Fairfield County

Candy Making Project

Project #1005

Name _______________________________________ Age (Jan. 1)___________________

Address __________________________________________________________________

Club Name ________________________________________________________________

Advisor Name(s) ____________________________________________________________
Introduction to Candy Making

The purpose of this project book is to help guide 4-Hers in learning the precise skill and art of candy making, a skill that lasts a lifetime. Making candy can create memories with family members and help youth learn about family traditions and culture. Candy making calls for careful measuring, exact timing, controlled temperatures and special techniques. This project is a way for 4-H youth to develop skills to express their creativity and to learn about opportunities for a career in the confectioner’s industry. Safety is a major concern when working with high temperatures and/or sugar syrup. An adult should be present when doing the experiments and making candy. Know how to prevent accidents. Learn what to do if an accident occurs by doing the safety activity before starting your candy project.

Objectives: 4-H’ers will be able to:
- Demonstrate safety practices when making candy.
- Produce different types of candy through candy making experiments.
- Become skilled in comparing cost of ingredients and cost of retail candy.
- Analyze how to correct flaws when making candy.

Contents
Member’s Project Guidelines – Candy Making at Fairfield County Fair .................................................... 5
Project Guidelines: ........................................................................................................................................5
First and Second Year Candy Making.......................................................................................................... 5
Advanced Candy Making (3rd year and beyond).......................................................................................... 5
Safety…Read Before Beginning to Make Your Candy ............................................................................... 6
Build a Healthy Eating Style ........................................................................................................................ 6
Equipment Needed for Making Candy........................................................................................................ 7
Tips for Equipment Use................................................................................................................................ 8
Types of Candy Thermometers .....................................................................................................................9
Terms to Know ........................................................................................................................................... 10
Measuring................................................................................................................................................... 11
Chocolate Dipping...................................................................................................................................... 12
Tips for Dipping Chocolate ........................................................................................................................ 12
Activities for 1st and 2nd Year Candy Making ............................................................................................ 13
Safety in the Kitchen ...................................................................................................................................13
Experiments for 1st and 2nd Year Candy Making ........................................................................................ 14
Dippers in Chocolate ...................................................................................................................................14
Thinning your chocolate..............................................................................................................................15
Recipes for 1st and 2nd Year Candy Making ............................................................................................... 18
Family Traditions...................................................................................................................................... 23
ADVANCED CANDY MAKING – (For 3rd Year and Beyond)................................................................. 24
Types of Candy .......................................................................................................................................... 24
Tips for Making Crystalline Candies........................................................................................................ 25
Tips for Making Non-Crystalline Candies .................................................................................................. 25
Tips for Testing Stages of Sugar Syrup ...................................................................................................... 25
Experiment: Boiling Points ....................................................................................................................... 26
Experiment: Basic Crystalline Candy - Fondant .......................................................................................... 27
Answer Questions About the Fondant Experiment ...................................................................................... 27
Experiment: Non-Crystalline Candy – Peanut Brittle .................................................................................. 28
Answer Questions About Peanut Brittle .................................................................................................... 28
Recipes for Advance Candy Making (3rd Year and Beyond): ................................................................. 28
Packaging Candy ....................................................................................................................................... 31
Check-off list…are you ready for Candy Judging? ...................................................................................... 33
How Your Candy is Evaluated ................................................................................................................... 33
Chart Your Expenses ................................................................................................................................. 34
Member’s Project Guidelines – Candy Making at Fairfield County Fair

Project Guidelines
1. Before beginning project work, become familiar with the contents of this book and complete safety activity on page 12.
2. Complete all experiments in the category you have selected (1st & 2nd Year or Advanced).
3. Complete the “Chart Your Expenses” on the last page.
4. Remember to have an adult present for safety reasons when doing the experiments and making candy.
5. Members are to bring candy individually wrapped to the 4-H Display Barn during setup on Saturday 1:00-7:00 P.M. or Monday morning between 7:30 -10:00 A.M.. (No candy accepted on Sunday).
6. Candy, Pies and Cake Decorating projects are judged at the 4-H Display Barn on Monday from 3:00-6:00 P.M. Bring your completed project book, the recipes you made and participate in an interview to be considered for placement.
7. Awards will be announced at posted time after judging.

First and Second Year Candy Making
1. If this is your first or second year to enter Candy Making (all ages), you are required to complete this section.
2. Read the safety section on page 6 and complete safety quiz on page 13.
3. Complete the “Chart Your Expenses” for each recipe tested, page 34.
4. Read pages 6-10.
5. Practice by making 3 different types of recipes which include: melting chocolate on the stove top or in the microwave, or other types of candy by melting the ingredients, mixing ingredients and forming into shapes, or putting into a mold. Suggested items to dip in chocolate are: nuts, pretzels, fruit (dried or fresh).
6. 1st and 2nd year category is NOT for heating candy to a soft or hard ball stage.
7. For judging: bring two pieces of three different kinds of candy individually wrapped using the melting process. Plates will be supplied at judging.
8. Bring your project book and recipes to the interview judging.

Advanced Candy Making (3rd year and beyond)
1. This project is for those who have completed 2 years of the candy making project and have been through the judging process at our county fair.
2. Read the safety section on page 6 and complete the questionnaire on page 13.
3. Complete the “Chart Your Expenses” on page 34 for each recipe made.
4. Read pages 6-10.
5. Read the advanced candy making section pages 24-32.
7. Practice by making three different types of crystalline candy and three different types of non-crystalline candy.
8. For judging: two pieces of four different types of candy individually wrapped (two crystalline and two non-crystalline) for a total of eight pieces. Plates will be supplied at judging. (See project book page 25 for definition of crystalline and non-crystalline).
9. Bring your recipes and project book to the interview judging.
Safety…Read Before Beginning to Make Your Candy

Simple preventive measures can avoid most accidents.

1. Always turn the handle of the pan away from the front of the stovetop to lessen the chance of knocking the pan from the stove.
2. Use oven mitt or potholders when taking hot mixtures from the microwave or stove top.
3. **Beginners:** Prepare the chocolate or ingredients in a double boiler, electric melting pot or in the microwave safe dish in the microwave
4. **Advanced:** Prepare the ingredients in a pan suitable for low to medium temperature and direct surface heating units. Make sure the pan is large enough, so the candy doesn’t boil over. Carefully watch the syrup, whether or not a thermometer is being used. If you must leave the syrup while it is cooking, remove it from the heat source while you are away. It could burn, boil over or over cook.
5. Remember to read the recipe completely before beginning. Assemble all the ingredients and equipment before starting. Don't substitute or alter the recipe's basic ingredients.
6. Before starting, wash hands with soap and water for 20 seconds (sing the birthday song twice), rinse well and dry. Make sure your nails are clean too.
7. Burns: if the area burned is larger than your hand, treat as a third degree burn and get help! Keep a large clean bowl with cold water by the stove for small spatter burns, as hot candy syrup can splatter or spill and cause burns. Put the area burned in the cold water or run under cold water immediately until the pain stops. Apply a sterile dressing. Get treatment from a doctor.

Build a Healthy Eating Style

All food and beverage choices matter – focus on variety, amount, and nutrition.

- Focus on making healthy food and beverage choices from all five food groups including fruits, vegetables, grains, protein foods, and dairy to get the nutrients you need.
- Eat the right amount of calories for you based on your age, sex, height, weight, and physical activity level.
- Building a healthier eating style can help you avoid overweight and obesity and reduce your risk of diseases such as heart disease, diabetes, and cancer.

Choose an eating style low in saturated fat, sodium, and added sugars.

- Use Nutrition Facts labels and ingredient lists to find amounts of saturated fat, sodium, and added sugars in the foods and beverages you choose.
- Look for food and drink choices that are lower in saturated fat, sodium, and added sugar.
  - Eating fewer calories from foods high in saturated fat and added sugars can help you manage your calories and prevent overweight and obesity. Most Americans eat too many foods that are high in saturated fat and added sugar.
  - Eating foods with less sodium can reduce your risk of high blood pressure.
  - Desserts full of sugar and fat should only be eaten occasionally, one or two times a week.
  - For snacks, consider eating vegetables or fruits

Be Physically Active

- Children need at least 60 minutes every day. Children and adolescents should include muscle- and bone-strengthening activities, like climbing and jumping, at least 3 days a week.

- See more at: [http://www.choosemyplate.gov/](http://www.choosemyplate.gov/)
## Food Safety in the Kitchen

www.fsis.usda.gov

### Clean
- Hands and food-contact surfaces
- Wash hands thoroughly!

### Separate
- Wash cutting boards, knives, utensils and countertops in hot soapy water before and after preparing each food. Use paper towels.

### Cook
- Use different cutting boards for raw meats and fruits and vegetables.
- Never serve food on a plate that touched raw meat, poultry or eggs. Wash in hot soapy water.
- Use a thermometer when cooking meats and poultry.
- Reheat foods – to a boil. Canned food – boil for 10 minutes, except fruit.

### Chill
- Refrigerate perishable foods promptly within an hour
- Bacteria multiply rapidly between 40 and 140 ° F. Cool food in shallow containers, limit depth of food to 2” or less.

### Equipment Needed for Making Candy

- Electric melting pot
- Microwave safe dish
- Microwave oven
- Candy thermometer
- Flat wooden stirring paddles or spoons
- Liquid and dry measuring cups
- Measuring spoons
- Small, medium and large sized heavy pots
- Double boiler – making fondant, melting chocolate
- Glass canning jar with lid – for melting chocolate
- Baking sheets with and without edges, baking pan (9x13)
- Large platter
- Steel spatula with a stiff blade
- Small clean brush and a basting brush
- Toothpicks
- Household scale
- Wax paper, brown wrapping paper, and aluminum foil
- Cooling racks
- Candy fork
Tips for Equipment Use

- Assemble all necessary measuring tools
- Assemble all ingredients and prepare pans for candy
- Put potholders by stove
- Read the recipe through completely before starting to make candy
- Make sure the candy thermometer bulb does not touch the bottom of the pan *see equipment note
- Keep a bowl of cold water near the stove for spoons, etc.
- Damp cloth for wiping up spills
- Do not leave candy cooking on the stove…you need to stay with it, as it can burn easily, stick to the bottom of the pan, or boil over.

*Equipment note: candy thermometers

- When purchasing a candy thermometer, look for one with a clear readout and an adjustable clip so it can be attached to the side of a pan. To use the thermometer, stand it upright in the candy syrup so the bulb is completely immersed in the liquid. Do not let the bulb touch the bottom of the pan. Clip it in place.
- It is recommended that you test your candy thermometer before each use by bringing water to a boil; the thermometer should read 212° F. Adjust your recipe temperature up or down based on your test.
- Clean candy thermometer after each use. Store cleaned thermometer in a cup of warm water while using. Wipe the thermometer clean with a towel every time you dip it in the pot -- be careful, it's hot. If you put it under cold water when hot, it will shatter. Never put the thermometer in the pot when it's wet; it must be clean and dry EVERY TIME.

Reference:  www.sweetfudge.com
Types of Candy Thermometers

A candy thermometer provides the easiest method of achieving accurate consistency of the different stages of candy making. The thermometer has a movable clip that is used to connect and hold the thermometer to the side of the pan. The clip is adjustable so that the depth of the thermometer can be changed for different depth pans. To achieve an accurate reading the thermometer clip must be aligned on the thermometer so that it keeps the bulb from touching the bottom of the pan. Most candy thermometers will have the different stages of candy making marked on the temperature scale. These stages correspond to the cold water test for candy making.

<table>
<thead>
<tr>
<th>Thermometer Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traditional Glass Tube Candy Thermometer</strong></td>
<td>Traditional glass tube thermometers are built with vertical scales, which often have colored bars that serve as measures to display temperatures readings at various levels when they are reached.</td>
</tr>
<tr>
<td><strong>Ruler Style Candy Thermometer</strong></td>
<td>Ruler-style thermometers are built with vertical scales similar to the glass tube thermometer but the thermometer is designed more like a metal ruler. There are often different levels marked on the thermometer that indicate the various stages of the sugar mixture so that it is easier to determine when they are reached.</td>
</tr>
<tr>
<td><strong>Dial Readout Candy Thermometer</strong></td>
<td>Dial readouts will display temperature levels registered on a full circle of numbers to show when various levels are achieved. This type of thermometer will often be designed with a steel shaft probe sensor that is inserted into the liquids or substance to take the heat reading.</td>
</tr>
<tr>
<td><strong>Digital Candy Thermometer</strong></td>
<td>Digital readout thermometers, which are battery operated, will typically display each temperature range as the heat reaches the levels of soft ball, hard ball, soft crack, and the other designated levels. Other features on the digital readout thermometers may include beeping tones to signal when set temperatures are reached.</td>
</tr>
</tbody>
</table>

Reference: [www.recipetips.com](http://www.recipetips.com)
Terms to Know

Baking Soda - Pure sodium bicarbonate; do not substitute baking powder.

Batch - The total amount of the candy being made at the time specified.

Beat - To mix with a vigorous “over and over” motion with a spoon, wire whip, or rotary beater. To mix air into the mixture.

Boil - To cook a substance to the point where it begins to bubble, breaking the surface and giving off steam.

Caramelize - To cook sugar (or other food) slowly until it becomes brown and sweet.

Chill - To become thoroughly cold but not frozen.

Combine - To mix unlike ingredients.

Crystallize - The process of causing small sugar crystals to form on the outside of a piece of candy.

Cure - The time a fondant is allowed to stand and ripen, becoming smooth in texture before making fondant into pieces.

Fondant - A basic crystalline candy.

Hard Crack - Any candy, generally plain sugar candy, which is cooked so high that it hardens: lollipops, peanut brittle, etc.

Humidity - Humidity will affect candy making. On humid days, cook the candy longer, or wait for a dry, cool day.

Margarine - Use margarine with 80% fat or higher, or use butter. Do not use low fat, diet or whipped margarine as it has too much water for making candy.

Paper Cup - Small crinkled paper cups in which candy is packed.

Slab - A hard flat heat resistant surface upon which candy can be made.

Unsweetened Chocolate

- Bitter chocolate, also called chocolate liquor. May substitute 2½ tablespoons of cocoa, plus 1½ teaspoon butter or margarine. This equals 1 ounce square of unsweetened chocolate
3 Ways to Melt Chocolate

Double Boiler Pan

Electric Melting Pot

Microwave Oven *Always Use Microwave Safe Containers!*
Measuring

- Check your recipe, if quantity of ingredients is given in cups or fractions use measuring cups.
- If the quantity is given in ounces, the ingredients should be weighed out on a food scale.
- Use measuring spoons as indicated.
- It is not advisable to double a candy recipe. Make several single batches.

Chocolate Dipping

1. Use at least 1 pound of grated or finely chopped chocolate in an electric melting pot or in the microwave safe dish in the microwave or in the top of a double boiler.
2. When using a double boiler,
   a. Place pan over hot, not boiling water, (115-120°F), with water touching top pan. Stir until melted. Do not let any water get into the chocolate
   b. Exchange hot water for cold in bottom of double boiler, stir and cool chocolate to 83°F.
   c. Then exchange cold water for warm (85°F).
3. If using an electric melting pot or the microwave oven for melting chocolate, follow manufacturer instructions
4. You will need to work rapidly, drop food (nut, fruit, centers) in chocolate, remove with fork.
5. Drop onto wax paper covered cooling rack. If chocolate becomes too stiff, reheat over hot water in double boiler, or in an electric melting pot, or microwave oven and then continue dipping.

Tips for Dipping Chocolate

- If you do not have a double boiler type pan, electric melting pot, or microwave oven, place chocolate in a tall jar and set jar in a pan of warm water on the stove on low heat to melt.
- Do not get any drops of water in the chocolate, if you do, the whole batch will be ruined and it will turn whitish.
- For molded candy: pour into the mold slowly and do not run the chocolate over the mold sides. If the chocolate is too hot it will seep out of the molds
- Cool your candy molds in the refrigerator.
- Place dipped chocolate candy on wax paper on a tray, cool in the refrigerator when weather is hot.
- Remember the weather: humidity and temperature will greatly affect the outcome of your chocolate pieces.

References:
Activities for 1st and 2nd Year Candy Making

Complete two of the following activities:

Leadership/Citizenship/Career Activities:
- Prepare a talk, demonstration, or display to tell others about something you learned in your project.
- Take part in a community service projects.
- Ask someone to speak to your club on Candy Making
- Help members prepare a club display for county fair.

<table>
<thead>
<tr>
<th>Plan To Do</th>
<th>Date Completed</th>
<th>Leadership/Citizenship/Career Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Safety in the Kitchen

Write your answers below to these questions.

1. Why is it important to practice safety in the kitchen when making candy?

2. Why turn the handle of the pan away from the front of the cooking unit?

3. How long should you wash your hands before beginning to make candy or any foods?

4. Should you clean under your fingernails before preparing food or candy? Why?

5. Should an adult help you while you are making candy? Why?

6. What should you do if you get burned by hot candy mixture?
Experiments for 1st and 2nd Year Candy Making

Dippers in Chocolate
Preparation time: 30 minutes
1. Melt ½ pound of chocolate over warm water in a double boiler, electric melting pot, or in the microwave (follow the directions for your microwave, electric melting pot, or jar method). Break chocolate into small pieces and put into correct container for method of melting.
2. Wash fruit and dry before dipping.
3. Dip items in chocolate (nuts, caramels, pretzels, marshmallows, banana slices, grapes or strawberries, etc.) using a dipping fork or toothpick.
4. Place on cooling rack that has been covered with wax paper.
5. Cool in refrigerator until chocolate has set.

What method did you use to melt the chocolate? ______________________________________________________________________

Did the chocolate melt easily? ______________________________________________________________________

Did you have any problems dipping the food items? ______________________________________________________________________

Did the chocolate become stiff and difficult to dip? What did you do? ______________________________________________________________________

What will you do differently next time? ______________________________________________________________________

Repeat the experiment for melting and dipping with different types of chocolate – chips bought in the cooking section at the grocery, Wilton type candy melts from the craft section and higher quality chocolate from a candy store. Record your results in the table below.

<table>
<thead>
<tr>
<th>Type of Chocolate</th>
<th>Melting method</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Thinning your chocolate

There are several methods to thin chocolate. Here are some examples.

**Cocoa Butter Method** Chop or coarsely grate your chocolate, so it will melt more quickly and evenly. Transfer the chocolate to *an electric melting pot or to a #heatproof mixing bowl.

Grate 2 to 4 tablespoons of pure, solid cocoa butter. Use a very fine grater, so the cocoa butter is light and fluffy.

*If using bowl, place the bowl of chocolate in or over a pot of hot water. The water should be barely hot, ideally no more than 130 to 140 degrees Fahrenheit. Stir continuously once the chocolate begins to melt, to ensure that temperature remains as even as possible throughout. Remove the bowl of chocolate from water bath once only a few small lumps are visible. Stir until they've disappeared, then add your cocoa butter approximately one tablespoon at a time. Continue stirring and adding cocoa butter until the chocolate reaches a suitable consistency. If you find it begins to re-thicken as you work, that simply means it's beginning to cool and set. Return the bowl to water bath for a few moments, stirring the chocolate to equalize the temperature, then go back to your task.

*If using an electric melting pot, place chocolate in pot on melt and stir continuously once the chocolate begins to melt, to ensure that its temperature remains as even as possible throughout. Stir until lumps have disappeared, then add your cocoa butter approximately one tablespoon at a time. Continue stirring and adding cocoa butter until the chocolate reaches a suitable consistency.
Alternative Fats and Oils Method

Grate or chop your chocolate into coarse pieces of roughly consistent size. Place them in *an electric melting pot or in a #heatproof bowl.

#Warm the chocolate gently over hot water, stirring continuously once it begins to melt. Alternatively, microwave it at half-power in 20-second increments, stirring after every stint in the microwave, until it's almost fully melted. Remove the bowl of chocolate from the water bath or microwave. Pour in up to a tablespoon of a neutral-flavored oil -- such as canola oil -- in a very thin stream, stirring continuously. Alternatively, for a richer finished product, add a similar quantity of softened butter and stir it in until it melts. Continue stirring and adding oil or butter until the chocolate reaches your desired consistency. You might need to re-warm the bowl of chocolate occasionally, especially if you're using butter.

*If using an electric melting pot, place chocolate in pot on melt and stir continuously once the chocolate begins to melt, to ensure that its temperature remains as even as possible throughout. Pour in up to a tablespoon of a neutral-flavored oil -- such as canola oil -- in a very thin stream, stirring continuously. Alternatively, for a richer finished product, add a similar quantity of softened butter and stir it in until it melts. Continue stirring and adding oil or butter until the chocolate reaches your desired consistency. You might need to re-warm the bowl of chocolate occasionally, especially if you're using butter.

Ganache Method
Weigh your chocolate on a kitchen scale, then break, chop or grate it into smaller pieces. If you have no scale, start with a known quantity of chocolate such as a 1-pound block or perhaps 3 or 4 of your favorite 3.5-ounce gourmet chocolate bars. Place the chocolate in a heatproof bowl.

Pour 1 part heavy cream into a microwaveable measuring cup, for every 3 parts of chocolate. If you don't have a scale, the old saying that "a pint is a pound" is a close approximation. If you're using a pound of chocolate, you'll need 1/3 of a pint of heavy cream, or 2/3 cup.

Heat the cream in your microwave until it's at the verge of boiling, 1 to 2 minutes depending on the power of your microwave.

Pour the hot cream over your coarse pieces of chocolate. Stir with a wooden spoon or silicone spatula until the chocolate has entirely melted and the liquid is smooth. It will look messy and lumpy at the beginning, but this is normal. Just keep on stirring, and it will inevitably come together.

Dip your sweets or fruit in the thinned ganache, or pour it as a shiny, smooth glaze over cakes, cookies or candies.

Experiment with different methods of thinning your chocolate. Some things to try are cocoa butter, vegetable shortening, oil, ganache or paramount crystals.
<table>
<thead>
<tr>
<th>Type of Chocolate</th>
<th>Thinning method</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What was the easiest method to use? _______________________________________________________

What method was the hardest? ___________________________________________________________

Did you have difficulty finding the cocoa butter? ________________________________________

If not, where did you find it? _________________________________________________________

How about the paramount crystals? _____________________________________________________

Where did you find the paramount crystals? _____________________________________________

Are there any other methods your family has used in the past? ______________________________

__________________________________________________________

---

**Recipes for 1st and 2nd Year Candy Making**

**Buckeyes**
Preparation time: 3 hours, next day dip in chocolate
1 cup peanut butter  
2½ cups confectioner’s (powdered) sugar

½ cup butter (1 stick)  
2 teaspoons vanilla

Mix the above ingredients together; you may have to use your hands. Chill dough for one hour and form into 1 inch balls and place on a cookie sheet with wax paper. Cover with plastic wrap lightly and chill in refrigerator overnight.

Dip:  
2 cups semi-sweet chocolate chips  
1 tablespoon solid vegetable shortening

Melt in double boiler, jar method, or in the microwave (follow instructions from microwave) using a toothpick to hold peanut butter ball, dip in chocolate. Put on wax paper that has been placed on tray or cookie sheet and cool at room temperature – not in refrigerator.

Did you wash your hands and clean under your nails before you made these candies? _________

What part of the candy making process went well? ________________________________

Did you have any problems? ________________________________

**Peanut Butter Cups**

Preparation time: 1 hour

12 oz. peanut butter  
1 stick butter

1 lb. powdered sugar  
1 teaspoon vanilla

Mix all ingredients together. Mixture should be crumbly. Store in an airtight plastic container.

Spoon melted chocolate dip (use dip from Buckeye recipe) into paper candy cups, let cool. Spoon crumbly mixture on top of bottom layer of chocolate, add another layer of chocolate. Let cool and store in an airtight container.

Did you have any problems? ________________________________

What will you do differently next time? ________________________________

**Foolproof Microwave Fudge**

Preparation time: 15 minutes
1 can sweetened condensed milk       1 cup chopped nuts
3 cups chocolate chips             1 teaspoon vanilla
1/8 teaspoon of salt

Combine milk, chocolate chips and salt in microwave-safe bowl. Microwave for 1 minute; take out and stir. Microwave for 45 seconds; stir until smooth. Stir in nuts and vanilla. Spread in 9x13 inch lightly greased pan (use butter or margarine). Chill for 2 hours, cut into pieces. Store in an airtight plastic container. Makes 36 pieces.

Did you like the way it tasted? _________________
Any changes you would make next time? ____________________________

White Chocolate Peanut Butter Krispies
Preparation time: 30 minutes

2 cups crisp rice cereal       1 cup peanut butter
2 cups dry roasted peanuts    2 lbs. white chocolate chips (2-12 oz. pkgs plus 1/3 cups)
2 cups miniature marshmallows

In a large bowl, combine cereal, peanuts and marshmallows. In a microwave-safe bowl, melt chocolate and peanut butter on high for 1 minute and then in 30 second intervals until fully melted. Stir chocolate into cereal mixture. Mixture will be slightly runny. Drop by tablespoons onto waxed paper. Let set until firm, 2 hours. Store in an airtight container.

Did you like the way it tasted? _________________
Any changes you would make next time? ____________________________

Turtles
Preparation time: 30 minutes

Package of caramels       Package of chocolate chips
Small package of pecan halves  

2 teaspoons of solid shortening

Unwrap caramels and pecans and put into two small dishes.

Arrange pecan halves in groups of three on a prepared baking sheet. (One pecan half for the head of the turtle and two for the legs).

Melt caramels following the directions on the caramel package. If there are no directions, unwrap all the caramels, put into a large heavy pan, add 1 teaspoon of water, set on low heat. Stir constantly until caramels melt. Take off the stove.

Spoon melted caramel over the nuts, leaving the tips of the nuts showing. Let stand at least 30 minutes to set.

Once caramels are set, melt chocolate chips and shortening. Stir chocolate until melted. Use a spoon to drizzle chocolate over the pecans and caramel to form a turtle. Cool until chocolate is firm.

Any difficulties in assemble the turtles? ___________________________________________________________

---

**Caramel Apples**

Preparation time: 30 minutes

1 package of caramels  

small apples (washed)  

Sticks

Melt caramel following the directions on the caramel package.

Wash the apples well to remove the protective layer of wax and remove the stem. Insert sticks into the apples where the stem is and dip into the caramel. Using a knife, scrape off the bottom of the caramel apple to take off the excessive caramel. If desired, roll/dip the apples in chocolate, nuts, or chopped candy and place apple on a wax paper covered cookie sheet. Cool for 30 minutes.

Any challenges with dipping the apple and coating it with the caramel? _____________________________
**Party Mints**
Preparation time: 2 hours

1 - 8 oz. package cream cheese  
1 - 2 lb. bag of confectioner’s sugar  
1/4 to ½ teaspoon peppermint flavoring  
1-2 drops food coloring

Mix softened cream cheese, ½ of the bag of confectioner’s sugar, flavoring and coloring in a large bowl using a mixer. The dough will be sticky. Mix in the rest of the confectioner’s sugar, turn out onto a clean countertop covered in confectioner’s sugar and knead until the candy dough is smooth. Add more flavoring if needed. There are several methods (see below) to finish the mints. Let dry overnight. Store in an airtight container in the refrigerator.

Method #1: Roll out dough like a pie crust, about ½ inch thick, use miniature cutout shapes to cut out, or cut into squares to make candies, place on wax paper covered cookie sheet.

Method #2: Pinch off small amount of dough the size of a marble and roll in the palm of your hand and place on cookie sheet.

Method #3: If you use small molds, make sure you coat each individual mold with granulated sugar. Once the candy has set up, it will pop out of the mold easier.

Which method did you use to make your mints? ______________________________________

What method would you like to try next time? _____________________________________

**Chocolate Cookie Balls**

8 oz. package cream cheese  
16 oz. package chocolate sandwich cookies, crushed (crush the entire cookie – don’t remove the filling)  
2 cups semi-sweet or milk chocolate chips  
1 tablespoon shortening

Mix softened cream cheese with electric mixer until fluffy. Add the crushed cookies and beat on high until well mixed. Chill for at least 2 hours in the freezer. Roll the mixture into one inch balls.

Melt the chocolate chips and shortening with a double boiler or in the microwave. Dip the cookie balls completed into the melted chocolate using tongs or a toothpick.

Put on wax paper. After the cookie balls harden, keep them in the refrigerator. Makes 3 or 4 dozen cookie balls, depending on the size.
Chocolate Troubleshooting Guide

Dipped Chocolate Appearance

<table>
<thead>
<tr>
<th>Bottom</th>
<th>Top</th>
<th>Caused By</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cloudy</td>
<td>Cloudy</td>
<td>Coating too cold</td>
<td>Increase temperature</td>
</tr>
<tr>
<td>Dull</td>
<td>Dull</td>
<td>Coating not tempered</td>
<td>Work coating between each dip</td>
</tr>
<tr>
<td>Shiny</td>
<td>Cloudy</td>
<td>Coating too hot</td>
<td>Decrease temperature</td>
</tr>
<tr>
<td>Cloudy</td>
<td>Luster with dull spots</td>
<td>Coating too hot</td>
<td>Cool coating and work between each dip</td>
</tr>
<tr>
<td>Wet and sticky</td>
<td>Wet and sticky</td>
<td>Coating much too hot</td>
<td>Cool and work more before dipping</td>
</tr>
<tr>
<td>Cloudy</td>
<td>Dull</td>
<td>Cooled too slowly</td>
<td>Decrease room temperature</td>
</tr>
<tr>
<td>Looks good first day; cloudy second day</td>
<td>Looks good first day; cloudy second day</td>
<td>Cooled too slowly</td>
<td>Decrease room temperature and cool where air can circulate</td>
</tr>
</tbody>
</table>

Family Traditions….

If you are using your own family recipe, ask these questions and write down the answers.

1. Where did the recipe come from?

2. Who made it?

3. Was it brought from another country?

4. Was it made for a holiday or special occasion?

5. Any other information you can gather?
ADVANCED CANDY MAKING – (For Third Year and Beyond)
Complete two of the following activities:

Leadership/Citizenship/Career Activities:
- Prepare a talk, demonstration, or display to tell others about something you learned in your project.
- Take part in a community service projects.
- Ask someone to speak to your club on Candy Making
- Help members prepare a club display for county fair.
- Shadow the owner of a confectionary.

<table>
<thead>
<tr>
<th>Plan To Do</th>
<th>Date Completed</th>
<th>Leadership/Citizenship/Career Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Types of Candy
Candies can be divided into two categories – Crystalline and Non-Crystalline.

Crystalline – candies such as fudge, fondant, and divinity, which contain sugar crystals that are suspended in concentrated sugar syrup.

Non-Crystalline – candies that are free of any crystals, may be chewy or brittle in texture, such as caramels, taffy and peanut brittle.

List some additional types of crystalline and non-crystalline candy in the table below.

<table>
<thead>
<tr>
<th>Type of Candy</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ex. Crystalline</td>
<td>Contain sugar</td>
<td>Fudge, fondant, divinity</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Tips for Making Crystalline Candies

- Never stir the mixture on the stove after the sugar has dissolved. Scrapping will cause crystallization. Cover the pan with a tight lid for 2-3 minutes, the steam will dissolve the remaining crystals.
- Once sugar syrup has cooked to desired temperature, do not scrape or stir, just pour into the pan (or crystallization will take place).
- Do not beat syrup while hot, the candy will be grainy and course due to large crystals forming one at a time. If syrup is allowed to cool to about 104º F before it is beaten, many tiny crystals form at one time and the candy is smooth and creamy. It is important to continue beating until crystallization is complete to avoid clumping and grainy candy.

Tips for Making Non-Crystalline Candies

- These candies usually contain an interfering agent, (such as cream of tartar, vinegar, or lemon juice), which is a substance that is added to the sugar syrup to help produce a creamy candy by preventing the tendency of small crystals for group together. Moisture is absorbed from the air and helps prevent drying during storage of candy, which produces an invert sugar.
- Adding small amounts of butter, cream, corn syrup, chocolate or egg whites also produces small amounts of invert sugars that help form a creamy candy.
- Non-crystalline candies are cooked at a higher temperature and are cooled more rapidly than crystalline candies; remember to have all ingredients, pots and pans assembled and be ready to work quickly.

Tips for Testing Stages of Sugar Syrup

- Altitude can cause variation in the different stages (soft ball to hard crack). Always check elevation ranges where you live. Temperature should be decreased 1º for each increase of 500 feet in elevation.
- The stages of sugar can be tested with the cold water method or using a candy thermometer. Try both methods and see which one you prefer.
- On humid or rainy days, cook candy to a temperature approximately 1-2º higher than usual. Better yet, wait for a dry, cool day to make candy.
### Candy Temperature Chart with Usages

<table>
<thead>
<tr>
<th>Name</th>
<th>Temp</th>
<th>Description</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thread</td>
<td>223-235º F</td>
<td>The syrup drips from a spoon, and forms thin threads in water</td>
<td>Glacé and candied fruits</td>
</tr>
<tr>
<td>Soft ball</td>
<td>235-245º F</td>
<td>The syrup easily forms a ball while in the cold water, but flattens once removed</td>
<td>Fudge and fondant</td>
</tr>
<tr>
<td>Firm ball</td>
<td>245-250º F</td>
<td>The syrup is formed into a stable ball, but loses its round shape once pressed</td>
<td>Caramel candies</td>
</tr>
<tr>
<td>Hard ball</td>
<td>250-266º F</td>
<td>The syrup holds its ball shape when pressed, but remains sticky</td>
<td>Divinity and marshmallows</td>
</tr>
<tr>
<td>Soft crack</td>
<td>270-290º F</td>
<td>The syrup will form firm but pliable threads</td>
<td>Nougat and taffy</td>
</tr>
<tr>
<td>Hard crack</td>
<td>300-310º F</td>
<td>The syrup forms brittle threads and easily cracks and snaps</td>
<td>Brittles and lollipops</td>
</tr>
<tr>
<td>Caramel</td>
<td>320-350º F</td>
<td>The sugar syrup will turn golden brown and have a fragrant caramel smell</td>
<td>Caramel syrup, Pralines</td>
</tr>
</tbody>
</table>

### Experiment: Boiling Points

1. What is the boiling point of water? Boil 1 cup of water. Record the temperature here ________.
2. Place 1 cup of sugar and 1 cup of hot water into a saucepan.
3. Boil to 230º F. Remove from heat. Note color of syrup. Place 1 teaspoon of syrup in cold water and 1 teaspoon on wax paper. Rinse spoon in hot water before each test. Note how the syrup performs. Record data in the table provided below.
4. Repeat for each of the remaining temperatures.

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Stage</th>
<th>Color of Syrup</th>
<th>Appearance in Cold Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>215º F</td>
<td>Thread</td>
<td></td>
<td></td>
</tr>
<tr>
<td>230º F</td>
<td>Soft Ball</td>
<td></td>
<td></td>
</tr>
<tr>
<td>237º F</td>
<td>Soft Ball</td>
<td></td>
<td></td>
</tr>
<tr>
<td>247º F</td>
<td>Firm Ball</td>
<td></td>
<td></td>
</tr>
<tr>
<td>252º F</td>
<td>Hard Ball</td>
<td></td>
<td></td>
</tr>
<tr>
<td>275º F</td>
<td>Soft Crack</td>
<td></td>
<td></td>
</tr>
<tr>
<td>302º F</td>
<td>Hard Crack</td>
<td></td>
<td></td>
</tr>
<tr>
<td>320º F</td>
<td>Melted Sugar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>338º F</td>
<td>Caramelized Sugar</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Experiment: Basic Crystalline Candy - Fondant

Make the following fondant recipe and answer the following questions.

Basic Fondant
Preparation Time: 2 hours to make fondant, next day to make candies

½ cup warm water  1/8 teaspoon cream of tartar
2 cups sugar  flavoring and color

1. Combine sugar and cream of tartar. Add water. Stir until sugar is dissolved.
2. Cover pan and boil for 5 minutes, allowing steam to dissolve any grains of sugar on sides of pan.
3. Take lid off. Do not stir. Cook mixture to soft ball stage (234º F.).
4. Remove any crystals from the sides of the pan with a damp cloth. Pour into a shallow pan, plate or onto a marble slab which has been rinsed with cold water. Do not scrape the pan. Put empty pan in hot water in the sink to soak.
5. Cool fondant to room temperature, it will take approximately 10–30 minutes depending how thick it is. Touch with your finger, if it leaves a mark, it is ready to knead.
6. Use a steel spatula or wooden spoon to lift candy from the edges into the center, continue to do this until it starts to turn opaque and creamy, knead the fondant with your hands (dusting with confectioner’s sugar). Knead until it is a creamy color, roll into a ball, cover with a damp clean paper towel and wrap tightly in plastic wrap. Put in a cool dry place for at least 24 hours. To store longer, put in the refrigerator, up to two weeks.

Dipping into chocolate to make Candies:
1. Making candy centers to be dipped in chocolate. Divide fondant into two sections on a clean countertop dusted with confectioner’s sugar. Fondant should be room temperature to knead, add drops of flavoring according to your taste, and knead into fondant. Add color with a toothpick, a little at a time and knead to get the desired color you want. Adding color and flavoring to the other section.
2. Form each section into a long cylinder by rolling on your work surface that is dusted with confectioner’s sugar. Cut candy size pieces or mold into shapes. Let dry until firm. Dip into chocolate one piece at a time. Make a swirl over the top. Cool on a wax paper covered cooling rack. Store in an airtight container.

Answer Questions About the Fondant Experiment

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Was it easy to make the fondant?</td>
<td></td>
</tr>
<tr>
<td>How does your fondant taste?</td>
<td></td>
</tr>
<tr>
<td>How would you describe the texture of your fondant?</td>
<td></td>
</tr>
<tr>
<td>Can you taste or feed the sugar crystals in the fondant?</td>
<td></td>
</tr>
</tbody>
</table>
Experiment: Non-Crystalline Candy – Peanut Brittle

Microwave Peanut Brittle
Preparation Time: 45 minutes

1 cup raw peanuts  
1 cup sugar  
½ cup light corn syrup  
1 teaspoon vanilla

1 teaspoon butter or margarine  
1 teaspoon baking soda  
1 teaspoon vanilla

(Make sure you have all the ingredients measured and ready and the cookie sheet prepared. Once you add the baking soda it will be difficult to stir in and get into the pan).

Combine peanuts, sugar and syrup into an 8 cup heavy glass container that is microwave safe; mix with wooden spoon. Microwave on high for 3-4 minutes. Take out of microwave and stir; microwave on high for another 2-3 minutes. Take out again and add the vanilla and butter. Stir. Microwave on high for 1-2 minutes, take out and quickly add the baking soda; stir until foamy. Spread quickly on a cookie sheet sprayed with nonstick cooking spray. Cool on a cooling rack. Break into pieces. Store in airtight container. Makes 2 pounds.

Answer Questions About Peanut Brittle

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Was it easy to make the brittle?</td>
<td></td>
</tr>
<tr>
<td>How does your brittle taste?</td>
<td></td>
</tr>
<tr>
<td>What happened when you put the soda in the hot mixture?</td>
<td></td>
</tr>
<tr>
<td>What color is your peanut brittle?</td>
<td></td>
</tr>
</tbody>
</table>

Recipes for Advanced Candy Making (3rd Year and Beyond):

OSU Extension Fairfield County
Hard Tack Candy
Preparation Time: 30 minutes

2 cups sugar ½ teaspoon flavoring (cinnamon, anise, clove, etc.)
1 cup water 1 teaspoon food coloring
2/3 cup white corn syrup

1. Combine the sugar, water and corn syrup and stir over medium-high heat until mixture comes to a boil. Once the mixture starts to boil, stop stirring!
2. Cook until candy thermometer registers 300º F.
3. Immediately add flavoring and food coloring. (You may want a different color for each flavor).
4. Pour onto a nonporous, buttered surface, such as a platter or counter top and work with a plastic spatula until cool enough to handle, then cut into pieces with scissors.
5. Cut from the outside in a circular motion with kitchen scissors around the mass towards the center. Then cut long strips into small pieces. Cutting must be done quickly before the candy hardens.
6. Drop into granulated or powdered sugar as pieces are cut. Makes 1¼ lbs.

Fudge
Preparation time: 20 minutes

1 ½ cups sugar ¼ teaspoon salt
¼ cup butter/margarine 1-12 oz. pkg. semi-sweet chocolate chips
2 cups marshmallow cream ½ cup chopped nuts (optional)
2/3 cup evaporated milk 1 teaspoon vanilla

Combine sugar, margarine, marshmallow cream, milk and salt; bring to a rolling boil, stirring constantly (the evaporated milk burns easily). Boil 5 minutes over medium heat stirring constantly. Remove from heat, stir chocolate pieces until melted, add nuts and vanilla; beat until well blended. Pour into a buttered 8 inch pan. Cool, cut into squares.

Caramels

1 cup butter or margarine 1 lb. light brown sugar
1-14 oz. can sweetened condensed milk 1 cup light corn syrup
1 pinch of salt 1½ teaspoon vanilla

Butter a 9x13 inch baking pan and set aside.

In a heavy bottomed saucepan over medium heat, combine the butter, brown sugar, sweetened condensed milk, corn syrup and salt. Bring to a boil, stirring constantly. Heat between 234-240º F or until a small amount of syrup dropped in cold water forms a soft ball that flattens when removed for the water and placed on a flat surface. Cook for 2 minutes at that temperature. Remove from heat, stir in vanilla, and pour into the buttered pan. Allow to completely cool at room temperature. Remove from the pan and cut into squares using scissors. Wrap individual pieces in waxed paper or cellophane.
Marshmallow Fondant

1 (454 gram) bag of mini marshmallows  
5-6 cups of powdered sugar
2 tablespoons of water  
1 teaspoon of lemon, orange or almond extract (optional)

Dust your counter or a large cutting board with powdered sugar.

Place mini marshmallows and water in a large bowl. Microwave for 1 minute until the marshmallows are puffy and expanded. Stir the marshmallows with a rubber spatula until they are melted and smooth. If unmelted marshmallow pieces remain, return to the microwave for 30-45 seconds, until the marshmallow mixture is entirely smooth and free of lumps.

If you want colored or flavored fondant, you can add several drops of food coloring or extracts at this point and stir until incorporated. If you want to create multiple colors or flavors from one batch of fondant, do not add the colors or flavors at this point.

Add the powdered sugar and begin to stir with the spatula. Stir until the sugar begins to incorporate and becomes impossible to stir anymore.

Scrape the marshmallow-sugar mixture out onto the prepared work surface. It will be sticky and lumpy, with lots of sugar that has not been incorporated yet – this is normal. Dust your hands with powdered sugar or corn starch, and begin to knead the fondant mixture like bread dough, working the sugar into the marshmallow with your hands.

Continue to knead the fondant until it smooths out and loses its stickiness. Add more sugar if necessary, but stop adding sugar once it is smooth – too much sugar will make it stiff and difficult to work with. Once the fondant is a smooth ball, it is ready to be used.

You can now roll it out, shape it, or wrap it in cling wrap to use later. Well-wrapped fondant can be stored in a cool room or the refrigerator, and needs to be kneaded until flexible before later use.

If you want to add coloring or flavoring to your fondant, flatten it into a round disc. You might want to wear gloves to avoid getting food coloring on your hands during this step. Add desired amount of coloring or flavoring to the center of the disc, and fold the disc over on itself so that the color or flavor is enclosed in the center of the fondant ball.

Begin to knead the ball of fondant just like before. As you work it, you will begin to see streaks of color coming through from the center. Continue to knead until the streaks are gone and the fondant is a uniform color. The fondant is now ready to be used or stored as outlined above.
**English Toffee**

1 cup sugar  
½ lbs. butter  
3 tablespoons water  
1 teaspoon vanilla  
¾ cup chopped pecans  
3 plain chocolate candy bars

Put first 4 ingredients in a heavy pan, cook until brown in color (between soft and hard crack stage) stirring constantly. Pour into buttered jelly roll pan, let set just for a few minutes. Then put broken chocolate bar pieces on top of cooked candy. When chocolate is melted spread over toffee. Before chocolate sets up, sprinkle pecans over top and press into chocolate. When cool break into pieces and store in an airtight and dry container in a cool place.

**Penuche Fudge**

2 cups light brown sugar  
1 can (5 oz.) evaporated milk  
3 tablespoons butter

1 teaspoon vanilla  
½ cup peanut butter (may use crunchy or smooth peanut butter)  
1-7oz. container of marshmallow crème.  
2 oz. of ground walnut pieces if desired

Melt butter, sugar, and evaporated milk in a 4 quart pan. Bring to a boil stirring constantly to keep from scorching, then boil to a soft ball stage, or boil for 5 minutes. Remove from heat. Add vanilla, peanut butter, marshmallow crème, and nuts if desired. Pour in lightly greased 9 x 13 inch pan.

**Cream Roll**

3 cups sugar  
4 tablespoons white corn syrup  
¾ cup cream  
1 teaspoon vanilla  
2 tablespoons cocoa  
½ cup of chopped nuts

Cook in heavy 4 quart sauce pan stirring constantly until it forms a soft ball stage. Pour ½ of mixture in a small lightly buttered jelly roll pan and the other ½ of mixture in another lightly buttered jelly roll pan. In the first pan knead in nuts. In other pan knead in cocoa. When each mixture has been kneaded enough to mix in add ingredient, roll out each mixture with a rolling pin on a lightly sprinkled powdered sugar surface. Place each rolled piece on top of the other, and then roll up jelly roll style. Chill and slice.
Packaging Candy:

1. Fondant type candy freezes very well. Put in airtight container or zippered plastic freezer bag.
2. Divinity dries out quickly and does not keep well – so eat while fresh.
3. Peanut Brittle and hard tack type candies should not be frozen, store in airtight container, dry canister or glass jar.
4. Store different types of candies in different containers so flavors do not mix.
5. Shipping – wrap each piece of candy individually. Pack in a box in layers, pack tightly using bubble wrap or shredded paper in a sturdy box. Do not mail in hot weather.

Careers in Confectioner Candies:

Making candy is usually a home based type business that sells locally or mail order. Large candy factories sell to retail stores and wholesalers. Owning a candy supply store is another career option. Explore some careers in candy making. List careers you find and the knowledge or training needed to succeed as a confectioner.

<table>
<thead>
<tr>
<th>Career Options</th>
<th>Knowledge or Training needed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OSU Extension Fairfield County
Check-off list…are you ready for Candy Judging?

___Read member’s project guidelines and category (1<sup>st</sup> and 2<sup>nd</sup> Year OR 3<sup>rd</sup> Year and beyond) you are being judged in.

___Complete the safety activity.

___Complete all experiments and answer the questions.

___Write down the recipe on a file card or piece of paper to bring to the judge.

___Know your 4-H age (as of Jan. 1) and your club name to be able to complete the registration form at the county fair.

___Bring individually wrapped homemade candies as required. A disposable plate will be supplied for you at the fair.

___Bring your completed project book and recipes to judging.

___Understand to be considered for a placing, you have to come to the interview judging on Monday of the fair between 3:00-6:00 P.M.

How Your Candy is Evaluated

Knowledge
  a. Melting techniques
  b. Characteristics of sugar syrup at different temperature
  c. Candy making terms
  d. Safety when making candy

Candy Texture
  a. Smooth and creamy on the crystalline candies
  b. Brittle texture on the non-crystalline candies
  c. Smoothness on the candies made by melting technique

Candy Color
  a. Even color through candy
  b. Not too dark – would indicate that it is burnt

Candy Flavor
  a. Has a rich flavor, not bland
  b. Does not taste burnt
## Chart Your Expenses

Use this chart to keep a record of the number of Candy recipes you make, cost, time spent and new experiences.

<table>
<thead>
<tr>
<th>Date</th>
<th>Materials Used</th>
<th>Price of Materials</th>
<th>Time Spent</th>
<th>New Ideas Tried</th>
<th>Results and Comments from Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/17</td>
<td>Evaporated milk, sugar, chocolate chips, vanilla</td>
<td>$4.00</td>
<td>1 hour</td>
<td>Poured into a different shape container</td>
<td>Had good taste, but grainy</td>
</tr>
</tbody>
</table>

CFAES provides research and related educational programs to clientele on a nondiscriminatory basis. For more information: [http://go.osu.edu/cfaesdiversity](http://go.osu.edu/cfaesdiversity).
Notes