Films - Charlie and the Chocolate Factory (2005), Willy Wonka and the Chocolate Factory (1971) and Chocolat (2000). There are also countless instructional videos and documentaries. Check out this one done by CBC: www.cbc.ca/documentaries/confidential/chocolate.html

TV Episodes - I Love Lucy "Job switching" 1952-53 Season 2 Episode 39 \&The Simpsons, "Burns Verkaufen der Kraftwerk" 1991 Season 3 Episode 11.

Books - Other than the millions of cookbooks and recipe books on chocolate, there are also these: Charlie and the Chocolate Factory by Roald Dahl in 1964, Chocolat by Joanne Harris, 1999, The Nature of Indulgence by Ruth Lopez. Publisher: Harry N. Abrams. 2002, Candyfreak: A Journey through the Chocolate Underbelly of America by Steve Almond. Publisher: Algonquin Books. 2004 \& The Chocolate Connoisseur by Chloe Doutre-Roussel.

\section*{Savoury Main Course Chocolate}

Chocolate can be used in many different ways. We usually think of chocolate bars, candy or desserts, but in many countries chocolate is used as an ingredient in the main course. The idea of using chocolate in a main dish originates from Mexico. Only a small amount of unsweetened chocolate - either in bar or cocoa powder form is used, not a regular chocolate bar.

Chocolate itself is rather bitter in taste with a distinctive flavour. Mole is from the Nahuatl word molli meaning concoction. Mole (pronounced MOH-lay) is a sauce made from chilies and a combination of chocolate, vegetables, spices, sesame seeds and raisins. This mixture can be used to marinade chicken, turkey and other main dishes. It often means a smooth, rich dark, reddish sauce.

Some high-end chefs are now experimenting using chocolate in many ways and combinations. You could try these combinations at home too:
- Substitute chocolate for sweeteners in sauces and stews.
- Use chocolate as a condiment on the spice rack creating a rich flavour when added to recipes.
- Use in entrees, sauces, glazes and rubs for meats.
- Add to barbeque sauces, chili and baked beans.
- Cacao nibs are roasted and cracked beans, which can be used to add a nutty flavour to a recipe. They can also be crunchy or chewy, and are 50\% cocoa butter.
- Make your favourite chili recipe into "Chili Mole" by adding 15 mL ( 1 tbsp ) of cocoa.

\section*{Activity \#1-Timeline}

Purpose: For members to use creativity, while recapping the history covered.
Age Group:
All members
Time Allotted:
20 minutes
Preparation and Equipment: Pencils, and a long piece of paper

\section*{Instructions:}

Have members create an illustrated timeline showing the discovery of chocolate. You may want the entire group to work together on one large timeline, or have three groups work on different timelines. The groups could then present to one another.

\section*{Debrief:}
- What was your favourite moment in chocolate history?
- Over the course of history, how did chocolate production change?
***Potential as a great communications activity. ***

\section*{Activity \#2 - Chocolate Coins}
\begin{tabular}{ll} 
Purpose: & \begin{tabular}{l} 
To use skills learned in earlier meetings and learn the importance of \\
detail.
\end{tabular} \\
Age Group: & All members \\
Time Allotted: & 20 minutes \\
Preparation and Equipment: Washed coins, foil and melted chocolate. \\
Instructions: &
\end{tabular}

Have members scrub coins clean. Take a piece of foil and cover one side of a coin. Form the foil around the coin using your fingers. This should show the indentations, but the more careful and meticulous you are the better the indentation will look. Carefully remove the coin and pour a small amount of chocolate in to the indented foil.

Let the chocolate cool and harden, and fold remaining foil over the rest of the chocolate coin. Viola - a chocolate coin!

\section*{Debrief:}
- When have you seen chocolate coins used?
- What techniques and helpful hints did you learn when making chocolate coins?

\section*{Activity \#3 - Chocolate Logo}
\begin{tabular}{ll} 
Purpose: & \begin{tabular}{l} 
To build marketing skills in members (creativity, planning and \\
communication), and build on the information gained in the history of \\
chocolate and the introduction of chocolate companies.
\end{tabular} \\
Age Group: & All members \\
Time Allotted: & \begin{tabular}{l}
\(20-25\) minutes ( 5 min instruction and scenario, 15 min design, 5 min \\
presentations) - time will vary depending on club / group size
\end{tabular} \\
Preparation and Equipment: Decide on scenario(s) to give direction- is the logo for a company or a \\
product the member makes up, or is it a chance to revamp a current \\
product logo to meet "today's" needs. \\
Paper, pencils, markers, coloured pencils, etc.
\end{tabular}

\section*{Instructions:}

Ask members to create / design a logo for use on a chocolate product or for a chocolate bar (see scenario ideas above). Inform them of how long they have and that they will be presenting their creations to the group.

Leader Tip: A great activity to use if the club is large and space is needed in the kitchen for the cooking portion of the meeting. Half could work in the kitchen, and half work on their logo designs.

\section*{Debrief:}
- Is it easy to come up with a logo? Why or why not?
- Does it appear that marketing chocolate would be easy?
- What product do you think is missing from the marketplace now?

\section*{Activity \#4 - Map Addition}

Purpose: To illustrate how important and valued cacao was throughout history.
Age Group: All members
Time Allotted: 15 minutes
Preparation and Equipment: Pencils, coloured pencils, world map, and the "Mapping Cacao Worksheets" members used in Meeting 2.

\section*{Instructions:}

Ask members to use their "Mapping Cacao Worksheets" from Meeting 2. Have them colour in the places where cocoa was first discovered (include dates). The members should then draw lines from these locations, to the countries cocoa was first exported to (include dates).

\section*{Debrief:}
- What do these maps illustrate and emphasize?

\section*{Activity \#5-Getting the Word Out About Chocolate}

\section*{Purpose: Build confidence and communication skills, while using teamwork.}

Age Group: All members
Time Allotted: \(\quad 20-40\) minutes ( \(15-20 \mathrm{~min}\) prep time, 15 min presentation)
Preparation and Equipment: Props, costumes, tables, chairs (as available), paper, Bristol board, markers, etc. and a video camera (optional).

\section*{Instructions:}

Break members into groups of 2 or 3 . Members are to prepare a commercial, or news report on the uses/virtues of chocolate. All members of the group need to take part in the skit. Be sure to let the group know how long they have to prepare. Encourage the groups to use information they have learned so far in the club.

Optional: Video tape and play back to members so they can perfect their presentations skills, or show at the Achievement Program and/or Awards Night.

Leaders Tip: You may want to let you members know of this activity the meeting before so that they might bring potential props, costumes and ideas with them.

\section*{Debrief:}
- What did you learn / gain from this activity?
- What did you find most difficult about this activity?
***Potential as a great communications activity. ***

\section*{Activity \#6 - Cocoa Powder}

Purpose: To understand the benefits of technology and machinery in chocolate production.

Age Group: All members
Time Allotted: 20 minutes
Preparation and Equipment: Mortar and pestle (borrow from a drug store or chemistry lab at school) or a rolling pin, waxed paper or paper towels and squares of Baker's chocolate.

\section*{Instructions:}

Have members take turns crushing the bars to make "cocoa powder".

\section*{Debrief:}
- Was this an easy tasK?
- Discuss the value of a hydraulic machine.

\section*{Activity \#7 - Hot Topic}

\section*{Purpose:}

Age Group:
Time Allotted:

For senior members to gain further information on the project topic, while building their research and communication skills.

Intermediate and senior members
1 hour ( 30 min research, 30 min for presentations)

Preparation and Equipment: Internet access and newspapers (though usefulness is limited) at home.

\section*{Instructions:}

Ask senior members to research a current hot topic around chocolate or the chocolate industry and present their findings at the next meeting.

Presentations to the club should be 2-4 minutes in length. Encourage presenters to create handouts for the entire club. Elements the presentation should cover include:
1. Where the article came from (newspaper, blog, etc.)
2. Three key messages from the research
3. Why they chose to talk about this hot topic

\section*{Debrief:}

For the Seniors:
- Was it difficult to find a topic? Why or Why not?
- Did your research change your opinions on chocolate in any way? If so how?

For all Members:
- What is one new thing you learned from listening to the presentations?
***This is a great Take-Home Activity. ***

Objectives
- Objectively evaluate chocolate
- Explore the different kinds of chocolates and fillings that one can make


\section*{Roll Calls}

What is your favourite type of chocolate?
Name an occasion you eat chocolate at. What is the chocolate item you eat? What is it that you like about chocolate: the smell, the taste, the texture, the appearance?

Sample Meeting Agenda - 3 hrs
\begin{tabular}{|l|l|l|}
\hline \multicolumn{2}{|l|}{ Welcome, Call to Order \& Pledge } & 5 min \\
\hline Roll Call & Minutes and Business & 5 min \\
\hline Parliamentary Procedure & \begin{tabular}{l} 
Discuss the different traditions/celebrations that incorporate chocolate \\
within their festivities. Follow up by introducing the members to the \\
idea of creating their own chocolate celebrations - a chocolate tasting \\
party. Describe in full and review the "Many Tastes of Chocolate".
\end{tabular} & 20 min \\
\hline Topic Information Discussion & Activity \#3 - Start a New Tradition - All members & 10 min \\
\cline { 2 - 4 } & Activity \#5 - A Chocolate Tasting Experience - All members & 20 min \\
\hline \begin{tabular}{l} 
Activity Related to Topic \\
Information
\end{tabular} & Activity \#7 - Fondant Comparisons - All members & 20 min \\
\hline Judging Activity & Activity \#8 - Make Fillings for Chocolates - All members & 60 min \\
\hline Recipe & Wrap up, Adjournment, Social time and enjoy the chocolate treats! & 30 min \\
\hline At Home Chocolate Challenge & 1. \begin{tabular}{l} 
Have each member survey family members and friends to see how much \\
chocolate they consume in a week. Members should bring their findings to \\
the next meeting.
\end{tabular} \\
\hline
\end{tabular}

\section*{References and Resources}
- American Dietetic Association. "Factsheet: Cocoa and Chocolate: Sweet News". 2007.
- LeRiche, S., Sharpe, C. and D. McDougall. The Chocolate Book. Our Place Publications. Milton, 1983.
- The World of Chocolate. Norfolk County 4-H Pilot Project, 2004
- http://en.wikipedia.org/wiki/Chocolate
- http://chocolatesensations.ca/html/facts.html
- www.fieldmuseum.org/chocolate/eat_intro.html
- www.efn.org/~sundance/chocolate.html

\section*{Topic Information}

\section*{Chocolate Fountains and Fondues}

These are very popular for parties, showers and weddings. You can dip fruit, cookies, pretzels etc! The fountains feature flowing chocolate, and look amazing and smell wonderful. They create a place where people can gather. They are are a great choice for a large party, but are also lots of fun at a smaller sized or children's parties.

Renting professional fountains and the staff to run them is quite expensive. As another option is to purchase less expensive at-home fountains. If purchasing a fountain, make sure it is sturdy and has a stainless steel base. It should be quiet when operating. The fountains will come with operating instructions and recipes to use. Usually the recipe suggests thinning the chocolate to make it flow better by adding oil. Professionals do use specific fountain chocolate, or crystals to thin the chocolate, that can be purchased at stores selling baking goods.

Do not use fountains outside if it is windy as the chocolate will blow all over people's clothing. It is also a good idea to place a cloth that is easily cleaned under the fountain to catch drips. If chocolate is left over, thicken it with additional chocolate and then use to dip cookies and pretzels for another occasion.

\section*{What to Serve?}
- Strawberries, bananas, peaches, pineapple, mango, apples, cherries, angel food cake, pound cake, cheesecake, cookies, marshmallows, muffins.
- Avoid crumbly soft cookies, and raspberries that will break and fall off. These can clog the machine making it necessary to shut the fountain off, clean the chocolate and restart.
- Remember to always have napkins/plates available.


Image: Moey \({ }^{\text {TM }}\) _ http://creativecommons.org/licenses/by-nc-sa/2.0/

\section*{Fondue/Fountain Etiquette Factsheet}

Dip and Drip - dip your food into the fondue/fountain and let the extra drip off before you remove the food. This avoids messy drips on the table, floor and on you.

Don't Touch the Fondue Fork to Your Mouth - do not touch the fork to your lips, tongue or teeth because the fork goes back in to the pot. You can place the food on a plate and eat with a separate fork. When using a fountain, use a new skewer or toothpick every time you use the chocolate fountain - placing used ones in the appropriate place.

Don't Double Dip - only dip once and eat.
Don't Dip with Your Fingers - this is not sanitary or safe. If this happens professional companies will stop the fountain, replace the chocolate and start it all again. To start the fountain again, it takes about 1 hour to melt the chocolate! This ends the fun for everyone, and is expensive to replace all that chocolate!

Don't Lose your Food in the Pot - not only do you not get to enjoy the lost food, it contaminates the rest of the chocolate.

Do Use a Plate or Serviette - these will catch any drips as you remove the food from the fondue or fountain.

Don't Overload Your Stick/Fork - skewer only 1 or 2 items on your fork or toothpick. This will prevent losing your food in the pot/fountain.

Don't Your Fingers to Pick Up Items - skewer each item onto the fork. Do not use your fingers to put food on your stick/fork.


Image: hexodus..._ http://creativecommons.org/licenses/by-nc/2.0/

\section*{The Chocolate Experience}

How does one evaluate the quality of a chocolate to determine a good chocolate from an inferior chocolate? Chloe Doutre-Roussel known as the "chocolate angel" featured in a CBC Documentary "Chocolate Confidential" states that you should evaluate chocolate as follows:

Look - Is it shiny? If shiny, it was tempered properly. If it has a gray film (bloom) showing, it was stored at too high of a temperature (over \(25^{\circ} \mathrm{C}\) or \(75^{\circ} \mathrm{F}\) ).

Hear - If it makes a loud snap it has been tempered properly. If it does not snap loudly, then it probably has a fatty and grainy consistency.

Smell - It should be sweet, telling of the taste. (Aromas vary depending on the growing conditions of the cacao.)

Taste - As it melts in your mouth think of the aroma - what does it taste like? There should be no chemical or bitter/astringent taste. There are a possible 500 flavours to detect!

\section*{CHOCOLATE TASTING STEPS}
1. Look at the bar and make sure it is shiny and smooth.
2. Bring the bar up to your ear and snap/break/cut it.
3. Rub a piece between your fingers to release the and smell the intense aroma.
4. Taste the chocolate blindfolded, to focus your attention on the tasting experience alone.
5. Bite into the chocolate and let it melt on your tongue for 20 seconds - resist the temptation to chew it. You are to evaluate how it feels in your mouth - is it smooth, grainy, gritty, waxy, or greasy? If it is waxy or greasy it means that it is a lower grade product with vegetable oil being used instead of cocoa butter.
6. Lastly, chew the chocolate to evaluate the texture. Think about the taste- the initial flavour, the mid taste and the after taste.
7. Remove the blindfold, wash out your mouth and repeat for the next sample.

Source: www.theglobeandmail.com and www.canadianliving.com/food/entertaining/chocolate_how_to_ throw_a_chocolate_tasting_party

For more information, recipes and even a video demo you can also visit www.verybestbaking.com/ products/chocolatier/explore/tasting.aspx

\section*{The Many Tastes of Chocolate}
\begin{tabular}{|c|c|c|c|}
\hline Type & Description & Flavour & Use \\
\hline Baking Chocolate or Bitter Chocolate & Finely ground, roasted beans (chocolate liquor). No sugar, but may be flavoured with vanilla. & Bitter chocolate or chocolate liquor & Dessert recipes with sugar added. \\
\hline Sweet or Dark Chocolate & General term for chocolate with at least \(15 \%\) chocolate liquor and less than \(12 \%\) milk solids. Cocoa butter, sugar and vanilla have been added to the above. Includes bittersweet and semi-sweet chocolate. & Deep to moderate chocolate flavour. From fruity to earthy with little dairy or milk flavour. Bean blend determines flavour. & Chocolate chips, candy bars, coatings, bakery items like cookies. \\
\hline Bittersweet or Semi-Sweet Chocolate & The darkest of eating chocolate with the highest \% chocolate liquor that contains extra cocoa butter to make it melt easily. At least 35\% chocolate liquor. & Rich and smooth. Strongest chocolate flavour. Minimal dairy or milk flavour. Bean blend determines flavour. & Chocolate chips, bakery coatings. \\
\hline Milk Chocolate & Most common form of eating chocolate. At least \(12 \%\) milk solids and not less than \(10 \%\) liquor. & Low levels of chocolate liquor and high amounts of dairy ingredients. Mellow chocolate flavour. & Candy bars, chocolate chips \\
\hline Cocoa & Powder that remains after cocoa butter is removed. The lowest fat form of chocolate. Includes "dutched" chocolate. & Strong to mild chocolate flavour without the characteristic cocoa butter texture. Colour: light tan to red to black. & Reduced fat and energy recipes, chocolate milk, ice cream, chocolate flavoured coatings, syrups. \\
\hline Dutched Chocolate & Chocolate liquor or cocoa powder which has been treated with alkalizing agents to change the colour, flavour and ability to dissolve in beverages. & Flavour and colour are changed. Extreme treatments make a black cocoa powder. & Baked goods when a very dark colour is desired, ice cream, beverages. \\
\hline Chocolate Flavoured Coating & Blend of cocoa powder and vegetable fats other than cocoa butter. Includes sugar, milk, and flavouring. Less expensive (less cocoa butter), and easier to use than real chocolate. & Flavour like other chocolates but may have a waxy mouthfeel. & Alternative to all chocolate uses. Cheaper and easier to use. \\
\hline White Chocolate & Blend of cocoa butter, milk, sugar and flavouring. No chocolate solids other than cocoa butter. Colour is pure white to yellow-white. & Sweet, milky dairy flavour with a hint of chocolate from the cocoa butter. & Candy bars, baking chips, bakery coatings \\
\hline
\end{tabular}
*Remember to also look at the percentage of cocoa in a bar. 100\% is 100\% cocoa. Fine dark chocolate can vary from \(30-99 \%\), milk chocolate is \(10-30 \%\), and white chocolate has \(0 \%\) cocoa solids.

\section*{Gourmet Chocolate}

Today more consumers are wanting fine gourmet chocolate. Many companies have answered this desire by producing fine, expensive chocolates. A few to mention are:
- Scharrffen Berger started in the USA in 1996. It is a "bean to bar" company that purchases the finest beans in the world. They specialize in dark chocolate.
- Michel Cluizel in Normandy, France specializes in gourmet chocolate with a high cocoa content.
- Dolfin in Belgium uses only pure ingredients, developing unexpected combinations in their chocolates.
- Explore more gourmet companies at www.cacaoweb.net/gourmet-chocolate.html
- Nestle even now offers a high end chocolate bar which directs you to taste, savour and experience the chocolate in a very specific way!

In the 1980's "death by chocolate" was promoted in restaurants through chocolate rich recipes. Today chocolate is considered more than just a "sinful" decadence to consume - it is a luxury to be tasted and savoured. Formal chocolate tasting bars are becoming more popular and offer an opportunity to explore the luxury of different chocolates. They are typically offered through specialty restaurants serving desserts, but some are even offered on high-end airflights!

In Turin, Italy there is a new extreme chocolate tasting room where you start your experience in the educational area, where you sniff the chocolate aromas from tall acrylic tubes. You then go to a cocoonlike cave designed to remove all distractions and enhance the tasting experience. When you sit down they stop the clock - time stands still so you do not have to worry about anything but concentrating on the chocolate.

Gourmet chocolate is now offered combined with different ingredients, like olives or jalapeño. 1 pound of French gourmet chocolate can sell for \(\$ 120\). The most expensive chocolate is a dark French chocolate around a black truffle, selling for \(\$ 250\).

\section*{Let's Plan a Party: Chocolate Everything!!!}

Today the newest trend is to have a Chocolate Tasting Party. There are companies that make their entire business on hosting chocolate parties for corporations or private clients. These independent chocolate tasting companies provide these parties, but at a high cost. You can host your own chocolate party without the help of professionals! Here's how:

Goal: To introduce people to the world of chocolate through a deliciously fun and educational chocolate tasting event.

Audience: Anyone! It could be held for friends or family, celebrating special occasions, entertaining business clients, or rewarding employees.

Invitations: Can be sprayed with a chocolate scent. Perhaps make the invitation look like a customized chocolate bar label. Explain briefly what the attendee should expect, and make sure to include the time, place and who to RSVP to. Ask those that are coming to identify any allergies they may have.

Food: \(\quad\) Chocolate of course, perhaps something salty (pretzels) as well as a diversion from everything sweet and chocolate. Fruit to dip in chocolate. Could also have bread cut up, tangerine or pineapple to help cut the sweet taste. You could, as an activity, make different chocolate recipes (chocolate pizza, filled chocolates, fudge, dip the pretzels in chocolate, or chocolate fondue). Remember if you are hosting a true "tasting" to have soda crackers to cleanse the pallet between each chocolate tasting.

Chocolate: Choose about 6 different kinds of chocolate to sample and to learn about. You can use white, dark, or milk flavoured chocolate, and fondue or fountain chocolate. You can also concentrate on a just one particular type (dark chocolate) and compare different brands. You could also taste chocolates from different countries or regions. Chocolate can also be featured as organic, vegan and Kosher.

Break the different kinds of chocolate into small pieces and place each type on an individual plate. Label each plate with the appropriate information. Place a card with the description and pertinent info in front of each plate, or use the label from each bar. TIP: Experts suggest tasting the lighter chocolates first and working up to the darkest.


\footnotetext{
Images: julesjulesjules m_http://creativecommons.org/licenses/by-nc-sa/2.0/ \& Tracy Hunter_ http://cre-
} ativecommons.org/licenses/by/2.0/

Tasting Cards: Create tasting cards to evaluate the different chocolate. On the back of the card you could have a glossary of tasting terms (chewy, rich, full flavoured, appearance, aroma, snap, texture, etc). Remind guests to see, smell, and let the piece melt on their tongue to savour the full effect.

Drinks: Have a pitcher of room temperature water (cold water will make the chocolate solidify in your mouth) to cleanse your pallet between tastings. You could serve and compare different recipes of chocolate milk, milkshakes, and hot chocolate.

Decorations: Choose a chocolate coloured theme - brown, ivory, light orange, purple.
Napkins: Chocolate coloured, or white with a chocolate smelling sticker on it.
Activities:
\begin{tabular}{|l|l|}
\hline Activities & Instructions \\
\hline \begin{tabular}{l} 
Chocolate Covered \\
Memories
\end{tabular} & \begin{tabular}{l} 
Place a tray filled with chocolate related things on it in front \\
of the guests. Let them look at the tray for 30 seconds, \\
and then remove the tray. Have the guests write down \\
everything they can remember that was on that tray. (Tongs, \\
thermometer, heart shaped box, chocolate bar wrapper, \\
nuts, icing sugar, wooden spoon, etc.)
\end{tabular} \\
\hline How Many & \begin{tabular}{l} 
Have the guests guess the number of chocolate candies in a \\
jar. The winner gets to keep the jar of candies.
\end{tabular} \\
\hline An Ode to Chocolate & \begin{tabular}{l} 
Have guests work in groups to write a lyric poem or song, in \\
a formal style or stanzaic structure, all about chocolate and \\
why they love it. Have volunteers read or sing their odes \\
aloud.
\end{tabular} \\
\hline \begin{tabular}{l} 
Name That Chocolate \\
Bar
\end{tabular} & \begin{tabular}{l} 
Have chocolate bars cut up, with no wrappers, and have the \\
guests guess what kinds are which.
\end{tabular} \\
\hline Chocolate Trivia & \begin{tabular}{l} 
Split your guests into 2 teams and play a game of trivia. Use \\
the trivia questions in Meeting 6, or make up your own.
\end{tabular} \\
\hline Chocolate Jigsaw Puzzle & \begin{tabular}{l} 
Make a chocolate jigsaw puzzle using a specialty mould \\
(available for purchase at basking supplies stores or online), \\
and have guests try to put it together without eating a \\
piece!
\end{tabular} \\
\hline Chocolate Quilting & \begin{tabular}{l} 
For those ever so adventuresome - make a chocolate \\
quilt inspired by recipes for chocolate dishes. There are \\
patterns for chocolate quilts that are made while consuming \\
chocolate. This would be a whole day event. Read Janet \\
Jones Worley's Quilts for Chocolate Lovers for more \\
information.
\end{tabular} \\
\hline
\end{tabular}

Party Favours: Chocolate scented candles, chocolate soaps, chocolate coated plastic spoons, chocolate flavoured drink, coffee, chocolate filled small basket, chocolate nibs or chocolate covered raisins, or nuts, or coffee beans.

Source: http://www.ehow.com/how_1000374_chocolate-tasting-party.html

\section*{Filled Chocolates}

Filled chocolates are usually made using fondant: a creamy sugar paste made from sugar, water, corn syrup and flavouring. It is easy to shape and flavourings such as nuts, coconut and colours are easy to add. Fondant can be made from the recipes in the Recipe Book, or by using a fondant mix purchased from stores that sell candy or cake decorating supplies. Flavourings do not need to be oil-based, as fondant is water and sugar based (oil-based flavourings are stronger so less needs to be used). The variations are limitless and depend on your preferences.

\section*{Some Fondant Variations}

\section*{Mint Patties}

\section*{Chocolate French Creams}

\section*{Almond Centres}

Nut Butter Creams

Fruit Centres

Coconut Fondant

\section*{Rum and Raisin}

\section*{Ginger}

\section*{Chocolate Cherries}

Colour fondant a light green and add peppermint flavouring and dip in melted chocolate.

Add 30 mL (1oz) melted dark chocolate coating to the fondant.
Add chopped almonds and almond flavouring.

Use \(1 / 4\) fondant recipe and add 60 mL (1/4c) finely chopped nuts, and 15 mL (1tbsp) chilled butter finely chopped. Quickly knead all together.

Add chopped orange peel or candied cherries.

Add \(375 \mathrm{~mL}\left(1 \frac{1}{2} \mathrm{c}\right.\) ) coconut to the fondant recipe. If a smaller batch is desired, use less fondant and less coconut.

Add rum extract 5 mL (1tsp) and \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) finely chopped raisins.

Add finely chopped sugared ginger.

Dry maraschino cherries and wrap in fondant flavoured with almond. Can use cherries with the stems on.

\section*{How to Make Fondant Centres}
1. Make fondant.
2. Lightly dust the work area with flour or cornstarch.
3. Knead the flavouring, fruit or nuts into the fondant.
4. Roll fondant into a ball and then into a cylinder \(2.5 \mathrm{~cm}(1 \mathrm{in})\) in diameter. This makes taking small amounts of fondant easier.
5. Cut the cylinder into 2 cm ( \(3 / 4 \mathrm{inch}\) ) pieces and roll each piece into a ball and place on waxed paper for 30 minutes to harden.
6. Try and keep the centres a uniform size, or form the fondant into different shapes before dipping.
7. Dip the fondant ball into melted chocolate or summer coating, or use in molded chocolate.

NOTE: Cooked fondant should be made at least 2 days before dipping for the best flavour, and so the bottoms will not leak after they are dipped. Fondant centres can be made ahead of time and kept in the freezer until ready to use. However, the centres must be at room temperature to dip.

\section*{Dipping}

Fondants centres will take on your individual design depending on how you dip them - a chocolatier's insignia. 500 g (1lb) of chocolate coatings will cover about 50 formed centres. Cooler chocolate will cover less as more chocolate will stick on the centres. Chocolate coatings or tempered chocolate can also be used.

Temperatures for dipping are:
Real Milk Chocolate \(-31^{\circ} \mathrm{C}\left(86^{\circ} \mathrm{F}\right)\)
Real Dark Chocolate - \(33^{\circ} \mathrm{C}\) ( \(90^{\circ} \mathrm{F}\) )
Chocolate Coatings \(-36.6^{\circ} \mathrm{C}\left(98^{\circ} \mathrm{F}\right)\)
Summer Coatings, coloured - \(35-37.8^{\circ} \mathrm{C}\left(95-100^{\circ} \mathrm{F}\right)\)

\section*{A CHOCOLATE TIP:}

For your work area have the centres on your left, then the chocolate pot for dipping, and then a cookie tray covered with waxed paper for the finished chocolates.

\section*{How to Dip Fondant Centres}
1. Melt the chocolate to the correct temperature.
2. Using a dipping fork or spoon, or putting a bit of chocolate in the palm of your clean hand, roll the centre in the chocolate.
3. Lift the centre out of the chocolate with a fork or with your fingers in a " V " shape and allow extra chocolate to drip off.
4. Place on the waxed paper covered cookie sheet, not touching other chocolates.
5. Feel free to make a signature mark on the top of the chocolates - your insignia.
6. Let centres harden for 15 minutes.
7. These centres can be kept for 1 to 2 months in a sealed container in a cool, dry place. To serve and store: place chocolates in paper candy cups to protect them .


\section*{Activities}

\section*{Activity \#1 - Chocolate Holiday and Celebration Brainstorm}

Purpose: To help members realize the prevalence of chocolate in our culture.
Age Group: All members
Time Allotted: 10 minutes
Preparation \& Equipment: Paper and pencils, and/or chart paper and markers.

\section*{Instructions:}

Have members write down all the celebrations/holidays where chocolate is served. For example: Easter, Christmas, Valentine's Day, Thanksgiving, Hallowe'en, birthdays, weddings, anniversaries, engagement parties, showers, etc.

Now have members list all of the ways chocolate is served at these celebrations. For example: chocolates, Easter eggs, chocolate cake, chocolate cookies, chocolate squares, chocolate icings, chocolate fountain, chocolate fondue, chocolate coated fruit or cookies, etc.

\section*{Debrief:}
- Why do you think chocolate is included in so many celebrations?
- Is chocolate crucial to any of these holiday's or celebrations? What would change if chocolate didn't exist?

\section*{Activity \#2-Gourmet vs. Gourmand}

Purpose: To practise independant research skills, and learn the definitions of the two words.

Age Group: Intermediate and senior members (15-21)
Time Allotted: At home, 10 minutes
Preparation and Equipment: Internet, paper and pencil.

\section*{Instructions:}

Look up the definitions of the two words. Research both words, and examples.

\section*{Debrief:}
- Are these two words interchangeable?
- Do you feel you are a gourmet or a gourmand?

\section*{Activity \#3-Start a New Tradition}

\section*{Purpose:}

Age Group:
Time Allotted:
Preparation and Equipment: Part A: Paper and pens / pencils and /or Flip chart and marker(s)
Part B: Supplies for a Winter Solstice Designer Trail Mix (have available - raisins, dry cereal, chocolate chips (milk, white), pretzels, dried cranberries, etc. Caution: if wanting to use nuts- be sure that there are no nut allergies in you club- if unsure do not use.), baggies or re-usable containers for members to transport mix and spoons / scoops. Consider labels and markers so members can identify contents (Designer Trail Mix).

\section*{Instructions:}

\section*{Part A: Brainstorm}

Either in small groups or in one large group, have members think of new traditions that they could start using chocolate as part of the celebration. Be sure to encourage them to think outside the box. When brainstorming ideas, none are to be left out, all should be recorded. Stop recording when there is enough to work with, or when ideas taper off.

As a group look over the list and briefly discuss any that need clarification. Make sure all members have had a chance to contribute. If the group is having trouble or you want to add some on the end here are some suggestions:
- Celebrate Winter Solstice with a cup of hot chocolate and make Designer Trail Mix
- Have a family Christmas cookie making day featuring everything chocolate
- Have a chocolate meal (all courses)
- Have a sundae event - chocolate sauce and make your own Sundae

\section*{Part B: Make the Designer Trail Mix}
1. Have all members wash their hands.
2. Provide airtight containers or ask the members to bring one from home at the previous meeting.
3. Lay out the ingredients and spoons.
4. Let members build their trail mix.

\section*{Debrief:}
- Do you think you will try to celebrate one of the new traditions? Which one?
- Discuss how chocolate is so connected with holidays.
*** Potential to include at the Achievement Program. ***
If the members find a new tradition they would like to celebrate as a group- the club could plan an event around the idea as part of the Achievement Program.

\section*{Activity \#4 - Chocolate Fondue or Chocolate Fountain}

\section*{Age Group:}

\section*{Time Allotted:}

Recipe:

Equipment:
Purpose: To practise and reinforce learned fondue/fountain etiquette.

To practise and reinforce learned fondue/fountain etiquette.
All members
45 minutes
Chocolate Fondue pg. 32 or Classic Chocolate Fondue pg. 33 in the Recipe Book.

Chocolate fountain or chocolate fondue sets and chocolate to melt. Fruit, marshmallows, pretzels etc. to dip. Toothpicks, serviettes, and copies of the "Fondue/Fountain Etiquette Factsheet" for each member.

\section*{Instructions:}

Have members prepare chocolate fondue or fountain according to recipes in recipe section, or by the manufacturer's guidelines. Members will also need to prepare the items to be dipped. Hand out and review the "Fondue/Fountain Etiquette Factsheet" before members begin.

\section*{Debrief:}
- What etiquette rule was the hardest to follow?
- What would the benefits/drawbacks of hosting a fondue or fountain party?
*** Potential to include a communications activity. ***
While enjoying the fondue/fountain, is a great opportunity for members to participate in a simple communications activity. Have each member tell a fondue experience they have had, or what they have enjoyed most about the club so far. In true fondue fashion, conversation is key to the experience.

\section*{Activity \#5 - A Chocolate Tasting Experience}

\section*{Purpose:}

\section*{Age Group:}

\section*{Time Allotted:}

Equipment:

For members to learn and practise how to properly taste chocolate.
All members
20 minutes
4 different kinds of chocolate (different brands, cocoa \%'s, countries etc.). Each different variety of chocolate should labelled on a different plate. Copies of the "Chocolate Tasting Tips" page for each member. Water and crackers to cleanse members' pallets between tastings.

\section*{Instructions:}

Review chocolate tasting tips. Have members take their time tasting the different kinds of chocolate. They should be concentrating on taste, appearance, smell, and snapping sound.

\section*{Alternative:}

Have senior members, or a Junior Leader prepare and lead this activity. They could also create a
"Tasting Card" for participants to record their thoughts and ratings.
Debrief:
- Did you notice different aromas and tastes?
- Did you enjoy the chocolate more, because you savoured it?
- Was it difficult to let the chocolate melt, and not chew right away?
*** Potential achievement program idea. .**
Include more varieties of chocolate. There could be 4 stations: 1 comparing countries of origin, 1 comparing cocoa \%'s, 1 comparing brands and 1 comparing manufacturing countries.

\section*{Activity \#6 - Brainstorming the Ideal Chocolate}

\section*{Purpose:}

\section*{Age Group:}

Time Allotted:
Preparation \& Equipment: Paper and pencils, and/or chart paper and markers

\section*{Instructions:}

Have the members think about what makes a great chocolate. They should also brainstorm words to describe an ideal chocolate. Some words: divine, decadent, messy, romantic, sensuous, rich, healthy, fun, good, etc. Ask members how they think these attributes are achieved. Knowing this, ask members to brainstorm a recipe for the perfect chocolate - using different types of chocolate, fillings and decorations.

Have each member present their "ideal chocolate" recipe to the group. As a group, vote for the "ultimate ideal chocolate".

\section*{Debrief}
- What attributes make the chosen chocolate the "ultimate ideal chocolate"?
- What challenges did you come across when trying to decide as a group on the "ultimate ideal chocolate"?
- How would you market this chocolate? Would it require any special labelling?
*** Potential to include a take home activity. ***
Each member could take their ideal chocolate recipe home and prepare it for the next meeting. Members could then sample each chocolate before deciding and voting of the "ultimate ideal chocolate".

\section*{Activity \#7 - Fondant Comparisons}

\section*{Purpose:}

Age Group:
Time Allotted:
Recipe:

To have members compare the advantages and disadvantages of convenience foods.

All members
30-60 minutes. Dependant on recipe chosen.
Fondant pg. 27 , Easy Fondant pg. 28 and Uncooked Fondant pg. 27 in the Recipe Book.

Preparation and Equipment: A store-bought fondant mix and any equipment called for in the chosen recipes. Copies of the "Comparison's" page, from Meeting 1, for each member. Receipts and or cost listings of ingredients.

\section*{Instructions:}

Split the members into 4 groups, ensuring each group has a mix of Junior and Senior members. Have members prepare the store-bought fondant mix, and the different home-made fondants. Members should accurately record the preparation and cooking time.

To calculate the Cost Per Serving, members will need to calculate the approximate cost of ingredients for the homemade recipes by estimation. Recipe ingredients are in small amounts, so some creative guessing will be necessary. For example, "I used 1 cup of flour, and the entire bag is approximately 10 cups. The cost of the bag was \(\$ 5.00\), so the cost per cup is .50 c ". The members will then need to calculate the cost per brownie. Using the ingredient cost estimation and the cost of the store-bought mix, divide those total costs by the number of servings (number of brownies).
Cost per serving \(=\frac{\text { Ingredients/Mix Cost }}{\text { Number of Servings }}\)

Compare the cost, time to prepare, and then quality characteristics: flavour, texture, appearance. Split the prepared fondant between members and have each make chocolates at home. Each member should serve his/her chocolates to friends and family, and record their comments on the "Recipe Review" page found in the Record Book. At the next meeting compare comments - did a recipe get better reviews than the others?

\section*{Debrief:}
- What have you learned about homemade vs. store bought or convenience foods?

\section*{Resource:}

See 4-H Ontario's Good Foods Fast Project for more information on activities like this.
*** Includes a take home activity. ***

\section*{Activity \#8 - Make Fillings for Chocolates}
Purpose: To practise the technique of making chocolates.

\section*{Age Group:}

Time Allotted:
Recipes:

All members
30 minutes
Peppermint Patties, Sweet Maries, Cream Fillings, Peanut Butter Filling, Mocha Filling, and Turtle Filling all on pg.26, and Another Turtle Filling pg. 29 of the Recipe Book.

Preparation and Equipment: Prepare a fondant beforehand. Paper and pencils, prices for ingredients and prices for purchased chocolates (investigate beforehand at a local chocolate shop). Ingredients dependant on recipe chosen.

\section*{Instructions:}

Make chocolates with fillings. Members can split into groups and try different recipes.
As chocolates are settings, have members calculate the cost of the homemade chocolates.
Cost per chocolate \(=\frac{\text { Ingredients/Mix Cost }}{\text { Number of Servings }}\)

Compare the costs calculated, to the cost of chocolates from a chocolate shop.

\section*{Debrief:}
- When calculating cost, should "your time" be considered? Time is often considered "money".
- Do you prefer homemade or storebought chocolates?

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anocolatte}

\section*{Objectives}
- Learn about chocolate legends
- Review the nutritional value of chocolate
- Discover some fun facts about chocolate

\section*{Roll Calls}

Have you ever heard any stories or claims made about chocolate? Name something that you could decorate with a chocolate design. What has been your favourite chocolate recipe made during the club?


Sample Meeting Agenda - 3 hrs.
\begin{tabular}{|c|c|c|}
\hline \multicolumn{2}{|l|}{Welcome, Call to Order \& Pledge} & 2 min \\
\hline \multicolumn{2}{|l|}{Roll Call} & 5 min \\
\hline Parliamentary Procedure & Minutes and Business. Finalize plans for the Achievement Program. Chart the members' findings from last meeting's "At Home Chocolate Challenge" and discuss. & 15 min \\
\hline \multicolumn{3}{|l|}{Split members into two groups. Both groups should include a mix of both junior and senior members.} \\
\hline Topic Information Discussion & Discuss chocolate nutrition. & 5 min \\
\hline Activity Related to Topic Information & Activity\#1 - Nutritional Comparisons - All members & 30 min \\
\hline Judging Activity & Activity \#5 - To Make or Purchase Chocolate Milk? - All members & 45 min \\
\hline \multicolumn{3}{|c|}{Groups switch.} \\
\hline Topic Information Discussion & Discuss and demonstrate the different ways to decorate with chocolate & 10 min \\
\hline Recipe & Using the Chocolate Cake pg. 36 , Chocolate Cherry Cake pg. 37 , or Standard 2-Egg Cake pg. 35 recipes make cupcakes. While baking make decorations and when cooled, frost and decorate. & 75 min \\
\hline \multicolumn{2}{|l|}{Wrap up, Adjournment, Social time and enjoy the chocolate treats!} & 10 min \\
\hline
\end{tabular}

\section*{References and Resources}
- Candy Making for Beginners. Wilton. Woodridge, IL Wilton Enterprises 1982
- http://pers.dadeschools.net/prodev/trivia-chocolate.htm
- www.thinkingfountain.org/c/cacao/cacao.html
- www.chocolatesource.com/trivia/index.asp
- www.danschocolate.com/Chocolate-Fun/Trivia.html
- www.xocoatl/org/science.htm

\section*{Chocolate Legends/Rituals/Ceremonies}

Chocolate has been considered a treasure and surrounded by many legends, rituals and ceremonies throughout time.
- Mexican Mythology: states that chocolate was consumed by the gods in Paradise, and the seed of cacao was conveyed to man as a special blessing from the God of the Air.
- Mayans and Aztecs: believed that chocolate would bring wisdom and power to anyone who consumed it. At weddings, the bride and groom exchanged chocolate. Emperors were buried with chocolate at their sides.
- Mayans: considered cacao a gift from the gods. They made offerings to the gods at marriages and funerals. Cacao was given as a gift at ceremonials, births, feast days and religious occasions. Ek Chuah was their Patron of the Cacao Bean, their "God of Chocolate".
- The 5th Aztec Emperor Montezuma: used chocolate drink in his rituals- consuming 50 cups a day. Some say that he drank just the foam on the top of the chocolate drink. In Mexico and Central America hot chocolate is still served with a foam on top of it.
- Columbus: knew the beans were precious, because the Mesoamericans (peoples from the lands of central and southern Mexico) scrambled to recover any beans that spilled from the baskets they carried them in.
- Maria Theresa \& King Louis XIV of France: when they were married she brought with her, to France, enormous wooden chests filled with cacao beans. She also brought servants whose only job was to grind the beans. Louis enjoyed chocolate and it became a national treasure. Today, Paris is known for its chocolate factories and shops.
- Casanova (Giacomo): often used chocolate as a bribe and an aphrodisiac.
- Napoleonic Wars: caused Turin, Italy (known for its chocolate) to run out of chocolate because of a shipping blockade. Confectioners "stretched" chocolate by adding ground hazelnuts to it. The mixture of chocolate, hazelnuts, and sugar was called gianduja. It first appeared in the mid 1800's and was called "giva" when rolled into cylinder shapes. It is still available today. The hazelnut makes a very smooth chocolate, and ads to the flavour.

Napoleon insisted that chocolate be "available to his soldiers" during military campaigns but Napoleon and his senior military advisors were the only ones who got to consume it.
- Devil's Food Cake: in the 1700's a group of strict Pilgrims settled in Amsterdam next to a chocolate house. They saw people consuming and enjoying chocolate, and were convinced it was the "devil's work". Chocolate was the "Devil's food". In Amsterdam, a baker created a delicious new chocolate cake and decided to name it "Devil's Food Cake" to highlight its decadence.
- Milton Hershey: a modern day legend and success story. He started 2 businesses making caramels, but both failed. In 1893 when he saw chocolate making machinery at the Chicago Columbian Exposition he immediately purchased it. He then established the Hershey Chocolate Company at the age of only 19! He built the town of Hershey, and with his fortunes started a school for orphans which still exists for disadvantaged children.

\section*{Chocolate as a Symbol}

The rarity and richness of chocolate has made chocolate important throughout history.

\section*{Luxury}
- Chocolate has been linked to power, religion and romance - especially when it was considered a rare and expensive luxury.
- Even today expensive and luxurious chocolate can be purchased from countries across the world. If just eating chocolate isn't enough, many spas are now offering luxurious chocolate spa treatments around \$200.00.

\section*{Devotion}
- Aztec priests presented cacao seeds as offerings to their gods.
- Drinking chocolate was often a part of religious Aztec ceremonies.
- In the past, only the elite (merchants, soldiers, priests, and rulers) were allowed to consume such a "sacred and powerful" drink.

\section*{Power}
- Only the highest ranking people could afford and were allowed to drink chocolate. Today it is relatively inexpensive but still represents luxury.

\section*{Currency}
- From early times cacao beans were traded for other food, clothing and taxes.
- Chocolate beans were used as a unit of calculation.
- Taxation of chocolate has existed for centuries.
- Today cocoa is still used as a type of currency on the Cocoa Exchange (New York Board of Trade or Futures Markets) where purchases of cacao are made. The Cocoa Exchange handles 110 thousand metric tons of beans a day (to be produced 18 months from purchase). It is important for traders to know weather patterns, politics, and crop conditions as these all effect the price. Cacao is a multi billion dollar business!

\section*{Love}
- Chocolate is the \#1 gift for Valentine's Day; associated with love from the days of Montezuma.
- Although not scientifically proven, chocolate has often been thought of as an aphrodisiac.

\section*{Cure/Remedy/Medicine}
- Mayan and Aztec people thought that chocolate had healing and nourishing powers. They used chocolate to treat seizures, fevers, dysentery, diarrhea, and skin infections.
- "The divine drink which builds up resistance and fights fatique. A cup of this precious drink permits man to walk for a whole day without food." Hernando Cortes, 1519.
- In Europe some believed it could induce sleep, help digestion, purify the blood and ease childbirth pains, while others believed it could cause drunkenness or illness.
- "Its strengthening, restorative, and apt to repair decayed strength and make people strong." Louis Lemery, 1702.
- The church of Spain approved chocolate as a nutritional supplement to take while fasting.
- "Chocolate is a divine, celestail drink, the sweat of the stars, the vital seed, divine nectar, the drink of the gods, panacea and universal medicine." Geronimo Piperni (surgeon in the Spanish army) quoted by Antonio Lavedan in 1796.
- Chocolate was the first caffeine to reach Europe - before coffee and tea.
- Christopher Ludwig Hoffman's paper Potus Chocolate suggested that chocolate could help many diseases, and cites chocolate can actually cure some ills.
- Some doctors even claimed that chocolate prolonged life and cured everything from ringworm to ulcers.
- "What use are cartridges in battle? I always carry chocolate instead." George Bernard Shaw, 1894
- Today some cultures still believe that chocolate can help fight against disease and illness. Others blame chocolate for acne, tooth decay, obesity, etc.
- There has been a fad diet, the "Chocolate diet" that promotes having chocolate and cocoa powder in capsules. There are no proven health effects. Other fad diets suggest eating raw cocoa beans.
- Athletes use high energy foods like chocolate to provide quick energy.
- The Oil of Theobroma/Cacao Butter/Cocoa Butter has a low melting point, and has the proven following uses:
- in cosmetic ointments
- in pharmacy for coating pills
- to soften and protect chapped hands and lips

\section*{Health Benefits}

Today scientists are studying chocolate to see if there really are health benefits. There are 1200 chemicals in chocolate, and some of the ingredients that do have effects on the human body are:
- Phenylethylamine (PEA) - causes a pleasurable feeling by a chemical reaction in the brain
- Theobromine - resembles caffeine in its stimulant effect and helps boost low-blood sugar levels. This seems to prevent persistent coughing, more so than codeine. Causes physical and mental relaxation, and creates a feeling of well-being. This is a powerful stimulant effect which is toxic when consumed by cats, dogs and other household pets.
- Flavanols - this is an antioxidant which helps your body's defenses by giving protection against harmful molecules called free radicals. These can also help the cardiovascular system (limiting plaque build-up in the arteries, helping raise good cholesterol, helping make platelets less sticky helps blood flow, reduces blood pressure), kidney function, brain health (increases blood flow to the brain), immune system, and diabetes. The more natural cocoa in the product, the higher the flavanols. Processing with an alkali ('dutched cocoa') destroys the flavonoids.
- Caffeine - is present in small amounts
- Trytophan - an essential amino acid, and precursor to serotonin - a brain chemical which transmits nerve signals.

Other studies are looking at anticancer effects, brain stimulator, cough preventor and antidiarrheal effects. Many chocolate companies are doing research to further determine the effects of chocolate on health. Some ads even suggest that consuming chocolate during pregnancy, will result in a happier baby at 6 months.

\section*{A Chocolate Caution}

A major health concern is obesity, so large amounts of chocolate (mixed with sugar) are not recommended. Also lead is absorbed by the cacao shell and contamination can occur during processing. Studies are looking at the amounts present, and the effect of these on brain development in children. Like most things, moderation is key.

\section*{Chocolate Facts}
- Chocolate has always been included on the American and Russian space missions.
- Queen Victoria sent a specially molded chocolate bar to British troops stationed in South Africa as a New Year's greeting in 1900.
- American chocolate manufacturers use 1.5 billion pounds of milk.
- Chocolate manufacturers use \(40 \%\) of the world's almonds, and \(20 \%\) of the world's peanuts.
- In 2001, Americans ate over 3.1 billion pounds of chocolate.
- A 1.5 ounce chocolate bar has approximately 220 calories.
- An ordinary chocolate bar has more protein than a banana.
- A chocolate bar contains 12 mg cholesterol, less than 30 mg cholesterol in a 1 ounce piece of cheddar cheese.
- Ghirardelli sold a 10 lb . chocolate bar for a period of time. It came with a chisel to serve it with.
- The U.S. government states that milk chocolate must contain at least \(10 \%\) chocolate liquor.
- Chocolate truffles' name came from their resemblance to the highly prized and priced fungus of the same name.
- When chocolate mousse was invented, it was also known as chocolate mayonnaise.
- In Japan there is a Valentine's Day tradition called "Giri Choco", translating to "Obligation Chocolate". It involves women giving inexpensive chocolate to men in their lives: coworkers, bosses, casual acquaintances and friends (those that they do not have romantic feelings towards).
- In 1579, English pirates raided a Spanish ship and burned the entire ship. They found the cargo of precious cacao beans, but did not know what they were. They thought it was sheep dung!
- It is said that Eleanor Roosevelt ate 3 chocolate covered garlic balls each morning to serve as a memory aid.
- The Archipelago restaurant in London, England is known for its exotic specialties - including chocolate covered scorpion.
- It is extremely difficult to mix chocolate and milk, as chocolate is mostly fat and milk is mostly water.
- Many many years ago dances were performed at the end of cacao harvest.
- Africa is the leading producer of cacao.

\section*{Chocolate Nutrition}

Chocolate contains fat, sugars, carbohydrates and protein.

Historically it has been used as a source of fast high energy (for athletes). 18500Kj/kg (2000Kcal/lb). It contains anti-oxidants which help the body fight dangerous free radicals. Chocolate is rich in magnesium and oxalic acid (in excess can inhibit calcium and other mineral absorption by the body). Chocolate also contains fibre, B vitamins, vitamin A, C and D, calcium and phosphates in small amounts.

It is difficult to find the nutritional value of the actual cacao beans. Nutritional information about chocolate in its different forms is available. See the Nutrient Value of Some Common Foods by Health Canada. Available on the Health Canada website www.hc-sc.gc.ca.

Some references state that cacao beans are \(20 \%\) protein, \(25 \%\) fat, \(35 \%\) carbohydrates and minimal sugar. The sugar is added when you make the cocoa into chocolate bars. Your average chocolate bar contains 30 mg caffeine, a cup of brewed coffee contains \(100-150 \mathrm{mg}\) caffeine. Cocoa is a relatively healthy, but stimulating food. However when large amounts of sugar, fat and milk, are added it is no longer healthy. Moderation is the key.

\section*{Chocolate Myths}
- "Chocolate is addictive" - Cacao is not physically addictive.
- "Chocolate contains caffeine" - Yes, cacao does contain caffeine.
- "I am allergic to chocolate" - A true chocolate or cocoa allergy is not common, although some people (1 in 500) test positive.
- "Chocolate causes acne" - Cacao does not promote acne, as acne is related to hormones.
- "Chocolate makes you fat" - Cacao does not promote obesity. However, too many chocolate bars (with sugar and fat added) can cause weight gain if consumed in excess.
- "Chocolate rots your teeth" - Cacao does not promote tooth decay, however the sugar in chocolate bars does. Pure chocolate actually helps prevent tooth decay.
- "Chocolate causes headaches" - Theobromide is a stimulant. Sometimes people do experience headaches when they consume a stimulant. The role of chocolate in migraine headaches is not established but is being researched.

Still want to know more?! Visit www.facts-about-chocolate.com for chocolate quotes, jokes, history, and activities.

\section*{Decorating with Chocolate}

Decorating with chocolate presents many exciting results. Chocolate can be used in many different ways and techniques:

Cake Decorating - use a piping bag with the desired tip ( star, rose, etc). Put melted chocolate in the piping bag and spread. You can also use a shaped triangular plastic tool (available at cake decorating supply store) that lets you put indentations or ridges in the chocolate or icing.

Grated Chocolate - use a large (easier to handle) tempered, and chilled piece of chocolate. Working against a food grater, grate the chocolate onto wax paper. Different sized graters give different effects.


Shaved Chocolate - use a vegetable peeler and scrape room temperature chocolate along its length so that it will curl slightly.

Cutouts - pour melted, tempered chocolate onto a smooth surface: marble slab, large cookie sheet or baking sheet turned upside down. Spread chocolate evenly with a spatula to \(1.5 \mathrm{~cm}(1 / 16\) inch) thick. Let it set at room temperature until firm and cut out desired shapes. For rounded edges, cover the chocolate with plastic wrap, and then cut out shapes with a cookie cutter. Press firmly and lift directly straight off. Remove plastic wrap carefully. Lift off shapes with a metal spatula.

Curls - repeat as for cutouts. When the chocolate is firm, start 2.5 cm ( 1 inch) from the edge and push a metal scraper away from you at a \(25^{\circ}\) angle across the surface of the chocolate until large curls form. Use a wooden pick or kabob stick to lift each curl off and onto a chilled plate or container, or directly onto a cake.

Caraques - repeat as for cutouts. Wait until the chocolate is firm, and brace board against your body. Starting 5 cm (2 inches) from far left corner, pull large-bladed knife carefully towards you at a \(45^{\circ}\) angle, scraping along the chocolate to form a long curl that is pointed at one end. Use a wooden pick to lift each caraque off onto a chilled plate, container, or on to a cake.

Leaves - use pliable leaves with well-defined veins: mint, lemon, salal (available at florist shops). Clean and dry leaves. Melt chocolate and hold leaf, underside up in one hand, and put a layer of chocolate on the leaf with a small brush. Place coated side up on waxed paper and chill until set. Carefully peel leaf away from chocolate. Can add some white chocolate on top of the dark chocolate to give visual interest and variety.


Image: distopiandreamgirl_http://creativecommons.org/ licenses/by-nc-nd/2.0/

Drizzling - Fill piping bag \(1 / 2\) full of melted chocolate. Pipe onto cake or truffle in a random zigzag motion. Make a spider web pattern by piping chocolate in concentric circles, and then draw the tip of a knife or a wooden skewer through the lines to the edge at even intervals.


Image: Angela Radulescu_http://creativecommons.org/ licenses/by-nc-sa/2.0/

Marbling for a Marble Cake - spoon white cake mixture into a prepared pan. Drop spoonfuls of chocolate cake mixture over the top. Cut zigzag, swirling pattern through batter. Do not overmix or the marbling effect will be lost.

Glazing - put cake on a cooling rack over waxed paper. Pour glaze over the top of the cake at the centre, letting the glaze spread over the top and down the sides of the cake. Spread quickly with a spatula to cover any missed areas.


Filigree - these are hard chocolate shapes that are on the top of fancy desserts. These need to be kept chilled or they will melt. These are simple but fragile. When making the designs, the lines need to connect to give the design more stability so it won't break when you move it. Draw the desired shapes onto paper. Place waxed paper over the design and tape down. Use melted, tempered chocolate in a piping bag with the smallest plain tip (or small freezer bag with 1 corner cut out). Pipe chocolate over the design lines. Let stand until hard. Carefully lift designs off waxed paper with metal spatula. White and dark chocolate can be used. Letters and names can be created.


Image: QuintanaRoo_http://creativecommons.org/licenses/ by-nc-sa/2.0/

Filigrees-Curved - tape design paper and waxed paper onto a rolling pin. Pipe chocolate onto design as above. Let set. Gently lift paper off rolling pin and carefully peel paper off the curved design.

\section*{Modeling Chocolate}

A fun way to play with chocolate is making "modeling chocolate". Here's how:
1. Melt \(0.5 \mathrm{~kg}(1 \mathrm{lb})\) candy melts in microwave or in a double boiler.
2. When chocolate has melted add \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) of corn syrup.
3. Stir until thoroughly mixed - it will form a thick ball.
4. Refrigerate until the mixture can be easily handled - about 1 hour.
5. Knead mixture until pliable.
6. NOTE: Chocolate chips or expensive chocolate will not give you the proper consistency.
7. The consistency can be altered by adding more chocolate or less corn syrup for a firmer, less sticky modeling clay. Or add more syrup and less chocolate for a softer clay.

Source: Field Museum Recipes for Kids. www.fieldmuseum.org/chocolate/kids_recipes3.htm
This mixture can be used to make the following items:
Rose: \(\quad\) Start with the base, then flatten pieces to make the petals and attach. Thin edges of the petals with your fingers and curve them slightly like rose petals. Each row added should be slightly lower than the previous one.
Leaves: Roll out a small ball and then shape into a teardrop shape. Flatten to form a leaf, the tip of a knife can add the veins
Pine Cone: Use an ice cream cone for the base and cover with modeling chocolate. Make leaves as above and start attaching at the top.
Anything: Use your imagination to create other shapes, animals, cars, baskets, people, toys, flowers,


Image: distopiandreamgirl_http://creativecom-mons.org/licenses/by-nc-nd/2.0/ vines, etc.

\section*{Chocolate Gardening!?}

Try planting a chocolate garden: chocolate cosmos that smell like chocolate, tomatoes that look like chocolate covered cherries and dark-coloured flowers like dark petunias and millet. There is an entire Chocolate Flower Farm (nursery) featuring chocolate coloured and scented blossoms in Langley, Washington. What an idea! Check out the Chocolate Farm Website! www.chocolateflowerfarm.com. Some of the flowers the gardens features are:
- scabiosa
- moulin rouge sunflower
- nasturtium- black velvet
- snapdraon- black prince
- rudbeckia
- coloured corn
- chocolate bell peppers
- calendula - cafe au lait
- viola- chocolate
- hollyhock- chocolate
- sweet william - chocolate
- pincushion flower- chocolate
- royal chocolate painted tongue

Try planting your own chocolate garden! Research the different plants/flowers that can be included.

\section*{Activity \#1 - Nutritional Comparisons}

Purpose: To evaluate the nutritional content of various chocolate products and to build critical thinking, teamwork and communication skills.

Age Group: All members

\section*{Time Allotted:}

Preparation \& Equipment:

For graphs: pencils, markers, paper (plain or graph), Bristol board (optional). For comparison option: labels / information on nutrient content in pure chocolate, labels for chocolate bars, label or container of cocoa powder, label for an energy bar, label or carton of chocolate milk and label or carton of white milk, label for or a pop can, label from fruit juice. Might also be advisable to research food and nutrition composition tables.

\section*{Instructions:}

Have members - in pairs / teams (try to have a senior with a junior where possible) prepare a bar graph showing one of the following:
- The nutrient content of pure chocolate
- Comparison of two (2) chocolate bars for nutrient content
- Comparison between cocoa powder and a chocolate energy bar for energy (calories), protein and fat.
- Comparison between chocolate milk, white milk, fruit juice and pop for nutrient content.
- Similar comparisons- leaders' choice.

Each pair / team could do a different comparison as opposed to all doing the same one. A variety of labels will allow for overlap if your club is large- lots of different pop and fruit juices available as well as many varieties of chocolate bars. Have the teams present their findings to the rest of the club. TIP: This activity is a good activity for large clubs to use if they need to split their group to allow kitchen time.

Health Canada's website has an excellent interactive food labelling session and quiz. Check it out at www.hc-sc.gc.ca.

\section*{Debrief:}
- How do you feel about chocolate as part of a healthy diet?
- Is there anything a person should keep in mind- from a nutrition perspective?
- Were you surprised by any of the results? If so - how?

\footnotetext{
*** Potential as an excellent special project activity and / or great information to present at an achievement program.***
}

\section*{Activity \#2 - Decorating with Chocolate}

\section*{Purpose:}

Age Group:
Time Allotted:
Preparation \& Equipment:

To try the technique of decorating with chocolate and explore the different ways to do so.

All members
60 minutes
You will need to prepare one of the following recipes from the Recipe Book beforehand. You may also want members to prepare these recipes at home and bring them to the meeting: Chocolate Cake pg.36, Chocolate Cherry Cake pg. 37 or Ice Cream in a Bag pg. 14.

Piping bags, melted chocolate, small plain piping tips, metal spatula, plain paper and pencil, waxed paper.

\section*{Instructions:}

Decide which techniques you want to try. Use a cake, cupcakes or recipe made previously and decorate. You may want to try making filigrees, and place on top of ice cream in a cone or chocolate shell.

\section*{Debrief:}
- Which decorating technique was your favourite?
- What part was the most challenging? Did you find a way to make it easier?
- What other ways could you use chocolate to decorate?

\section*{Activity \# 3 - Modeling Chocolate}

Purpose: To try the technique of modeling and molding chocolate, while using their imaginations.

Age Group: All members
Time Allotted: \(\quad 30\) minutes
Preparation \& Equipment: Prepare enough modeling chocolate for the entire club beforehand. This recipe will be ready to use at the meeting.

\section*{Instructions:}

Prepare a batch of modeling chocolate with the group. Set aside and use the batch made previously. Have members use their imagination to make something to be used as a decoration.

Debrief:
- What challenges did you come across? How did you adapt to overcome the challenge?
- What shapes were the easiest to make? Why do you think this was the case?

\section*{Activity \#4 - Chocolate Trivia}

\section*{Purpose:}

\section*{Age Group:}

Time Allotted:
Preparation \& Equipment: Pencils and paper, bell or "buzz in" device.

\section*{Instructions:}

Have each member prepare three trivia questions about chocolate. These questions can then be used in a trivia game scenario where two teams compete to "buzz in" with the answer first. The game can be played right away at the meeting, or at the Achievement Program. Another option - send the questions into a local newspaper, and the following week submit the answers. That way everyone can brush up on their chocolate trivia!

Here are some questions to get you started:
\begin{tabular}{|l|l|}
\hline Question & Answer \\
\hline What \% of Americans eat chocolate every day? & \(90 \%\) \\
\hline How many tons of chocolate is consumed in the world each year? & 600,000 \\
\hline How many pounds of chocolate did the average person eat in 1995? & 11.5 \\
\hline What fraction of chocolate if fat? & \(1 / 2\) \\
\hline How many minutes does it take to make an oreo cookie? & 90 \\
\hline \begin{tabular}{l} 
How many cows does it take to provide milk for 1 days production of \\
Hershey's chocolate?
\end{tabular} & 52,000 \\
\hline How many kisses are in 1 pound? & 96 \\
\hline How many kisses are produced each day in Hershey, Pennsylvania? & 33 million \\
\hline Which country consumes the most chocolate per person? & \begin{tabular}{l} 
Switzerland - 22 pounds \\
per person
\end{tabular} \\
\hline Which country produces the most cocoa? & Cote D'Ivoire, Africa \\
\hline How much caffeine is in 1 chocolate bar? & \begin{tabular}{l} 
The same as a cup of \\
decaffeinated coffee.
\end{tabular} \\
\hline Who first discovered the value of the cacao plant? & The Aztecs and Mayans \\
\hline What did the Mayans call the drink made from the cacao beans? & Xocoatl \\
\hline What purposes has chocolate been used for besides eating? & Medicine \& Currency \\
\hline Where was the first cocoa plantation? & Venezuela \\
\hline Why is lecithin used in chocolate making? & \begin{tabular}{l} 
To reduce the viscosity, \\
lessening the amount of \\
cocoa butter required.
\end{tabular} \\
\hline
\end{tabular}

\section*{Debrief:}
- What trivia questions were the most interesting? Why?
- Do you think playing a trivia game helps you remember chocolate facts just as much as studying them?

\section*{Trivia Questions - Worksheet}
\begin{tabular}{|l|}
\hline What \% of Americans eat chocolate every day? \\
\hline How many tons of chocolate is consumed in the world each year? \\
\hline How many pounds of chocolate did the average person eat in 1995? \\
\hline What fraction of chocolate is fat? \\
\hline How many minutes does it take to make an oreo cookie? \\
\hline How many cows does it take to provide milk for 1 day's production of Hershey's chocolate? \\
\hline How many kisses are in 1 pound? \\
\hline How many kisses are produced each day in Hershey, Pennsylvania? \\
\hline Which country consumes the most chocolate per person? \\
\hline Which country produces the most cocoa? \\
\hline Where was the first cocoa plantation? \\
\hline What did the Mayans call the drink made from the cacao beans? \\
\hline What purposes has chocolate been used for besides eating? \\
\hline
\end{tabular}

\section*{Activity \#5 - To Make or Purchase Chocolate Milk?}

\section*{Purpose:}

Age Group:
Time Allotted:
Preparation \& Equipment:

To build awareness and understanding of nutrition information on chocolate labels.

All members
45 minutes
Paper, pencils, chart paper and marker, container of chocolate milk, the Syrup for Homemade Chocolate Milk recipe from pg. 38 of the Recipe Book

\section*{Instructions:}

\section*{Part A: Comparing}

Without tasting, have the members compare homemade and store bought chocolate milk. They should consider the following questions:
1. What is different, and similar between the chocolate milks?
2. Are there differences in the nutritional content (protein, energy, fat etc.)?
3. Which is a healthier option, and why?
4. Which is the most cost effective option?

\section*{Part B: Creating Criteria}

Ask members to create a judging score card for chocolate milk. What are the most important attributes of chocolate milk (taste, nutritional content, cost etc.)? Document the members' thoughts on chart paper, and outline the judging criteria. Which attribute is more important?

\section*{Part C: Judging Taste}

Now for the fun part - have members judge four different kinds of chocolate using the judging scorecard created. Make sure all use the same kind of milk, because one recipe with skim milk will taste very different from another made with \(2 \%\) milk. Try these four options:
- homemade chocolate syrup
- store bought chocolate milk
- store bought chocolate syrup
- just melted chocolate

\section*{Debrief:}
- As a consumer, how has this activity benefited you?

\section*{Activity \#6 - Digging Deeper - Chemicals in Chocolate?}

Purpose: To research and determine the chemical ingredients in chocolate, and how they effect the human body.

Age Group: \(\quad\) Senior members (17-21)
Time Allotted: 45 minutes
Preparation and Equipment: Paper and pencils, the internet or books from the library.

\section*{Instructions:}

Have members research one of the chemical ingredients found in chocolate: phenylethylamine, theobromine, flavanols, caffeine etc. Members should look into how the chemical affects the human body, and if there are any health related issues caused by the chemical.

Senior members should then present their finding to all of the club members. These should be quick 1-2 minute speeches, songs, or skits on each chemical.

Invite junior members to ask senior members questions after their presentations.

\section*{Debrief:}
- What chemical were you most surprised to find is within chocolate?
- Have you ever experienced any of the side effects these chemicals produce?
- What presentation did you enjoy the most? Which did you learn the most from?
*** Potential as an excellent special project activity and / or a take-home activity. \({ }^{* * *}\)

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\begin{aligned}
& \text { 4-H Ontario's }
\end{aligned}
\]

THE 4-H PLEDGE
"I pledge:
My Head to clearer thinking
My Heart to greater loyalty
My Hands to larger service
My Health to better living
For my club, my community and my country."
THE 4-H MOTTO


Learn to do by doing
PROVINCIAL 4-H OFFICE
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\section*{Record Keeping - Why?}

Record Books are to document time and money spent, what you have learned, your ideas, memories, and what you liked and didn't like. Your Record Book also...
- helps you set goals for this project
- helps you remember recipes you have made, and what substitutions/changes you made
- has space to record club members and important dates, names and contact information
- is a great way to get and stay organized

Down the road when you look back on your 4-H projects these books will be able to remind you what you learned so you can use those skills later in life. It will bring back memories of the project, your 4-H friends, your story and thoughts at the time of the project. You will never forget because this book will act as a reminder! It will also be useful at the Achievement Program, when looking at your progress and when reviewing your accomplishments.

\section*{How do I organize my materials?}
1. Make your records neat and easy to read. This will make it easier to find information later on, and to share your information with others.
2. Use a three-ring binder to hold your materials, and divide your information into sections using dividers. This will keep things from becoming lost, and will make it easier to find what you need later on. This will also allow you to add extra pages later.
3. You may want to put your recipe pages in plastic sleeves. That ways if things get messy, your recipe page isn't ruined.

\section*{How do I keep good records?}
1. Keep track of activities throughout the meetings, as you complete different parts of the project. It's often difficult to remember things that happened in earlier meetings.
2. Make sure the information you write in your Record Book is complete and accurate. If you're not sure about something, ask your leader for help before writing it in your book. You can also consult people in your community, or do some research on your own. If you borrow information from someone or someplace else, make sure you write down the where you found it.

Remember that this is YOUR personal Record Book. So get on board and make your Record Book your own. Oh, and remember to bring your Record Book to every meeting!

\section*{Record Book For 20}

Name: \(\qquad\)
Address: \(\qquad\)
Name of Parent or Guardian: \(\qquad\)
Age as of Jan. 1: \(\qquad\) Number of Years in 4-H: \(\qquad\)
List the other 4-H projects you are involved in \(\qquad\)
Club Name: \(\qquad\) Association: \(\qquad\)
Club Members
\begin{tabular}{|l|l|l|}
\hline NAME & PHONE NUMBER & EMAIL \\
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\section*{Who's Who}

Club President: \(\qquad\) Email: \(\qquad\)
Vice President: \(\qquad\) Email: \(\qquad\)

Secretary: \(\qquad\) Email: \(\qquad\)
Treasurer: \(\qquad\) Email: \(\qquad\)
Press Reporter: \(\qquad\) Email: \(\qquad\)
\begin{tabular}{|l|l|l|l|}
\hline & DATE \& TIME & PLACE & \begin{tabular}{c} 
NOTES (things to bring, take home \\
activities to complete etc.)
\end{tabular} \\
\hline Meeting 1 & & & \\
\hline Meeting 2 & & & \\
\hline Meeting 3 & & & \\
\hline Meeting 4 & & & \\
\hline Meeting 5 & & & \\
\hline Meeting 6 & & & \\
\hline \begin{tabular}{l} 
Achievement \\
Program \\
\end{tabular} & & & \\
\hline
\end{tabular}
\begin{tabular}{|l|l|}
\hline Leader Name \& Contact Information & Leader Name \& Contact Information \\
\hline & \\
\hline & \\
\hline
\end{tabular}

\section*{Member Expectations and Goals}

Why did you join this chocolate club?

What is one goal that you want to achieve in this project?

Do you have any ideas for fun things to do during the project?

Do you have any ideas for an Achievement Program for this chocolate club? (Keep in mind that an Achievement should involve the community in some way).

\section*{Member Responsibilities}
- Be a current paid member of 4-H Ontario.
- Attend at least \(2 / 3\) of the meeting time allotted for this project.
- Complete the Record Book for this project. Bring it with you to each meeting!
- Remember, the more you put into your 4-H club the more you will get out of it!!

Roll Calls - In My Opinion...
\begin{tabular}{|l|l|l|}
\hline Meeting & Roll Call \\
\hline & & \\
\hline
\end{tabular}

\section*{Record of Recipes Prepared}
\begin{tabular}{|l|l|l|l|}
\hline Date & Recipe Name & Recipe Source & Comments \\
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\end{tabular}
*Photocopy this page if you run out of room! Remember, the more recipes you try the more you will perfect your chocolate preparation skills!

Favourite Recipes
\begin{tabular}{|l|l|l|}
\hline Recipe Name & Recipe Source & Changes/Additions/Comments \\
\hline & & \\
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\section*{Recipe Reviews}
\begin{tabular}{|c|c|}
\hline Recipe Name & Comments from Friends and Family \\
\hline & Name: \(\qquad\) Relation: Comments: \\
\hline & Name: \(\qquad\) Relation: Comments: \\
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*Photocopy this page if you run out of room!
}

\section*{Insentide bo,0)K}
\begin{tabular}{|c|c|c|c|c|}
\hline Meeting & Topic & Take Home & Recipe & Pg. \# \\
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\section*{Meeting 1 -}

\section*{Fudgy Microwave Brownies}

YIELD: 16 to 20 squares
PREP TIME: 15 minutes
COOKING TIME: 3-6 minutes
Equipment:
- Knife
- Medium bowl
- Measuring spoons and cups
- Wooden spoon
- 20 cm (8 in) square microwave safe pan
- aluminum foil

\section*{Ingredients:}
- 1 square \((60 \mathrm{~g})\) unsweetened chocolate
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) butter or margarine
- 250 mL (1c) brown sugar
- \(175 \mathrm{~mL}(3 / 4 \mathrm{c})\) all-purpose flour
- 2 eggs
- \(2 \mathrm{~mL}(1 / 2 \mathrm{tsp})\) baking powder
- \(2 \mathrm{~mL}(1 / 2 \mathrm{tsp})\) vanilla
- \(1 \mathrm{~mL}(1 / 4 \mathrm{tsp})\) salt
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) chopped walnuts (optional)

\section*{- InLixandmbin}
1. Chop chocolate coarsely until the pieces are the size of grapes.
2. Combine chocolate, butter and sugar in medium-size mixing bowl. Microwave at medium power (50\%) 2 to 4 minutes, just until melted. Stir with a wooden spoon to blend well.
3. Add remaining ingredients, one at a time, stirring well after each addition. Beat with a wooden spoon until well blended.
4. Turn into ungreased \(20 \times 20 \mathrm{~cm}\) ( \(8 \times 8\) inch) microwave safe baking dish. Shield or cover corners of the dish with triangles of foil to keep the corners from over baking.
5. Place dish on inverted saucer or on the rotating plate in the microwave oven. Microwave at \(100 \%\) power, 3-6 minutes or until still moist in the centre.
6. Cool directly on the countertop.
7. Serve warm, frosted or unfrosted.

\section*{Meeting 1 -}

\section*{Fudgy Brownies}

\section*{Equipment:}

YIELD: 16 to 20 squares
PREP TIME: 30 minutes
BAKING TIME: 25-30 minutes
- \(20 \times 20 \mathrm{~cm}\) ( \(8 \times 8 \mathrm{in}\) ) baking pan
- Liquid, dry and small measures
- Sifter or sieve
- Medium bowl
- Wooden spoon
- Wire rack

\section*{Ingredients:}
- \(175 \mathrm{~mL}(3 / 4 \mathrm{c})\) all purpose flour
- \(75 \mathrm{~mL}(1 / 3 \mathrm{c})\) unsweetened cocoa
- \(1 \mathrm{~mL}(1 / 4 \mathrm{tsp})\) salt
- \(250 \mathrm{~mL}(1 \mathrm{c})\) sugar
- \(2 \mathrm{~mL}(1 / 2 \mathrm{tsp})\) baking powder
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) butter, margarine, or shortening melted
- 2 eggs
- \(50 \mathrm{~mL}(1 / 4 \mathrm{c})\) water
- \(2 \mathrm{ml}(1 / 2 \mathrm{tsp})\) vanilla extract
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) chopped walnuts (optional)

\section*{}
1. Grease bottom and sides of pan with butter, margarine or shortening. Preheat oven to \(160^{\circ} \mathrm{C}\left(325^{\circ} \mathrm{F}\right)\).
2. Sift flour, cocoa, salt, sugar and baking powder into medium sized mixing bowl.
3. Add melted butter, eggs, water and vanilla. Beat with a wooden spoon until well blended.
4. Stir in chopped walnuts if using.
5. Turn into prepared pan. Bake in preheated oven for 25-30 minutes. Brownies are done when a tester or toothpick comes out clean when inserted into the centre of the brownies, or when they begin to pull away from the sides of the pan.
6. Cool on a wire rack. Serve warm or cold, frosted or unfrosted.

\section*{Meeting 1 -}

\section*{Chocolate 4-H Brownies}

YIELD: 36 squares
PREP TIME: 20 minutes
BAKING TIME: 30 minutes

Equipment:
- Measuring spoons and cups
- Spatula
- Large mixing bowl
- \(22 \times 33 \mathrm{~cm}\) ( \(9 \times 13\) inch) pan
- Small pot
- Knife
- Wooden spoon

\section*{Ingredients:}
- 250 mL (1c) butter/margarine
- \(500 \mathrm{~mL}(2 \mathrm{c})\) sugar
- 4 eggs
- \(425 \mathrm{ml}(11 / 2 \mathrm{c})\) flour
- \(5 \mathrm{ml}(1 \mathrm{tsp})\) baking powder
- \(2 \mathrm{~mL}(1 / 2 \mathrm{tsp})\) salt
- \(175 \mathrm{~mL}(3 / 4 \mathrm{c})\) cocoa
- \(10 \mathrm{~mL}(2 \mathrm{tsp})\) vanilla
- \(250 \mathrm{~mL}(1 \mathrm{c})\) chopped nuts optional

\section*{- ||lckandronsin}
1. Preheat oven to \(175^{\circ} \mathrm{C}\left(350^{\circ} \mathrm{F}\right)\)
2. Melt butter. Stir in sugar, then eggs.
3. Sift and add flour, baking powder, salt and cocoa. Mix in vanilla. Add nuts if desired.
4. Bake for 30 minutes in a greased \(22 \times 33 \mathrm{~cm}\) ( \(9 \times 13\) inch) pan.
5. Cool. Sprinkle with icing sugar if desired.

\section*{Meeting 1 -}

\section*{Super Fudge Brownies in a Large Bag or In a Jar}

YIELD: 18 servings PREP TIME: 20-30 minutes

Equipment:
- Measuring spoons and cups
- Paper towel
- Bags or jars

Ingredients:
- 500 mL (2c) white sugar
- 250 mL (1c) cocoa
- 250 mL (1c) all purpose flour
- 250 mL (1c) chopped pecans (optional)
- 1-6 oz package semi-sweet chocolate chips

\section*{olingicinionsin}
1. If using a bag: Add all ingredients to the bag and attach cooking instructions.
2. If using a jar: In a large \(1 \mathrm{~L}(1 \mathrm{qt})\), wide-mouth jar, layer sugar and cocoa and pack down. Wipe the inside of the jar with a paper towel to remove any excess from the sides. Layer flour, pecans and chocolate chips, packing down tightly after each addition. Secure the lid and attach a gift tag with cooking instructions.

\section*{Cooking Instructions to Attach:}
1. In a large bowl, cream 250 mL (1c) melted butter.
2. Add 4 eggs, one at a time, beating well after each addition.
3. Add brownie mix and beat until smooth.
4. Spread in a greased \(20 \times 33 \mathrm{~cm}\) ( \(9 \times 13 \mathrm{in}\) ) baking pan.
5. Bake at \(160^{\circ} \mathrm{C}\left(325^{\circ} \mathrm{F}\right)\) for \(40-50\) minutes until an inserted toothpick comes out clean.

\section*{Meeting 1 -}

\section*{Easy Brownie Pizza}

YIELD: 12 servings
TIME: 20 minutes
COOKING TIME: 20 minutes
Equipment:
- Large saucepan
- Bowl
- Cooling rack
- Measuring spoons and cups
- Spatula

\section*{Ingredients:}

175 mL (3/4c) corn syrup
\(60 \mathrm{~mL}(1 / 3 \mathrm{c})\) whipping cream
1 pkg (8 oz) semi-sweet
chocolate
125 mL (1/2c) butter or
margarine
\(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) white sugar
- Wooden spoon
- Spray-on grease
- 30 cm ( 12 in ) pizza pan or 222 cm (9 in) cake pans
- 2 eggs
- \(2 \mathrm{~mL}(1 / 2 \mathrm{tsp})\) vanilla
- \(175 \mathrm{~mL}(3 / 4 \mathrm{c})\) flour
- \(2 \mathrm{~mL} 1 / 2 \mathrm{tsp}\) ) salt
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) coarsely chopped walnuts

\section*{- IIrxicinionsin}
1. Grease and flour a 30 cm (12 inch) pizza pan or \(2-22 \mathrm{~cm}\) (9in) cake pans.
2. In a large saucepan bring corn syrup and whipping cream to a boil over medium heat, stirring occasionally.
3. Add chocolate, stir until melted.
4. Set aside \(150 \mathrm{~mL}(2 / 3 \mathrm{c})\) of the chocolate sauce.
5. Add butter and sugar to remaining sauce and stir until the butter melts. Remove from heat.
6. Stir in eggs and vanilla.
7. Gradually stir in flour, salt and nuts.
8. Pour into pan.
9. Bake at \(175^{\circ} \mathrm{C}\left(350^{\circ} \mathrm{F}\right)\) for 20 minutes or until firm.
10. Cool on rack, and then top with ice cream, fruit, nuts and chocolate sauce.

\section*{Meeting 1 -}

\section*{Quick Chocolate Drop Cookies}

A great recipe - that requires no baking!

\section*{Equipment:}
- Mixing bowl
- Wooden spoon measuring spoons and cups
- Small saucepan
- Cookie sheets
- Spatula
- 2 spoons
- parchment or waxed paper

\section*{Ingredients:}
- 750 mL (3c) oatmeal
- 250 mL (1c) coconut
- \(75 \mathrm{~mL}(1 / 3 \mathrm{c})\) cocoa
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) butter or margarine
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) milk
- 500 mL (2c) white sugar
- \(2 m L(1 / 2 t s p)\) vanilla

\section*{dilrexantonsin}
1. Mix dry ingredients.
2. Mix butter, milk and sugar together in a saucepan. Bring to a boil.
3. Cool slightly and add vanilla.
4. Stir into dry mix. Mixture will be hot.
5. Drop by spoonfuls (using 2 spoons) onto a parchment or waxed paper lined cookie sheet, or a greased cookie sheet.
6. Cool.

\section*{Meeting 1 -}

\section*{Chocolate Chip Oatmeal Cookies}

YIELD: 6 dozen
PREP TIME: 15 minutes
BAKING TIME: 30 minutes
(10 minutes per cookie sheet)

\section*{Equipment:}
- Large bowl
- Cookie sheets
- Measuring spoons and cups
- Spatula
- Wooden spoon
- Cookie spatula/lifter

\section*{Ingredients:}
- 250 mL (1c) margarine
- 250 mL (1c) white sugar
- 250 mL (1c) brown sugar
- 2 eggs
- 10 mL (2 tsp) baking soda
- \(2 \mathrm{~mL}(1 / 2 \mathrm{tsp})\) salt
- \(375 \mathrm{~mL}(11 / 2 \mathrm{c})\) quick oats
- \(560 \mathrm{~mL}(21 / 4 \mathrm{c})\) flour
- 250 mL (1c) chocolate chips, or raisins if desired

\section*{}
1. Preheat oven to \(175^{\circ} \mathrm{C}\left(350^{\circ} \mathrm{F}\right)\).
2. Mix in large bowl margarine, sugars, eggs, baking soda and salt.
3. Add oats and flour, and then chocolate chips.
4. Drop from spoon onto greased cookie sheets and bake for 10 minutes.

\section*{Meeting 1 -}

\section*{Mrs. Field's Chocolate Chip Cookies}

YIELD: 9 dozen
(Can be quartered or halved) PREP TIME: 30 minutes BAKING TIME: 30 minutes
(10 minutes per cookie sheet)

Equipment:
- Wooden spoon
- Large mixing bowl
- Measuring spoons and cups
- Cookie sheets
- Hot mitts
- Spatula

\section*{Ingredients:}
- \(500 \mathrm{~mL}(2 \mathrm{c})\) butter
- 500 mL (2c) brown sugar
- \(375 \mathrm{~mL}(11 / 2 \mathrm{c})\) white sugar
- 4 eggs
- 10 mL (2 tsp) vanilla
- 1250 mL (5c) oatmeal
- 1000 mL (4 c) flour
- 5 mL (1tsp) salt
- 10 mL (2 tsp) baking powder
- 10 mL ( 2 tsp ) baking soda
- \(750 \mathrm{~g}(24 \mathrm{oz})\) semi-sweet chocolate chips
- \(1 / 2\) large bag of milk chocolate small candies or 1 (8oz) chocolate bar, grated
- 750 mL (3c) chopped nuts

\section*{- Mircicialionso}
1. Cream together first 5 ingredients.
2. Grind the oatmeal in a blender until it is a fine powder.
3. Mix oatmeal with flour, baking powder, baking soda and salt. Add to creamed mixture. Stir well.
4. Add chocolate chips and small candies.
5. Drop onto ungreased cookie sheet. Bake 10 minutes at \(190^{\circ} \mathrm{C}\left(375^{\circ} \mathrm{F}\right)\).

\footnotetext{
*There are lots of different recipes claiming to be Mrs. Field's Chocolate Chip Cookies.
Source: www.cooks.com/rec/view/0,1910,154165-234194,00.html
}

\section*{Meeting 1 -}

\section*{Toll House Chocolate Chip Cookies}

Equipment:
- Cookie sheets large and small bowls
- Measuring spoons and cups
- Spatula
- Wooden spoon
- Wire rack

\section*{Ingredients:}
- 560 mL ( \(21 / 4 \mathrm{c}\) ) all purpose flour
- 5 mL (1 tsp) baking soda
- \(5 \mathrm{~mL}(1 \mathrm{tsp})\) salt
- \(250 \mathrm{~mL}(1 \mathrm{c})\) softened butter
- \(175 \mathrm{~mL}(3 / 4 \mathrm{c})\) white sugar
- \(175 \mathrm{~mL}(3 / 4 \mathrm{c})\) brown sugar
- 5 mL (1 tsp) vanilla
- 2 large eggs
- 500 mL (2c) semi-sweet chocolate morsels
- 250 mL (1c) chopped nuts

\section*{- IITxicinitngn}
1. Preheat oven to \(190^{\circ} \mathrm{C}\left(375^{\circ} \mathrm{F}\right)\).
2. Combine flour, baking soda, salt in a bowl. Cream butter, sugars and vanilla in a large bowl. Add eggs, one at a time, beating well after each addition. Gradually beat in flour mixture. Stir in chocolate morsels and nuts.
3. Drop by rounded spoonful onto ungreased cookie sheet.
4. Bake 9-11 minutes or until golden brown.
5. Cool on baking sheet for 2 minutes and then place on a cooling rack.

\section*{Variations:}

Pan Cookie - Grease a \(25 \times 38 \mathrm{~cm}\) (10x15 inch) jelly roll pan. Spread the above dough into prepared pan. Bake 20-25 minutes or until golden brown. Cool in pan on wire rack. Yield: 4 dozen bars

Slice \& Bake - Prepare dough as above. Divide in half and wrap in waxed paper. Refrigerate for 1 hour or until firm. Shape each roll into a 38 cm ( 15 inch ) log and wrap in waxed paper. Refrigerate for 30 minutes (may be stored for up to 1 week in the refrigerator or 8 weeks in the freezer). To Use: unwrap and cut into \(1 \mathrm{~cm}(1 / 2\) inch \()\) thick slices and place on ungreased cookie sheet. Bake at \(190^{\circ} \mathrm{C}\left(375^{\circ} \mathrm{F}\right.\) for 8-10 minutes. Cool on baking sheet for 2 minutes and then remove to wire racks.

\section*{Meeting 2 -}

\section*{Hot Chocolate Mix}

\section*{Equipment:}

YIELD: Mix for approx. 40 servings of hot chocolate. PREP TIME: 10 minutes
- measuring spoons and cups
- blender
- plastic bag or jar with tight-fitting lid to store mix in

Ingredients:
- 750 mL (3c) skim milk powder
- \(175 \mathrm{~mL}(3 / 4 \mathrm{c})\) sifted cocoa
- \(75 \mathrm{~mL}(1 / 3 \mathrm{c})\) powdered coffee whitener
- 250 mL (1c) white sugar
- \(0.5 \mathrm{~mL}(1 / 8 \mathrm{tsp})\) salt

\section*{}
1. To Prepare: Mix all ingredients together in a blender or food processor until well mixed.
2. To Use: Mix 30 mL (2 tbsp) Hot Chocolate Mix in 175 mL (3/4c) boiling water.

Source: Chocolate Everything. Company's Coming. Jean Pare. 2000.

\section*{Meeting 2 -}

\section*{Hot Chocolate}


Equipment:
Measuring spoons and cup
Pot
Blend Ingredients:
- 15 mL (1 tbsp) cocoa
- 30 mL (2 tbsp) sugar
- Mix in:
- 15 mL ( 1 tbsp ) cold milk
- Stir in: 250 mL (1c) hot milk.

\section*{Meeting 2 -}

\section*{Hot Chocolate Coffee Mix}

\section*{Equipment:}
- measuring spoons and cups
- wooden spoon
- medium, sized bowl
- plastic bag or jar with tight-fitting lid

\section*{Ingredients:}
- \(150 \mathrm{~mL}(2 / 3 \mathrm{c})\) white sugar
- \(75 \mathrm{~mL}(1 / 3 \mathrm{c})\) cocoa
- \(1 \mathrm{~mL}(1 / 4 \mathrm{tsp})\) ground cinnamon
- \(60 \mathrm{~mL}(1 / 4 \mathrm{c})\) coffee granules

\section*{}
1. To Prepare: Stir all together and place in a plastic bag or jar with tight-fitting lid. Could also be made omitting the coffee.
2. To Use: Heat 250 mL (1c) milk in large mug in microwave on high for about 2 minutes. Add 25 mL ( \(11 / 2\) tbsp) Hot Chocolate Coffee Mix. Stir.

\section*{Meeting 2 -}

\section*{Ice Cream In A Bag}

YIELD: 2 scoops of ice cream
TIME: 30 minutes

Equipment:
- Measuring spoons and cups
- 1 large (gallon) ziploc bag
- 2 small (quart) ziploc bags
- Towel
- Small dixie cups
- Spoons

Ingredients:
- \(1 \mathrm{~L}(4 \mathrm{c})\) ice
- 250 mL (1c) rock salt
- 250 mL (1c) homo milk
- 250 mL (1 c) whipping cream
- 5 mL (1 tsp) vanilla
- \(60 \mathrm{~mL}(1 / 4 \mathrm{c})\) sugar

\section*{- ||rcxidionsIN}
1. Pour the milk, vanilla, whipping cream, and sugar into the small resealable bag. Squeeze out as much air as you can and carefully seal.
2. Place the small resealable bag in another small resealable bag (prevents any leaks, or can seal with duct tape)
3. Then place in the large resealable bag. Cover with the ice, a bit of water and salt. Seal the large bag tightly.
4. Shake the mixture for 5-10 minutes. If the bag gets too cold to handle, place a towel around it. The bag can be passed from member to member to shake.
5. When the ice cream is frozen, carefully remove the small bag from the larger one - discard the ice and salt. Rinse the outside of the bag with cold water- to remove any salt.
6. Serve the ice cream in small cups.

\section*{Variations:}

Omit the vanilla and half the sugar - add chocolate syrup or strawberry syrup. Or substitute other flavourings for the vanilla.

\section*{Meeting 2 -}

\section*{Aunt Marg's 5 Minute Chocolate Fudge}

YIELD: Approx. 25 squares TIME: 20 minutes

\section*{Equipment:}
- Heavy pot
- Wooden spoon
- Measuring cups and spoons
- Spatula
- 20 cm (8inch) pan

\section*{Ingredients:}
- \(60 \mathrm{~mL}(1 / 4 \mathrm{c})\) butter or margarine
- \(150 \mathrm{~mL}(2 / 3 \mathrm{c})\) evaporated milk
- \(400 \mathrm{~mL}(12 / 3 \mathrm{c})\) white sugar
- \(2 \mathrm{~mL}(1 / 2 \mathrm{tsp})\) salt
- \(375 \mathrm{~mL}\left(1 \frac{1}{2} \mathrm{c}\right)\) small marshmallows
- \(375 \mathrm{~mL}(11 / 2 \mathrm{c})\) chocolate chips
- \(5 \mathrm{~mL}(1 \mathrm{tsp})\) vanilla
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) pecans (optional)

\section*{}
1. Mix and boil butter, milk, sugar and salt for 5 minutes over medium heat stirring constantly.
2. Remove from heat and add marshmallows, chocolate chips, vanilla and pecans.
3. Stir for 1-2 minutes and pour into a greased 20 cm (8 inch) pan.
4. Cool and cut fudge into squares.

\section*{Meeting 2 -}

\section*{Super Chocolate Fudge}

Equipment:
- Heavy saucepan
- wooden spoon
- spatula
- measuring spoons and cups
- 20 cm (8 inch) square pan
- waxed paper
- cutting board

\section*{Ingredients:}
- 350 g ( 1 pkg) semi-sweet chocolate chips
- 1 can sweetened condensed milk
- \(300 \mathrm{~mL}(11 / 4 \mathrm{c})\) icing sugar
- pinch salt
- 5 mL (1 tsp) vanilla
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) chopped nuts

\section*{dTILEXATHESIN}
1. In heavy saucepan, over low heat, heat chocolate chips with condensed milk.
2. Stir in remaining ingredients.
3. Spread evenly in waxed paper lined 20 cm ( 8 inch) square pan.
4. Chill 2-3 hours or until firm. Turn out onto cutting board, peel off paper, cut into squares.
5. Store loosely at room temperature.

\section*{Meeting 2 -}

\section*{Chocolate Bars}

YIELD: 20 squares
TIME: 20-30 minutes

\section*{Equipment:}
- Small heavy saucepan
- Large saucepan
- Wooden spoon
- 22 cm (9in) square pan
- Knife or spoon
- Measuring spoons and cups
- Spatula

\section*{Ingredients:}
- \(175 \mathrm{~mL}(3 / 4 \mathrm{c})\) butter/margarine
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) packed brown sugar
- 5 mL (1 tsp) vanilla extract
- 750 mL (3c) quick cooking oats (Rice krispies can be added to this if you run out of oatmeal, or use \(1 / 2\) oatmeal and \(1 / 2\) rice krispies.)
- 250 mL (1c) semi-sweet chocolate chips
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) peanut butter

\section*{}
1. Melt butter in large saucepan over medium heat.
2. Stir in brown sugar and vanilla.
3. Mix in oats.
4. Cook over low heat until ingredients are well blended.
5. Press \(1 / 2\) of the oat mixture into a greased 22 cm (9in) square pan.
6. Melt chocolate chips and peanut butter in heavy saucepan over low heat, stirring frequently until smooth.
7. Pour chocolate mixture over the crust in the pan and spread evenly with a knife or back of a spoon.
8. Crumble remaining oat mixture over the chocolate layer, pressing in gently.
9. Cover and refrigerate 2-3 hours or overnight.
10. Bring to room temperature and cut into squares.

\section*{Meeting 2 -}

\section*{Nanaimo Bars}

\section*{YIELD: 36 squares}

PREP TIME: 30 minutes
COOLING TIME: overnight
Equipment:
- Double boiler
- Mixing bowl
- Small pot
- Spatula
- Wooden spoon
- Measuring spoons and cups

Ingredients:

\section*{- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) soft butter}
- \(60 \mathrm{~mL}(1 / 4 \mathrm{c})\) white sugar
- 75 mL ( 5 tbsp ) cocoa
- 5 mL (1 tsp) vanilla
- 1 egg, slightly beaten
- 500 mL (2c) graham cracker crumbs

\section*{}
1. Combine first 5 ingredients in a double boiler over boilng water. Stir and cool like custard.
2. Combine graham cracker crumbs, coconut and walnuts. Add to custard mixture.
3. Mix and press into a greased 22 cm (9in) square pan.

\section*{Icing:}

Ingredients:
- \(60 \mathrm{~mL}(1 / 4 \mathrm{c})\) butter
- \(10 \mathrm{~mL}(2 \mathrm{tsp})\) vanilla custard powder
- 45 mL ( 3 tbsp ) milk
- 500 mL (2c) sifted icing sugar
- 4 squares (4 oz) of semi-sweet chocolate

\section*{}
1. Cream the above together and spread over the above base. Let stand 20 minutes
2. Top with 4 squares of melted semi-sweet chocolate mixed with 215 mL (1tbsp) butter. Spread lightly.
3. Chill overnight and cut into bars.

\section*{Meeting 2 -}

\section*{S'mores Bars}

YIELD: 24 squares
PREP TIME: 5 minutes
COOKING TIME: 15 minutes

\section*{Equipment:}
- Microwave proof bowl
- \(22 \times 33 \mathrm{~cm}(10 \times 15 i n)\) jelly roll pan
- Wooden spoon
- Wire cooling rack

\section*{Ingredients:}
- 12 whole graham cracker squares
- 500 mL (2c) small marshmallows
- 1 bag ( \(11 \frac{1}{2}\) oz) milk chocolate chips
- \(175 \mathrm{~mL}(3 / 4 \mathrm{c})\) butter or margarine
- \(175 \mathrm{~mL}(3 / 4 \mathrm{c})\) firmly packed brown sugar

\section*{dilrexcinghsin}
1. Preheat oven to \(175^{\circ} \mathrm{C}\left(350^{\circ} \mathrm{F}\right)\)
2. Arrange graham wafers evenly on a \(25 \times 38 \mathrm{~cm}(10 \times 15 \mathrm{in})\) jelly roll pan.
3. Sprinkle marshmallows, then chocolate chips on top.
4. Combine brown sugar and butter in medium microwave proof bowl. Microwave for \(1 \frac{1}{2}-2\) minutes on High, until butter is melted. Stir to blend.
5. Spoon evenly over marshmallows and chocolate chips.
6. Bake 8-10 minutes until just golden.
7. Cool completely in pan on wire rack.
8. Cut into squares.

\section*{Meeting 2 -}

\section*{Chocolate Holiday Square}

\section*{Equipment:}
- Medium pot
- Wooden spoon
- Measuring spoons and cups
- 20 cm (8 inch) square pan
- Spatula

\section*{Ingredients:}
- \(250-310 \mathrm{~mL}\) ( \(1-1 / 4 \mathrm{c}\) ) milk chocolate chips
- \(175 \mathrm{~mL}(3 / 4 \mathrm{c})\) icing sugar
- 500 mL (2c) miniature marshmallows
- \(75 \mathrm{~mL}(1 / 3 \mathrm{c})\) butter/margarine
- 1 egg
- whole graham crackers to cover bottom of 20 cm (8 inch) square pan.

\section*{}
1. Over low heat melt chips, butter, egg and icing sugar. Remove from stove when it bubbles and cool slightly.
2. Stir in marshmallows and pour over graham wafers.
3. Chill and cut into squares.
4. Note: could also use butterscotch chips or a combination of chocolate and butterscotch.

\section*{Meeting 3 -}

\section*{Chocolate Chip Biscotti}

These are double baked cookies to make them crisp.
They are great as dunkers in hot chocolate or coffee!

YIELD: 2 dozen
PREP TIME: 20 minutes
BAKING TIME: 40-45 minutes

Equipment:
- Large and medium bowls
- Cookie sheets
- Rack
- Cutting board
- Measuring spoons and cups
- Spatula
- Wooden spoon
- Chef's knife
- Grater
- Pastry brush

Ingredients:
- \(425 \mathrm{~mL}(13 / 4 \mathrm{c})\) all purpose flour
- 10 mL (2tsp) baking powder
- \(175 \mathrm{~mL}(3 / 4 \mathrm{c})\) unblanched almonds
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) chocolate chips
- 2 eggs
- \(175 \mathrm{~mL}(3 / 4 \mathrm{c})\) white sugar
- \(75 \mathrm{~mL}(1 / 3 \mathrm{c})\) melted butter/margarine
- \(10 \mathrm{~mL}(2 \mathrm{tsp})\) vanilla
- \(2 \mathrm{~mL}(1 / 2 \mathrm{tsp})\) almond extract
- \(7 \mathrm{~mL}\left(1 \frac{1}{2} \mathrm{tsp}\right)\) grated orange rind
- 1 egg white, lightly beaten.

\section*{- Tilrexantons}
1. In large bowl, combine flour, baking powder, almonds and chocolate chips.
2. In separate bowl, whisk together eggs, sugar, butter, vanilla, almond extract, and grated orange rind. Stir into flour mixture until soft, sticky dough forms.
3. Transfer dough to lightly floured work surface.
4. Divide dough in half, roll each into 30 cm ( 12 inch) long log. Transfer to ungreased baking sheet.
5. Brush tops with egg white and bake at \(180^{\circ} \mathrm{C}\left(350^{\circ} \mathrm{F}\right)\) for 20 minutes.
6. Remove from oven and let cool on pan on rack for 5 minutes. Transfer each log to cutting board, cut diagonally into 2 cm (3/4inch) thick slices.
7. Stand cookies upright on baking sheet, bake for another 20-25 minutes or until golden brown. Let cool on rack.
8. The ends of the biscotti can be dipped in melted white or dark chocolate.

\section*{Variation:}

Double Chocolate Biscotti - Reduce flour to 375 mL ( \(11 / 2 \mathrm{c}\) ). Add \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) sifted unsweetened cocoa powder to flour. Omit almonds. Dissolve 15 mL ( 1 tbsp ) instant coffee granules in vanilla, and add. Omit almond extract and orange rind.

\section*{Meeting 3 -}

\section*{Mint Chocolate Chip Ice Cream Pie}

This recipe can be made beforehand. Just cover with plastic wrap, then heavy duty foil, and freeze for up to 1 day.

YIELD: 8-10 Servings
PREP TIME: 20 minutes
BAKING TIME: 12 minutes FREEZING TIME: 2 hours

\section*{Equipment:}
- mixing bowls
- Electric beater
- Measuring spoons and cups
- Wooden spoon
- Plastic wrap
- Spatula
- 23 cm (9in) pie plate
- Cooling rack

\section*{Ingredients:}
- \(500 \mathrm{~mL}(2 \mathrm{c})\) chocolate wafer crumbs
- \(75 \mathrm{~mL}(1 / 3 \mathrm{c})\) melted butter/margarine
- \(75 \mathrm{~mL}(1 / 3 \mathrm{c})\) chocolate sauce
- \(1 \mathrm{~L}(4 \mathrm{c})\) mint chocolate chip softened ice cream
- \(175 \mathrm{~mL}(3 / 4 \mathrm{c})\) whipping cream
- \(15 \mathrm{~mL}(1 \mathrm{tbsp})\) white sugar
- 10 mL (2 tsp) chocolate sprinkles

\section*{}
1. In bowl mix wafer crumbs and butter, press on bottom and sides of a 23 cm (9in) pie plate.
2. Bake at \(160^{\circ} \mathrm{C}\left(325^{\circ} \mathrm{F}\right)\) for 12 minutes, let cool.
3. Spread chocolate sauce over pie.
4. In a bowl, with a wooden spoon, soften ice cream until smooth. Spread over chocolate in pie plate. Cover with plastic wrap and freeze for 1 hour.
5. In separate bowl, whip cream with sugar. Spread over ice cream.
6. Freeze until set - 1 hour.
7. Garnish with chocolate sprinkles.

Meeting 3 -

\section*{Chocolate Chip Pie}

YIELD: 8-10 pieces
PREP TIME: 15 minutes
BAKING TIME: 30 minutes
Equipment:
- Spatula
- Electric beater
- 22 cm (9in) pie plate
- Measuring spoons and cups

\section*{Pie}

Ingredients:
- \(325 \mathrm{~mL}(13 / 8 \mathrm{c})\) all purpose flour
- \(3 \mathrm{~mL}(3 / 4 \mathrm{tsp})\) salt
- \(2 \mathrm{~mL}(1 / 2 \mathrm{tsp})\) baking soda
- \(2.5 \mathrm{~mL}(5 / 8 \mathrm{tsp})\) baking powder
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) softened unsalted butter
- 175 mL (3/4c) packed brown sugar
- \(60 \mathrm{~mL}(1 / 4 \mathrm{c})\) white sugar
- 2 eggs
- \(7.5 \mathrm{~mL}(1 / 2 \mathrm{tbsp})\) vanilla extract
- \(375 \mathrm{~mL}(11 / 2 \mathrm{c})\) semisweet chocolate chips
- 250 mL (1c) chopped walnuts (optional)

\section*{}
- Sifter or sieve
- Small bowl
- Cooling rack
1. Preheat oven to \(175^{\circ} \mathrm{C}\left(350^{\circ} \mathrm{F}\right)\)
2. Grease a 22 cm ( 9 in ) pie plate, set aside.
3. In a large bowl, sift flour, salt, baking soda, and baking powder.
4. In another bowl, cream together butter and sugars with an electric beater.
5. Add eggs 1 at a time, beating well. Beat in vanilla.
6. Add flour a bit at a time, mix until totally combined.
7. Fold in chocolate chips and nuts, if using.
8. Place dough in pie plate and smooth top with spatula.
9. Bake for 30 minutes or until pie is golden brown and slightly firm to touch, but still soft. If browning too much while baking, cover with foil and continue baking.
10. Cool pie on cooling rack.

\section*{Whipped Cream}

Ingredients:
- \(500 \mathrm{~mL}(2 \mathrm{c})\) whipping cream
- \(30 \mathrm{~mL}(1 / 8 \mathrm{c})\) icing sugar
- \(30 \mathrm{~mL}(1 / 8 \mathrm{c})\) miniature semisweet chocolate chips

\section*{}
1. While pie is cooling, whip cream and icing sugar until soft peaks form. Fold in chocolate chips. Refrigerate whipped cream until ready to use.
2. Spread whipped cream over pie and serve.

\section*{Meeting 4 -}

\section*{Beans Mole}

\section*{Equipment:}
- Large saucepan
- 1L (1 qt) casserole
- wooden spoon
- measuring cups and spoons

\section*{Ingredients:}
- \(60 \mathrm{~mL}(1 / 4 \mathrm{c})\) chopped onion
- \(5 \mathrm{~mL}(1 \mathrm{tsp})\) margarine
- \(398 \mathrm{~mL}(14 \mathrm{oz})\) can of beans in tomato sauce
- 15 mL (1 tbsp) packed brown sugar
- \(5 \mathrm{~mL}(1 \mathrm{tsp})\) molasses
- \(60 \mathrm{~mL}(1 / 4 \mathrm{c})\) ketchup
- \(2 \mathrm{~mL}(1 / 2 \mathrm{tsp})\) Worchestershire sauce
- \(15 \mathrm{~mL}(1 \mathrm{tbsp})\) cocoa

\section*{}
1. Fry onion in margarine until golden. Add remaining 6 ingredients.
2. Put into greased 1 L (1qt) casserole and bake uncovered at \(175^{\circ} \mathrm{C}\left(350^{\circ} \mathrm{F}\right)\) for 35 minutes.

\section*{Meeting 4 -}

\section*{Ham Mole}

Equipment:

YIELD: 6 servings
PREP TIME: 5 minutes
COOKING TIME: 15-25 minutes
- Medium saucepan
- Wooden spoon
- Measuring spoons and cups
- Small cup
- Frying pan
- Serving plate

\section*{Ingredients:}
- \(398 \mathrm{~mL}(14 \mathrm{oz})\) can of pitted cherries with juice
- \(10 \mathrm{~mL}(2 \mathrm{tsp}\) ) apple cider vinegar
- 0.5 mL ( \(1 / 16 \mathrm{tsp}\) ) ground cloves
- 30 semisweet chocolate chips
- 15 mL (1 tbsp) cornstarch
- 30 mL (2 tbsp) water
- \(1 \mathrm{~kg}(21 / 4 \mathrm{lb})\) ham steak

\section*{}
1. Combine cherries with juice, vinegar, cloves, and chocolate chips in medium saucepan. Heat stirring occasionally until boiling.
2. Mix cornstarch and water in small cup. Stir into cherry mixture until boiling and thickened.
3. Brown ham lightly on both sides. Serve sauce over the ham.

\section*{Meeting 5 -}

\section*{Candy Fillings}

In the following recipes mix all ingredients together in a small bowl. Shape into logs or balls and dip in melted chocolate.

\section*{Peppermint Patties}
- \(60 \mathrm{~mL}(1 / 4 \mathrm{c})\) icing sugar
- drop of water
- oil of peppermint

\section*{Fruit Centres}
- \(60 \mathrm{~mL}(1 / 4 \mathrm{c})\) icing sugar
- 10 mL (2tsp) jam
- food colouring and flavouring (strawberry, orange, lemon)

\section*{Cherry Centres}
- 12 maraschino cherries (well dried)
- \(20-30 \mathrm{~mL}\) ( \(4-6 \mathrm{tsp}\) ) fondant
- 10 mL (2tsp) cherry juice

\section*{Sweet Maries}
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) brown sugar
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) peanut butter
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) corn syrup
- 15 mL (1tbsp) butter
- Melt over low heat, add 250 mL (1c) peanuts, 675 mL (2 1/2c) rice krispies.

\section*{Cream Filling}
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) margarine
- \(75 \mathrm{~mL}(1 / 3 \mathrm{c})\) corn syrup
- \(2 \mathrm{~mL}(1 / 2 \mathrm{tsp})\) salt
- 454 g (1 pound) icing sugar

For later use, store filling in a plastic bag at room temperature.

\section*{Peanut Butter Filling}
- Mix \(1 / 2\) peanut butter and \(1 / 2\) cream filling

\section*{Mocha Filling}
- Dissolve instant coffee in 2 drops of hot water and add to cream filling.

\section*{Turtle Filling}
- 1 can sweetened condensed milk
- Place pan of water on stove (large enough so water will cover the can).
- Bring to a boil and turn down to simmer. Place unopened can in water, cover and simmer for 4 hours. Replenish water if needed. Do NOT Open can until it is cool.
- Add 30 mL (2tbsp) melted butter and a couple handfuls of broken pecans.
OR
- Mix together 12 commercial candy caramels, 15 mL (1tbsp) water and 15 mL (1tbsp) corn syrup.
- Brush turtle shaped molds with chocolate and let harden.
- Press filling into molds with pecans and cover with more melted chocolate.

\section*{Meeting 5 -}

\section*{Fondant}

\section*{Ingredients:}
- \(150 \mathrm{ml}(2 / 3 \mathrm{c})\) butter

- \(150 \mathrm{~mL}(2 / 3 \mathrm{c})\) corn syrup
- \(2 \mathrm{~mL}(1 / 2 \mathrm{tsp})\) salt
- 1 kg ( 2 pounds) icing sugar
- 5 mL (1tsp) flavouring extract - vanilla, or other flavouring

\section*{C M M L}
1. Place butter in bowl, add corn syrup, salt and extract.
2. Stir. Slowly add icing sugar. Stir with each sugar addition.
3. Knead until smooth.
4. Form into small centres for your chocolates and dip in melted chocolate.

\section*{Meeting 5 -}

\section*{Uncooked Fondant}

YIELD: \(1.81 \mathrm{~kg}(4 \mathrm{lb})\)
PREP TIME: 10 minutes

\section*{Ingredients:}
- \(11 / 2 \mathrm{~kg}\) ( 3 lbs ) icing sugar
- \(115-250 \mathrm{~g}(1 / 2-3 / 4 \mathrm{lb})\) butter
- 45 mL (3tbsp) corn syrup
- \(2 m L(1 / 2 t s p)\) vanilla
- 1 can condensed milk
- Dash of salt

\section*{}
1. Cream together butter, corn syrup, condensed milk, vanilla and a dash of salt.
2. Gradually stir in icing sugar. The mixture is stiff.
3. Continue kneading until smooth and not sticky.
4. Store in plastic bag in refrigerator.

\section*{Meeting 5 -}

\section*{Easy Fondant}

\section*{Equipment:}
- Large pot
- Thermometer
- Large cookie sheet
- Clean paint scraper or metal spatula
- Towel

\section*{Ingredients:}
- 500 mL (2c) hot water
- \(1.2 \mathrm{~kg}(6 \mathrm{c})\) white sugar
- 200 mL (3/4c) corn syrup

\section*{}
1. Stir water and sugar together until dissolved in a large pot. Put the pot on the highest heat on the stove and add corn syrup.
2. Bring mixture to a boil without stirring until \(116^{\circ} \mathrm{C}\left(240^{\circ} \mathrm{F}\right)\) - this should take \(6-7\) minutes.
3. Remove from heat and let mixture stand until bubbling stops.
4. Pour the fondant onto a marble, porcelain or formica surface to let it cool. A large cookie sheet with sides, placed on an oven rack can be used (this allows the air flow underneath to promote even cooling).
5. Do not scrape the bowl and do not move the fondant before it has cooled as it could cause the fondant to crystallize (turn back to sugar). Cooling will take 30 minutes.
6. When the fondant is lukewarm, take a clean paint scraper and lift and fold the edges of the fondant to the centre. Move quickly and constantly - in 5 minutes the fondant will look white and creamy. Knead the fondant until smooth and creamy.
7. Keep fondant covered with a damp towel. It can keep for several months in the refrigerator, or can be sealed in a tight container and frozen.

\section*{Meeting 5 -}

\section*{Another Truffle Filling}

YIELD: 50 truffles
PREP TIME: 15 minutes
COOLING TIME: 20 minutes

\section*{Equipment:}
- Large pot
- Foil lined cookie tray

\section*{Ingredients:}
- 454 g (1 pound) candy melts
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) whipping cream

\section*{- hirsicinlonsIN}
1. Chop candy melts coarsely and set aside.
2. Bring cream to a boil, stirring constantly on medium heat.
3. Remove pan from heat and add chopped melts.
4. Cover and let stand for 5 minutes.
5. Stir until smooth and creamy.
6. Refrigerate until firm - 20 minutes or more.
7. Using a spoon, take out small amounts of chocolate and roll into balls, set on foil lined tray to harden.
8. Dip into melted chocolate, then into nuts, sprinkles, cocoa powder, or icing sugar.
9. Store truffles in refrigerator for up to 3 weeks.

\section*{Meeting 5 -}

\section*{Ganache}

This usually refers to a mixture with equal weights of chocolate and cream.

YIELD: enough glaze for a
cake. Leftovers make truffles.
TIME: 20 minutes

When ganache is warm it is a glaze. Glaze: 1 part cream to 3 parts chocolate
When cool it is a spreadable filling and frosting. When refrigerated it can be whipped for a filling and/or frosting or it can be used to form truffles. Light Filling: 1 part cream to 1 part chocolate

Equipment:
- Chopping board
- Chopping knife
- Medium saucepan
- Wooden spoon
- Measuring spoons and cups
- Spatula

\section*{Ingredients:}
- 250 mL ( 8 oz ) semi-sweet or bittersweet chocolate
- 175 mL (3/4c) whipping cream
- 30 mL (2 tbsp) unsalted butter
- flavouring if desired (ie. vanilla, mint)

\section*{}
1. Chop chocolate and set aside.
2. Heat cream and butter in a medium saucepan over medium heat.
3. Just bring to the boiling point.
4. Pour cream immediately over chocolate. If desired add flavouring now.
5. Let sit for 5 minutes.
6. Stir until chocolate is melted and smooth.
7. Use the leftovers from a cake glaze for truffles or for dipping fruit and wafers in. For truffles shape and roll in cocoa or chopped nuts.

\section*{Meeting 5 -}

\section*{Easter Egg Filling}

\section*{Equipment:}
- Large bowl
- Plastic wrap

\section*{Ingredients:}
- 1 can sweetened condensed milk
- 250 mL (1c) butter, softened
- 15 mL (1 tbsp) corn syrup
- 10ML (2 tsp) salt
- \(10 \mathrm{~mL}(2 \mathrm{tsp})\) vanilla
- 2-3L (11-12c) icing sugar

\section*{}
1. Mix first 5 ingredients and then add icing sugar. Mix well.
2. Knead with hands until it holds shape and is smooth and flexible.
3. Shape and cover with plastic. Chill for 4 hours.
4. Coat with melted chocolate and decorate as desired.

\section*{Easter Egg Icing}

Equipment:
- Bowl
- Electric beater
- Damp towel
- Piping bag

\section*{Ingredients:}
- 500-750 mL ( \(2-3 \mathrm{c}\) ) icing sugar
- \(2 \mathrm{~mL}(1 / 2 \mathrm{tsp})\) cream of tartar
- \(2 \mathrm{~mL}(1 / 2 \mathrm{tsp})\) vanilla
- 3 egg whites

\section*{}
1. Beat all ingredients together. Keep covered with damp tea towel when not using. Will make a hard icing.
2. Put in a piping bag and pipe on designs, or make flowers.

\section*{Meeting 5 -}

\section*{Chocolate Fondue}

\section*{Equipment:}
- Medium saucepan
- Wooden spoon
- Whisk
- Measuring cups and spoons
- Spatula
- Fondue pot
- Knife to chop chocolate

\section*{Ingredients:}
- 6-1 ounce squares unsweetened chocolate
- \(375 \mathrm{~mL}(11 / 2 \mathrm{c})\) sugar
- 250 mL (1c) light cream
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) butter or margarine
- \(0.5 \mathrm{~mL}(1 / 8 \mathrm{tsp})\) salt
- 45 mL (3tbsp) crème de cacao or other flavouring

\section*{}
1. In a saucepan, melt chocolate over low heat. Add sugar, cream, butter and salt.
2. Cook, stirring constantly about 5 minutes or until thickened.
3. Stir in flavouring.
4. Pour into a fondue pot and place over fondue burner.
5. Dip fruit, angel food cake, pound cake, apples, cherries, and marshmallows.

\section*{Meeting 5 -}

\section*{Classic Chocolate Fondue Recipe}

\section*{Equipment:}
- Medium saucepan
- Wooden spoon
- Whisk
- Measuring cups and spoons
- Spatula
- Fondue pot
- Knife to chop chocolate

\section*{Ingredients:}
- \(175 \mathrm{~mL}(3 / 4 \mathrm{c})\) heavy cream
- 375 g (12 oz) bittersweet or semisweet chocolate (finely chopped)
- 15 mL (1 tbsp) flavouring of choice (vanilla, mint)

\section*{}
1. Heat cream to simmering in a medium saucepan. Lower heat and add chocolate.
2. Let stand until chocolate is softened (about 3 minutes). Add flavouring and whisk until smooth.
3. Transfer to fondue pot and keep warm with burner.
4. Serve immediately.

\section*{Meeting 5 -}

\section*{Chocolate Peanut Popcorn}

YIELD: 3.5L (14c)
TIME: 60 minutes

\section*{Equipment:}
- Roasting pan
- Heavy saucepan
- Wooden spoon
- Measuring cups and spoons
- Baking sheet

\section*{Ingredients:}
- 3L (12 c) popped popcorn
- \(560 \mathrm{~mL}(21 / 4 \mathrm{c})\) salted peanuts
- \(425 \mathrm{~mL}(13 / 4 \mathrm{c})\) milk chocolate chips
- \(250 \mathrm{~mL}(1 \mathrm{c})\) corn syrup
- \(60 \mathrm{~mL}(1 / 4 \mathrm{c})\) butter

\section*{- IIrcicinionsin}
1. Combine popcorn and nuts in a greased roasting pan, set aside.
2. In a heavy saucepan, melt chocolate chips, corn syrup and butter, stirring constantly. Bring to a boil, pour over popcorn, tossing well to coat.
3. Bake at \(150^{\circ} \mathrm{C}\left(300^{\circ} \mathrm{F}\right)\) for \(30-40\) minutes, stirring every 10 minutes.
4. Remove from oven, stir and allow to cool slightly in pan.
5. Cool completely on a baking sheet lined with waxed paper.
6. Store in an airtight container.

\section*{Meeting 6 -}

\section*{Standard 2-Egg Cake}

YIELD: 1 layer cake
PREP TIME: 20 minutes
BAKING TIME: 25 minutes

Equipment:
- Large, medium and small mixing bowls
- Measuring cups and spoons
- Waxed paper (for lining cake pans)
- 2 - 20 cm ( 8 in ) cake pans
- Spatula
- Spray-on oil
- Wooden spoon
- Cooling rack

Ingredients:
- 500 mL (2c) all-purpose flour
- \(17 \mathrm{~mL}(31 / 2 \mathrm{tsp})\) baking powder
- \(2 \mathrm{~mL}(1 / 2 \mathrm{tsp})\) salt
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) shortening or butter
- 250 mL (1c) white sugar
- 2eggs
- 250 mL (1c) milk
- \(5 \mathrm{~mL}(1 \mathrm{tsp})\) vanilla

\section*{- ||r xcindTohsIN}
1. Preheat oven to \(190^{\circ} \mathrm{C}\left(375^{\circ} \mathrm{F}\right)\)
2. Grease, flour and line 2-20cm(8in) cake pans.
3. Mix and sift dry ingredients.
4. Cream butter well, add sugar, beat well.
5. Beat eggs and add to butter mixture. Beat until light and fluffy. Add dry ingredients alternately with milk, beginning and ending with flour. Add flavouring, stir to combine. Bake 25 minutes.

Variations:
Marble Cake - Divide the batter into 2. Add 1 square of melted unsweetened chocolate, 10 mL ( 2 tsp ) sugar, 0.5 mL ( \(1 / 8 \mathrm{tsp}\) ) baking soda and 10 mL ( 2 tsp ) hot water. Leave \(1 / 2\) batter plain and put in pans, add above to the other half. Drop spoonfuls of the chocolate batter on top of the plain batter and swirl to get a marbled effect.

Spice Cake- Add 5mL (1 tsp) cinnamon, 2 mL (1/2 \(\mathrm{tsp})\) ginger, \(2 \mathrm{~mL}(1 / 2 \mathrm{tsp})\) nutmeg and \(1 \mathrm{~mL}(1 / 4\) tsp ) allspice to the dry ingredients.

Maple Nut Cake - Replace vanilla with 2 mL ( \(1 / 2 \mathrm{tsp}\) ) maple flavouring. Fold in 125 mL ( \(1 / 2 \mathrm{c}\) ) finely chopped walnuts.

Orange Cake - Substitute 175 mL (3/4c) orange juice for the milk. Add the grated rind of 1 orange. Reduce baking powder to 5 mL ( 1 tsp ) and add 2 mL ( \(1 / 2 \mathrm{tsp}\) ) soda.

Boston Cream Pie - Put layers of cake together with a cream filling. Top with whipped cream or a chocolate frosting or a chocolate glaze.

Cream Filling - 75 mL ( 5 tbsp ) flour, 125 mL ( \(1 / 2 \mathrm{c}\) ) white sugar, 2 mL ( \(1 / 2 \mathrm{tsp}\) ) salt. Mix and slowly add 500 mL (2c) scalded milk. Cook in a double boiler.
Slowly add the hot mixture to 2 beaten eggs. Cook briefly. Remove from heat and add 5 mL ( 1 tsp ) vanilla. Cool and use as filling between layers of cake.

\section*{Meeting 6 -}

\section*{Chocolate Cake}

\section*{Equipment:}
- Large, medium and small mixing bowls
- Measuring cups and spoons
- Waxed paper (for lining cake pans)
- \(22 \times 33 \mathrm{~cm}\) ( \(9 \times 13\) inch) cake pan
- Spatula
- Spray-on oil
- Wooden spoon
- Cooling rack

Ingredients:
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) cocoa
- \(725 \mathrm{~mL}(11 / 2 \mathrm{c})\) white sugar
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) water
- 250 mL (1c) sour cream (fresh milk +5 mL (1tsp) vinegar)
- 500 mL (2c) sifted cake flour
- 5 mL (1 tsp) baking soda
- 5 mL (1 tsp) salt
- \(5 \mathrm{~mL}(1 \mathrm{tsp})\) vanilla
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) shortening or butter
- 2 eggs

\section*{- MrexinitonsIN}
1. Cook cocoa, \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) white sugar and water for 5 minutes, stirring constantly to keep from burning.
2. Let mixture cool and add soured cream (fresh milk +5 mL (1tsp) vinegar).
3. Cream together the flour, butter, eggs and 250 mL (1c) white sugar.
4. Add flour mixture alternately with chocolate and milk mixture. Beat well.
5. Add vanilla.
6. Pour batter into \(22 \times 33 \mathrm{~cm}(9 \times 13 \mathrm{in})\) pan lined with waxed paper or greased.
7. Bake at \(175^{\circ} \mathrm{C}\left(350^{\circ} \mathrm{F}\right)\) for 45 minutes.
8. Frost with favourite icing.
9. This cake will keep moist for a week.

\section*{Meeting 6 -}

\section*{Chocolate Cherry Cake}

\section*{Equipment:}

\title{
YIELD: 10 large servings PREP TIME: 15 minutes \\ BAKING TIME: 30 minutes
}
- \(22 \times 33 \mathrm{~cm}\) ( \(9 \times 13\) inch) cake pan
- Large mixing bowl
- Wooden spoon
- Small saucepan

Ingredients:
- 1 package chocolate cake mix - 2 layer size
- 2 eggs
- Spatula
- Measuring spoons and cups
- Wooden skewer or toothpick
- Wire cooling rack

\section*{}
1. By hand, combine cake mix and eggs, beat until well blended (this will be dry). Add pie filling, mix thoroughly. Blend in extract.
2. Pour batter into a greased and floured \(22 \times 33 \mathrm{~cm}(9 \times 13\) inch \()\) cake pan.
3. Bake in preheated \(175^{\circ} \mathrm{C}\left(350^{\circ} \mathrm{F}\right)\) oven for \(25-30\) minutes, or until cake tests done.
4. Let cool on wire rack while preparing frosting.

\section*{Frosting:}

Ingredients:
- 75 mL ( 5 tbsp ) butter or margarine
- 250 mL (1c) white sugar
- \(75 \mathrm{~mL}(1 / 3 \mathrm{c})\) milk
- 6 oz (3/4c) chocolate morsels or chips

\section*{}
1. Combine butter, milk and sugar in saucepan. Bring to a boil and boil for 1 minute.
2. Add chocolate morsels, beat by hand until melted.
3. Remove from heat and let cool.
4. Beat by hand again until thick.
5. Poke holes in the top of the cake.
6. Pour frosting over top, spread to cover.

\section*{Meeting 6 -}

\section*{Syrup for Homemade Chocolate Milk}

YIELD: 1 cup of syrup,
16 cups of chocolate milk PREP TIME: 5 minutes
Equipment:
Medium pot
Spatula
Glass jar or container with tightly sealed lid
Ingredients:
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) cocoa powder
- 250 mL (1c) white sugar
- \(0.5 \mathrm{~mL}(1 / 8 \mathrm{tsp})\) salt
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) water
- \(15 \mathrm{~mL}(1 \mathrm{tbsp})\) vanilla extract

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To Make Syrup:
1. Combine the cocoa, sugar and salt in pot.
2. Slowly mix in water to make a smooth paste.
3. Add vanilla.
4. Move pot on to high heat and bring to a boil, stirring constantly.
5. Once the syrup comes to a boil, reduce the head to medium high and boil for 2 minutes.
6. Cool, and keep well sealed in the fridge for up to 2 weeks.

To Make Chocolate Milk:
1. Add 15 mL ( 1 tbsp ) of syrup to 250 mL (1c) of milk.
2. Mix vigorously.

\section*{Extra Recipe -}

\section*{Chocolate Sauce}

Great for a sundae!

\section*{Equipment:}

- medium sized pot
- spatula
- measuring spoons and cups
- knife

Ingredients:
- 2 oz unsweetened chocolate
- \(15 \mathrm{~mL}(1 \mathrm{tbsp})\) butter
- 60 mL (1/3c) water
- 250 mL (1c) sugar
- 30 mL ( 2 tbsp ) corn syrup

\section*{}
1. Melt and stir all ingredients.
2. Boil over direct heat for 3-5 minutes without stirring.
3. Warm over double boiler or serve cold. Add to milk or milkshakes or serve over ice cream. Stores in the refrigerator for a few months.

\section*{Extra Recipe -}

\section*{Chocolate Pudding}

\section*{Equipment:}
- 2 L (8c) glass measure
- whisk
- measuring cups and spoons
- spatula
- plastic wrap or waxed paper
- serving dishes

\section*{Ingredients:}
- \(150 \mathrm{~mL}(2 / 3 \mathrm{c})\) sugar
- 45 mL (3 tbsp) cornstarch
- \(50 \mathrm{~mL}(1 / 4 \mathrm{c})\) cocoa
- pinch salt
- 500 mL (2c) milk
- \(7 \mathrm{~mL}(11 / 2 \mathrm{tsp})\) vanilla

\section*{- |ilcicialions \(N\)}
1. Combine sugar, cornstarch, salt and cocoa in a 2 L (8c) glass measure. Gradually whisk in milk until smooth.
2. Microwave uncovered at high for 6-8 minutes, whisking every 2 minutes until mixture comes to a boil and thickens.
3. Stir in vanilla. Cool slightly and pour into serving dishes. To prevent a skin forming, place a piece of plastic wrap or waxed paper directly on the surface of the pudding.
4. Chill until set, about 2 hours.

\section*{Extra Recipe -}

\section*{Fudge Pops}

YIELD: 12
TIME: 20 minutes
FREEZING TIME: 2 hours

\section*{Equipment:}
- Mixing bowl
- Plastic cups or popsicle molds
- Electric beater
- Wooden sticks
- Wooden spoon measuring cups and spoons
- Spatula

\section*{Ingredients:}
- 1 ( 3.9 oz ) package instant chocolate pudding mix
- \(125 \mathrm{~mL}(1 / 2 \mathrm{c})\) white sugar
- 750 mL (3c) milk
- 250 mL (1c) whipped whipping cream

\section*{}
1. In a mixing bowl, combine pudding, sugar and milk.
2. Fold in whipped cream.
3. Pour mixture into small plastic cups or popsicle molds and freeze.
4. When partially set, put a wooden craft stick into them if using the plastic cups.
5. Serve when frozen.

\section*{Extra Recipe -}

\section*{Chocolate Jelly Roll}

Equipment:

YIELD: 6 servings
PREP TIME: 20 minutes
BAKING TIME: 10-12 minutes
- Electric beater
- Spatula
- Medium bowl
- Jelly roll pan \(-25 \times 38 \mathrm{~cm}\) (10×15 in)
- Tea towel
- Waxed paper
- Measuring cups and spoons

Ingredients:
- 4 large eggs
- \(150 \mathrm{~mL}(2 / 3 \mathrm{c})\) white sugar
- \(2 \mathrm{~mL}(1 / 2 \mathrm{tsp})\) vanilla
- \(175 \mathrm{~mL}(3 / 4 \mathrm{c})\) all purpose flour
- \(75 \mathrm{~mL}(1 / 3 \mathrm{c})\) sifted cocoa
- 20 mL ( 4 tsp ) warm water
- icing sugar

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1. Combine eggs, sugar and vanilla in medium bowl. Beat well until mixture is thick.
2. Sift flour and cocoa, and fold in.
3. Add water. Fold together.
4. Turn onto greased and waxed paper lines \(25 \times 38 \mathrm{~cm}(10 \times 15 \mathrm{in})\) jelly roll pan.
5. Bake at \(205^{\circ} \mathrm{C}\left(400^{\circ} \mathrm{F}\right)\) for \(10-12\) minutes.
6. Turn out onto tea towel dusted with icing sugar.
7. Remove waxed paper.
8. Trim crisp edges.
9. Carefully roll up cake from short end with the towel.
10. When cool, unwrap and fill with your favourite filling.

\section*{Extra Recipe-}

\section*{Chocolate Caramel Filling}

This is a great filling for the Chocolate Jelly Roll.

YIELD: 1.25L (5c)
TIME: 15 minutes

\section*{Equipment:}
- Electric beaters
- Medium mixing bowl
- Spatula
- Measuring cups and spoons

\section*{Ingredients:}
- 2 envelopes of dessert topping
- 250 mL (1c) milk
- 60 mL 91/4c) cocoa
- \(60 \mathrm{~mL}(1 / 4 \mathrm{c})\) icing sugar
- \(0.5 \mathrm{~mL}(1 / 8 \mathrm{tsp})\) salt
- 3 chocolate caramel bars, finely chopped

\section*{}
1. Beat topping and milk until stiff.
2. Add cocoa, beat well.
3. Beat in icing sugar and salt.
4. Fold in chopped candy bars.

\section*{Extra Recipe -}

\section*{Baked Alaska}

This is made using jelly roll slices.
- 6 slices chocolate jelly roll

YIELD: 6 servings
PREP TIME: 20 minutes
COOKING TIME: 3-4 minutes
- 6 scoops of chocolate or strawberry ice cream

Equipment:
- Small mixing bowl
- Electric beaters
- Measuring cups and spoons
- Spatula
- Baking sheet
- Ice cream scoop

\section*{Meringue:}

Ingredients:
- 2 large egg whites
- \(1 \mathrm{~mL}(1 / 4 \mathrm{tsp})\) cream of tartar
- \(60 \mathrm{~mL}(1 / 4 \mathrm{c})\) white sugar

\section*{dilrexandionsin}

To Make the Meringue:
1. Beat egg white and cream of tartar in small bowl until almost stiff.
2. Add sugar gradually until stiff and sugar is dissolved.

To Make the Baked Alaska:
1. Arrange jelly roll slices on ungreased baking sheets.
2. Place scoop of ice cream on each slice.
3. Divide meringue and spread over ice cream, covering completely to the edge of the jelly roll.
4. Freeze.
5. Bake at \(230^{\circ} \mathrm{C}\left(450^{\circ} \mathrm{F}\right)\) for \(3-4\) minutes until lightly browned.```

