

4-H/Leadership/2011-01pr

# TRY Lotions & Potions Curriculum

## AN ENTREPRENEURIAL PROJECT



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# TRY Lotions & Potions

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# TRY Lotions & Potions

## GETTING STARTED



Welcome to the Teens Reaching Youth (TRY) Lotions and Potions project. You and the students you teach are sure to have lots of fun learning how to make spa products. In addition to learning how to make these products, students will also learn about the science behind the products, learn how to properly measure and follow a recipe, gain skills in formulating their own products, and learn how to calculate the costs of making their own products.

The curriculum contains seven spa products that will take approximately six hours to teach depending on the size of your group. Several activities (massage melts, bath fizzies and bubble bath jelly) take extra time to “set up.” Depending on whether your TRY Lotions and Potions camp is a one-day event, or a series of club meetings, you may need to adjust the schedule accordingly. You can also make arrangements for the youth to take their “almost-finished” projects home to complete the final steps.

One special word of caution. Many of the skin care products are made with oils from nuts, plants or fruits. **People with severe allergies to nuts, plants or fruits should not make or use products from the Lotions and Potions project. It is advisable to have parents sign a permission slip that indicates they understand this risk.**

We wish you and your students the best of success!

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The Lotions & Potions 4-H TRY Manual was written by Donna Carter, USU 4-H Faculty (Weber County) and Teresa Hunsaker, USU Family & Consumer Sciences Faculty (Weber County).

This manual is based upon the Lotions and Potions curriculum developed by Teresa Hunsaker, USU Family & Consumer Sciences Faculty (Weber County), and Christine E. Jensen, USU Family & Consumer Sciences Faculty (Emery County).



# TRY Lotions & Potions - Lesson 1

## PROJECT: MASSAGE MELTS



### PROJECT INTRODUCTION

**TIME:** 10 minutes

#### OBJECTIVES:

- Students will learn different ways to utilize and exhibit the spa products they make.
- Students will learn about plant and food allergies.

#### MATERIALS:

- County fair catalog listing classes
- Samples of products campers will make in the Lotions and Potions project, ideally displayed in nice basket appropriate for gift giving

### Project Introduction

1. Brainstorm reasons why learning about lotions and personal care products makes a great project:
  - Allows youth to better understand the “science” of skin care
  - Allows smart comparison shopping when buying retail skin care products
  - Can reduce costs by making skin care products versus buying retail
  - Can formulate recipes for sensitive skin (i.e., no fragrance, no preservatives, etc.)
  - Can make personalized gifts
  - Provides entrepreneurship opportunities
2. Show children the projects they will make in Lotions & Potions class.
  - Massage melts
  - Bubble bath jelly jars
  - Bath fizzies
  - Lotion
  - Lip balm
  - Body scrub
  - Bath salt
  - a. List the places in the County Fair these products might be exhibited such as:
    - Under personal development & leadership - entrepreneurship class
    - Under crafts – personal care items or miscellaneous items
  - b. Discuss allergies
    - Many of the skin care products are made with oils from nuts or fruits.
    - **Children with severe allergies to nuts, plants or fruits should not make or use products from the Lotions and Potions project.**

## AROMATHERAPY

**TIME:** 15 minutes

### OBJECTIVES:

- Students will be able to define aromatherapy.
- Students will learn that various scents have different physical or emotional effects on us and learn how to select fragrances to match the desired effect.
- Students will learn how to compare costs and evaluate the advantages and disadvantages of purchasing spa products versus making their own

### MATERIALS:

- Fragrance samples grouped by type

## Aromatherapy

**Lead In:** Scent is the most enduring of our senses. It has the power to transform our emotions and heal our bodies. The science of aromatherapy has emerged because of this.

**Aromatherapy:** (a.ro.ma.ther.a.py – noun) The use of plant oils, called “essential oils” from that plant, and similar aromatic compounds from plants, for the purpose of improving a person's mood, ability to think, or health for emotional and physical well-being.

Some scents help us relax; others make us more alert. Scents are grouped into four different types, depending on their effect. The four types are:

- **Herbs, Oils, and Plants for Relaxation, Calming, and Meditation**
  - *Examples include:* Cedar, Lavender, Chamomile, Geranium, Marjoram, Sandalwood
- **Herbs, Oils, and Plants for Invigoration and Rejuvenation**
  - *Examples include:* Anise Seed, Citrus—all varieties, Cinnamon, Ginger, Jasmine, Nutmeg
- **Herbs, Oils, and Plants for Recall, Concentration, Alertness, and Memory**
  - *Examples include:* Rosemary, Peppermint, Pine, Sage
- **Herbs, Oils, and Plants for Peace, Balance, and Harmony**
  - *Examples include:* Bergamot, Orange, Rose, Sage, Tangerine, Ylang Ylang

1. Have members smell sample scents from each of the four groups and discuss their emotional and physical responses to those scents.
2. Discuss the importance of selecting fragrances for spa products based upon the desired effect.
3. Using various scenarios, have the members select fragrances that would be a good match for the spa product they make. Examples:
  - a. If you want to make bath salts to give to mom for a relaxing bath, you might choose...
  - b. If you want to make a body scrub that will help you feel energized, you might choose...



## MASSAGE MELTS

**TIME:** 30 minutes (plus time for the product to “set”)

### OBJECTIVES:

- Students will learn how to accurately and properly measure ingredients.
- Students will learn about key ingredients.
- Students will learn how to safely use a stick beater.

**INGREDIENTS:** Each recipe will make approximately 24 massage melts depending on mold; one recipe per two students.

- Shea butter
- Solid cocoa butter
- Solid coconut oil or liquid macadamia nut oil
- Beeswax
- Essential oil or fragrance oil

### SUPPLIES:

- Microwave or double boiler
- Refrigerator
- Pipettes
- Measuring spoons
- Glass or microwavable bowls
- Bowl of ice water (needed to thicken product)
- Cooking spray or oil for candy molds
- Stick beater
- Plastic spoon
- Candy molds (1 tray/student)
- Storage jar or cellophane bags
- Product labels
- Decorations (raffia, ribbon)

## INGREDIENT REVIEW

**Oils:** Oils and fats in a recipe for body products provide the rich, healing, and nourishing value to your product.

**Shea butter** is a natural fat that is extracted from the fruit of the Shea tree by crushing and boiling. It is widely used in cosmetics as a moisturizer (substances which add moisture to the skin) and an emollient (substances which soften and smooth the skin).

**Beeswax** is a natural wax produced in the beehive of honey bees. It is solid at room temperature and is used widely to make candles, cosmetics, and pharmaceuticals. In the recipe, it helps retain the shape of the molded massage melts.

## Massage Melts

**Lead In:** For our first spa product, we are going to make massage melts. You will work in teams of two; each person will receive half of the recipe to take home.

1. Carefully review the different abbreviations used for teaspoon and tablespoon.
  - a. Teaspoon = t. or tsp.
  - b. Tablespoon = T or TBSP
2. Demonstrate how to properly measure ingredients as you review the recipe and explain the purposes of key ingredients.
  - a. 3 tablespoons Shea butter—can use vegetable shortening
  - b. 3 tablespoons solid cocoa butter
  - c. 2 tablespoons solid coconut oil or liquid macadamia nut oil
  - d. 1 tablespoon beeswax
  - e. 10 drops of fragrance or essential oil
3. Demonstrate how to safely use a stick beater.

### ***Tips for Massage Melts Activity***

Have the correctly-sized dry measuring cup next to the appropriate ingredient at the massage melts station.

Place a separate paper plate under each fragrance jar; provide a separate pipette dropper for each fragrance.

Set clear limits on the quantity of fragrance to use for each project and have appropriate supervision; fragrances are *very expensive*.

Cocoa butter comes in large chunks. It is easier to measure if you grind it into smaller pieces using a food processor.

It will take several hours for the massage melts to “set” before being removed from the mold. If refrigerator space is not available, or the schedule does not allow time for the massage melts to “set,” product can be sent home in candy molds, ice cube trays or other plastic containers and molded at home. Secure molds with plastic wrap, Ziploc bags, etc., to ensure safe transportation home.

4. Demonstrate preparation steps:
  - a. Heat all ingredients, except essential oil, in a microwave (medium-high power) for approximately 2 minutes or until just melted. You can also melt ingredients in a double boiler.
  - b. Stir until liquid.
  - c. Beat for several minutes until emulsified and slightly thick. If it isn't thickening, place bowl in ice water as you beat it.
    - i. *DEFINITION: Emulsified means the liquids have been mixed together thoroughly.*
  - d. Add in fragrance or essential oil.
  - e. Pour into metal or lightly oiled plastic/glass molds. (Candy molds work well and are about the right amount for a body massage.)
  - f. Refrigerate until set; then remove from mold.

#### **STORAGE AND USE:**

1. To use, simply hand-warm and massage into skin.
2. Once thoroughly set, place massage melts in a jar or cellophane gift bag.
3. Store in a cool place.
4. Use within 6 months.

## YOU DO THE MATH!

**TIME:** 15 minutes

### OBJECTIVES:

- Students will learn how to calculate the cost of making their product and compare that cost with retail pricing.
- Students will learn advantages and disadvantages of buying versus making homemade spa products.

### MATERIALS:

- Pictures or samples of “retail” massage oils and their prices.
- Prices of ingredients, supplies and containers for massage melts.
- Calculator
- Individual price worksheets, or if working as a group, a white board or flip chart and markers.

## You Do the Math

1. Show retail prices of massage oils or massage melts.
2. Calculate the price to make one set of massage melts.
3. Discuss the price differences.
4. Discuss ways to reduce the cost of making it yourself (buying ingredients in bulk, packaging, etc.).
5. Brainstorm with students the advantages and disadvantages of making it yourself.

### *Disadvantages:*

- Need to factor in your time to make the product
- Equipment needed to make product
- Storage for supplies and ingredients
- Cost of excess ingredients left over

### *Advantages:*

- May save money
  - Can customize with favorite fragrances
  - Can customize and modify recipe
  - Personalized gift
6. After making each spa product, allow 10-15 minutes to discuss the costs of making the product, compare the costs with retail costs, and discuss ways to reduce the cost of homemade spa products.



# TRY Lotions & Potions - Lesson 2

## PROJECT: BATH SALTS



### BATH SALTS

**TIME:** 30 minutes

**OBJECTIVES:**

- Students will learn how to measure dry ingredients.
- Students will learn to identify the common salts.
- Students will learn some benefits of bath salts.

**INGREDIENTS:** Each recipe will make approximately 1 ½ cups; one recipe per student.

- Baking soda
- Sea salt
- Dry milk
- Essential or fragrance oils
- Epsom salt

**MATERIALS:**

- Measuring cups
- Quart-sized heavy duty Ziploc bags (1 per student)
- Plastic storage containers or cellophane bags (1 per student)
- Plastic spoons
- Pipettes
- Paper plates
- Product label
- Decorations (raffia, ribbon)
- Scissors
- Plastic drop cloth

### Bath Salts

**Lead In:** The term bath salt refers to a wide range of products that “dissolve” when added to a bath. Today we are going to make a bath salt that is helpful to reduce aches and itches. You will be working individually, using the fragrance of your choice.

#### INGREDIENT REVIEW

Different types of salts can provide different benefits.

1. Salts change the osmotic balance of the water so that less water is absorbed by the skin. This reduces the "pruning" or "wrinkling" effect of prolonged exposure of skin to fresh water.
2. Magnesium sulfate (Epsom salts) has an anti-inflammatory effect (reduces swelling).
3. Some bath salts such as phosphates have a detergent action which softens callused skin and aids in exfoliation.
4. Some bath salts act as water softeners and change the way soap rinses.
5. High concentrations of salts increase the specific gravity of the water and increase buoyancy which makes the body feel lighter in the bath. Very high concentrations of salts in water are used in flotation therapy.

### ***Tips for Bath Salt Activity***

Have the correctly-sized dry measuring cup next to the appropriate ingredient at the bath salts station.

Place a separate paper plate under each fragrance jar; provide a separate pipette dropper for each fragrance.

Set clear limits on the quantity of fragrance to use for each project and have appropriate supervision; fragrances are *very expensive*.

When working with food coloring, make sure you have the work area properly covered with plastic cloth and have appropriate supervision.

Salts can help in four different ways:

#### **Physiological**

- Helps detoxify the body and ward off viruses
- Stimulates natural circulation for improved health
- Helps relieve athlete's foot, corns, and calluses
- Relaxes tense, aching muscles and joints
- Helps relieve arthritis and rheumatism
- Helps relieve chronic lower back pain

#### **Skin Benefits**

- Draws out impurities in skin
- Soothes skin irritations such as psoriasis/eczema
- Soothes itching, burning and bites
- Smooths and softens skin
- Encourages skin to renew itself
- Helps scars to heal
- Restores moisture balance to the skin

#### **Occupational**

- Relieves tired, aching feet and leg muscles
- Eases tension in hands and wrists
- Helps relieve sports injuries

#### **Psycho-physical**

- Provides deep relaxation
- Helps relieve stress and tension
- Promotes restfulness

1. Demonstrate how to properly measure dry ingredients as you review recipe and explain purposes of key ingredients.

#### **(Makes 1 1/2 cups)**

- 1/4 cup baking soda
- 1/2 cup sea salt
- 1/4 cup dry milk
- 1/2 cup Epsom salt
- Essential or fragrance oils (1/2 pipette)
- Food coloring (optional)

2. Measure all ingredients into a quart-size Ziploc bag. Do not use “cheap” bags – they will break!
3. Add 5 drops of food coloring and thoroughly blend in closed bag.
4. Add fragrance.
5. Mix well in closed bag.
6. Pour into cellophane gift bag and tie with raffia.

**STORAGE AND USE:**

1. To use, pour approximately  $\frac{1}{4}$  -  $\frac{1}{3}$  cup into running bath water. Relax and enjoy.
2. Store container in a dry location; will store indefinitely.

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**You Do the Math – 10 minutes**

1. Show retail prices of bath salts.
2. Calculate the price to make one recipe of bath salts.
3. Discuss the price differences.
4. Brainstorm ways to reduce the price of making it yourself.





# TRY lotions & Potions - Lesson 3

## PROJECT: BUBBLE BATH JELLY JARS



### BUBBLE BATH JELLY JARS

**TIME:** 30 minutes (plus time for product to “set”)

**OBJECTIVES:**

Students will learn how to measure liquid ingredients.

**INGREDIENTS:** Each recipe will make one half-pint jelly jar; one recipe per student.

- Knox unflavored gelatin
- Water
- Liquid soap or inexpensive bubble bath
- Fragrance oil or essential oil
- Food coloring

**MATERIALS:**

- Refrigerator
- Microwave or stove
- Glass bowl to microwave water, or saucepan for stovetop heating
- Clear glass or plastic containers, such as jelly canning jars (1 per student)
- Shallow containers (1 per every 2 students)
- Rubber spatula to remove jelly
- Plastic spoons
- Pipettes
- Table knife to cut once “set”
- Product label
- Decorations (raffia, ribbon)

### Bubble Bath Jelly Jars

**Lead In:** Nothing is quite as fun as a bubble bath, especially when you get to pick the fragrance you want. In this activity, we are going to make a special type of bubble bath jelly. This project is decorative and easy to make.

You will be working individually.

#### INGREDIENT REVIEW

**Gelatin** comes from the collagen from animals’ skin and bones. It is a gelling agent in foods like Jell-O and gummy candies. Gelatin thickens your product and allows it to “set.”

1. Demonstrate how to properly measure ingredients as you review recipe and explain purposes of key ingredients.
  - a. 1 packet Knox unflavored gelatin
  - b.  $\frac{3}{4}$  cup water
  - c.  $\frac{1}{2}$  cup clear liquid soap or inexpensive bubble bath
  - d.  $\frac{1}{2}$  tsp. fragrance oil or essential oil
  - e. 3-4 drops of food coloring

### ***Tips for Bubble Bath Jelly Activity***

To properly measure liquids, use a liquid measuring cup. Pour in liquid and read measurement at eye level with measuring cup sitting on table.

Place a separate paper plate under each fragrance jar; provide a separate pipette dropper for each fragrance.

Set clear limits on the quantity of fragrance to use for each project and have appropriate supervision; fragrances are *very expensive*.

When working with food coloring, make sure you have the work area properly covered with plastic cloth and have appropriate supervision.

It will take several hours for the jelly to “set.” If refrigerator space is not available, or the schedule does not allow time for the jelly to “set,” product can be sent home in jelly jar and placed in the refrigerator at home.

#### 2. Demonstrate preparation steps:

- a. Empty the packet of gelatin into a large mixing bowl. Set aside.
- b. Heat water in a saucepan, just until boiling.
- c. Immediately remove from heat and pour over the gelatin.
- d. Stir gently to dissolve.
- e. Once dissolved, stir in the liquid soap/bubble bath and the food coloring.
- f. Lastly, add in your fragrance oil or essential oil. Stir well.
- g. Pour mixture into clean jars.
- h. Refrigerate until set.
- i. *OPTION:* Make different colored jelly and pour into small pans to set. Once set, cut in  $\frac{3}{4}$  inch squares and layer different colors into decorative jars in cubes.

#### **STORAGE AND USE:**

1. To use, scoop one tablespoon into running bath water.
2. Use within 1-2 months.

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### **You Do the Math – 15 minutes**

1. Show retail prices of bubble bath jelly jars.
2. Calculate the price to make one recipe of bubble bath jelly jars. Remember one recipe makes two jars.
3. Discuss the price differences.
4. Brainstorm ways to reduce the price of making it yourself

# TRY Lotions & Potions - Lesson 4

## PROJECT: BATH FIZZIES



### BATH FIZZIES

**TIME:** 30 minutes (plus time for product to “set”)

#### OBJECTIVES:

Students will learn how to measure liquid ingredients.

**INGREDIENTS:** Each recipe will make approximately 20-24 tablespoon-sized bath fizzle balls; one recipe per two students.

- Shea butter
- Essential oil
- Baking soda
- Cornstarch
- Citric acid
- Distilled water

#### MATERIALS:

- Double boiler
- Glass bowl (1 per two students)
- Measuring spoons and measuring cups (1/2 c, 1 c, 1T, 1t., and ½ t. needed)
- Plastic spoons
- Ice cream scoop, ice trays, candy molds or other mold to make fizzies
- Product label
- Cellophane bags
- Decorations (raffia, ribbon)

### Bath Fizzies

Lead In: Bath fizzies are very similar to bath salts, but with one exciting difference. They “fizz” like Alka Seltzer when placed in water.

You will be working in teams of two; each sharing half the recipe.

#### INGREDIENT REVIEW

The foundation of bath fizzies is a simple chemical reaction between an acid and a base – in our case, a reaction between **citric acid** and **baking soda**. Just these two ingredients together with water will fizz, but by adding the other ingredients we have a luxurious bath.

The Shea butter is solid at room temperature and provides enough fat to hold the ingredients together in the desired shape.

1. Carefully review the different abbreviations used for teaspoon versus tablespoon.
  - a. Teaspoon = t. or tsp.
  - b. Tablespoon = T or TBSP
  - c. There are 3 teaspoons in a tablespoon.
2. Demonstrate how to properly measure ingredients as you review recipe and explain purposes of key ingredients.

### ***Tips for Bath Fizzies Activity***

It will take several hours for the bath fizzies to set firm. They can be “gently” transported home and allowed to set out overnight. They then will be rock-hard and ready for bath time.

When forming the bath fizzle balls, squeeze tightly. Pressing tightly will increase the amount of fizzing the bath fizzies produce.

- 2 tsp. Shea butter
- 4 tsp. essential oil
- 1 cup baking soda
- ½ cup cornstarch
- ½ cup citric acid
- 1 TBSP distilled water

#### 3. Demonstrate preparation steps:

- a. Melt Shea butter in a double boiler; add essential oil.
- b. Mix baking soda, cornstarch and citric acid together in a glass bowl.
- c. Make an indentation in the center of the mixture and drizzle the melted Shea butter mixture into the indentation and mix well.
- d. Add water a little at a time and blend. The mixture will fizz a little, but keep mixing. Add a bit more water if mixture does not hold together when squeezed in hand.
- e. Once blended, scoop out 1 tablespoon of mixture. Shape it into a ball, squeezing tightly. The more firmly you pack it, the more it fizzes when added to your bath water.
- f. Let harden a few hours then remove from molds.
- g. Allow to dry several more hours (preferably overnight) before packaging.
- h. Place in cellophane bags and tie off with raffia.

#### **STORAGE AND USE:**

1. To use, place one ball into bath water. Relax and enjoy the effervescent bubbles.
2. Store container in a dry location; will store indefinitely.

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**You Do the Math – 15 minutes**

1. Show retail prices of bath fizzies.
2. Calculate the price to make one recipe of bath fizzies.
3. Discuss the price differences.
4. Brainstorm ways to reduce the price of making it yourself.



# TRY Lotions & Potions - Lesson 5

## PROJECT: BODY LOTION



### BODY LOTION - EMULSIFIERS

**TIME:** 10 minutes

**OBJECTIVES:**

Students will learn that an emulsifier helps keep liquids and oils in suspension.

**MATERIALS:**

- Water
- Oil
- Bottle with lid

### Emulsifiers

**Lead In:** Today we are going to be making our own body lotion. Lotions and creams are created from a mixture of water and oils. Without the addition of emulsifying wax, they would separate back into water and oils.

1. Pour oil and water into a bottle. Show students how the oil and water separate.
2. Shake vigorously. Students will see that the liquids “appear” to have mixed, but closer inspection will show little balls of the oil suspended in the water.
3. Left to sit, the water and oil and will again separate.
4. Explain that to keep lotions in suspension, we use emulsifiers.
  - a. Emulsifiers actually work on a molecular level, by attracting both water and oil to different sites at the same time.
  - b. Water is a polar material. Things that like water are also called polar materials.
  - c. Polar materials are also called hydrophilic. Hydrophilic materials are water-loving materials.
  - d. Non-polar materials like olive oil are hydrophobic. Hydrophobic means water hating.
  - e. An emulsifier has a hydrophilic portion and a hydrophobic portion, allowing it to bind both water and oils. The emulsifier we will be using in our lotion recipe is emulsifying wax.

## **BODY LOTION – LOTION INGREDIENTS**

**TIME:** 10 minutes

### **OBJECTIVES:**

Students will learn the major ingredients of lotions and their purpose.

### **MATERIALS:**

- Emulsifying wax
- Stearic acid
- Oils
- Liquid glycerin
- Citric acid
- Distilled water
- Essential oils or fragrances

## **Lotion Ingredients**

**Lead In:** Just like when you bake a cake, each ingredient has a certain role. By mixing the ingredients in a cake recipe, you get different flavors, color, smells – but it's still cake. The same is true when making lotion. Each ingredient has a specific role. However, you can change the quantities of different ingredients, to have a lotion that you prefer.

1. Discuss each ingredient and explain its purpose.
2. Explain the acceptable ranges for each ingredient.

### *INGREDIENT REVIEW*

**Emulsifying Wax (3 to 7%):** Used to assist water and oil to blend, or stay in suspension.

**Stearic Acid (3 to 5%):** This is what makes a lotion or cream thick.

**Oils (10 to 30%):** Oils and fats in a lotion recipe provide the rich, healing, and nourishing value to your product. There are many different oils with different properties—some are very expensive. Unless you are looking for a particular property, it is fine to use vegetable oil in a lotion recipe.

**Vegetable Glycerin (3 to 10%):** Glycerin is a humectant, which means that it grabs moisture out of the air. It can also grab the moisture out of your skin, so don't overdo it. Some feel that higher amounts make your skin feel sticky.

**Citric Acid (.25 to 1%):** Used in lotions to raise the acidity, which helps make a less friendly growing ground for bacteria. If you find that using the higher rate is irritating your skin, then try using less.

**Distilled Water (60 to 80%):** Lotions and bacteria go hand in hand. Sterilizing all of your equipment, including containers, and using only distilled water or boiling your tap water is highly recommended.

**Essential Oils (20-30 drops per 8 ounces of base):** Add these and blend just before filling containers.



## BODY LOTION – FORMULATING A LOTION RECIPE

**TIME:** 15 minutes

### OBJECTIVES:

Students will learn how to create their own lotion recipe.

### MATERIALS:

- Calculator
- Individual price worksheets, or if working as a group, a white board or flip chart and markers.

### ***Tips for Formulating Lotion Recipe Activity***

Because of the math involved, it is recommended that you omit this activity for younger students.

## Formulating a Lotion Recipe

**Lead In:** In time you will want to create your own lotion recipes, so we are going to learn how to do so. In our example, we are going to formulate a recipe that will make 8 ounces of lotion.

1. The main ingredients for lotion are water, oil, and emulsifying wax. You can use different amounts of these three ingredients, as long as you stay within the acceptable range. The percentages of the three ingredients need to add to 100%
2. For our example today, we will use the following percentages:
  - Water: 70%
  - Oil: 25%
  - Emulsifying wax: 5%
  - This adds up to 100%
2. Turn percent signs into decimal points by dividing *percentages by 100*.
  - 70% water ( $70 \div 100$ ) becomes **.70**
  - 25% oil ( $25 \div 100$ ) becomes **.25**
  - 5% emulsifying wax ( $5 \div 100$ ) becomes **.05**
3. Since we are making 8 ounces of lotion, *multiply decimals by 8 to get ounces needed*.
  - .70 (water - step 4) x 8 oz. = 5.6 oz. water
  - .25 (oil - step 4) x 8 oz. = 2 oz. oil
  - .05 (wax - step 4) x 8 oz. = .4 oz.
4. You now have a formula to make your lotion. It is:
  - 5.6 ounces of water
  - 2 ounces of oil
  - .4 ounces of emulsifying wax
  - ***\*Now we have a recipe that equals 100% of our formula. 5.6 oz. + 2 oz. + .4 oz. = 8 ounces!***
5. Now, calculate the formula if you wanted to make 10 ounces of lotion.

## BODY LOTION

**TIME:** 20 minutes

### OBJECTIVES:

Students will learn the major ingredients of lotions and their purpose.

### RECIPE INGREDIENTS: (One recipe will be split between two students)

- Citric acid
- Melted cocoa butter
- Stearic acid
- Emulsifying wax
- Vegetable oil (or other oil)
- Liquid glycerin
- Distilled water
- Fragrance or essential oils
- Food coloring (optional)

### MATERIALS:

- Stove or microwave
- Pan if using stovetop to heat ingredients
- Mixing bowl (1 per two students)
- Measuring spoons (1T, 1t., ½ t., and ¼ t. needed)
- Liquid measuring cup
- Plastic spoons
- Funnels
- Pipettes
- Paper plates
- Stick blender
- Product label
- 8 oz. bottles with lids

## Making Body Lotion

**Lead In:** We are going to make body lotion using a recipe called Hunsaker's Basic Recipe.

You will be working with a partner to make one 16 oz. batch of the lotion; then you will split the lotion with your partner. After splitting, team members will be able to choose fragrance and lotion color.

1. Carefully review the different abbreviations used for teaspoon versus tablespoon.
  - a. Teaspoon = t. or tsp.
  - b. Tablespoon = T or TBSP
  - c. There are 3 teaspoons in a tablespoon.
2. Demonstrate how to properly measure ingredients as you review recipe. Accurate measuring is important. Remember to have students read liquid measurements at eye level with measuring cup sitting on table.
  - ¼ tsp. Citric Acid
  - 1 teaspoon melted cocoa butter
  - 5 tsp stearic acid
  - 7 ½ teaspoon emulsifying wax (This is a difficult measurement for younger youth; a simple way to measure it is 2 T + 1 t. + ½ t.)
  - 1/3 cup oil (sunflower, safflower, grape seed, or almond are good oils for this, but you can use plain old vegetable oil, i.e., soy, canola, or even olive)
  - 1 teaspoon liquid glycerin
  - 1 2/3 cups distilled water
  - Fragrance or essential oils, 1/4 to 1/2 teaspoon (1 full pipette)
3. Demonstrate preparation steps to make lotion.
  - a. One drop of regular food coloring can be added to each bottle before adding the lotion mixture, if a little color is desired. Do not add more than one or two drops—it can discolor clothing.

- b. Measure citric acid, stearic acid, emulsifying wax, and cocoa butter into a mixing bowl.
- c. Add  $1\frac{2}{3}$  cups distilled water and  $\frac{1}{3}$  cup oil.
- d. Heat in microwave on HIGH for 2 minutes (up to 4 minutes on smaller capacity microwaves).
- e. Blend with blender stick 20-30 seconds to make sure all ingredients are dissolved. If there is still graininess to the milky mixture, heat for 30 more seconds on HIGH. Blend again.
- f. Cool slightly; then add 1 tsp. of liquid glycerin. Blend for 20-30 seconds.
- g. Using a funnel, pour lotion into an 8-oz. bottle that has  $\frac{1}{2}$  pipette of your chosen fragrance oil.
- h. Shake well.
- i. Continue to shake every 15 minutes until cool. It is recommended you leave the lid open in between shaking to prevent bottle from compressing as it cools.

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### **You Do the Math – 10 minutes**

1. Show retail prices of body lotion.
2. Calculate the price to make one recipe of body lotion. Remember one recipe makes two, 8-oz. bottles.
3. Discuss the price differences.
4. Brainstorm ways to reduce the price of making it yourself.



# TRY Lotions & Potions - Lesson 6

## PROJECT: LIP BALM



### LIP BALM

**TIME:** 30 minutes

#### OBJECTIVES:

- Students will learn how to measure accurately.

**INGREDIENTS:** Each recipe will make approximately 20 tubes of lip balm.

- Beeswax
- Shea butter
- Cocoa butter
- Almond or olive oil
- Flavor oil

#### MATERIALS:

- Microwave or double boiler
- Glass bowl for ingredients
- Measuring spoons (1T, 1t., and ½ t. needed)
- Plastic spoon
- Pipettes
- Table knife to cut once “set”
- Product label
- Decorations (raffia, ribbon)

### Lip Balm

**Lead In:** Living in Utah’s dry, desert climate, we use lots of lip balm. Today we are going to make a wonderful, easy, and affordable lip balm.

We will be making the lip balm as a group, with each person filling one of the lip balm containers.

#### INGREDIENT REVIEW

**Flavor oil** is quite different from fragrance. Flavor oil is safe to use in spa items that touch your mouth, like lip balm. **Do not use fragrance or essential oils.**

1. Carefully review the different abbreviations used for teaspoon versus tablespoon.
  - a. Teaspoon = t. or tsp.
  - b. Tablespoon = T or TBSP
  - c. There are 3 teaspoons in a tablespoon.
  - d. Accurate measuring is very important for this recipe.
2. Demonstrate how to properly measure ingredients as you review recipe and explain purposes of key ingredients.
  - 2 tablespoons beeswax
  - 2 ½ tablespoons Shea butter
  - 2 ½ tablespoons cocoa butter
  - 3 tablespoons almond or olive oil
  - 10 drops flavor oil

### ***Tips for Lip Balm Activity***

This recipe makes about 20 “chap stick” size tube containers of balm so students will be working as a group. You can call one student forward to measure an item; each student can fill a lip balm tube.

If you want to do two flavors, you could divide the recipe into two jars after melting and then have two flavors to choose from.

If your lip balm solution is too hot, however, it will melt the pipette. Be sure your balm is just barely melted and liquid enough to use the pipette, but not melt it.

If a tint is desired, use ½ tsp. of regular lipstick (a new, unused tube). It is not necessary to tint the lip balm; boys typically do not like it to have color.

If you are teaching a group smaller than 20 students, do not fill more than one tube of lip balm per student (unless you build that into the fee for the class). You can keep the remaining lip balm in a clean, glass container covered with a lid and use it for future classes. Just re-melt to use.

### 3. Demonstrate preparation steps:

- a. Measure all ingredients except flavor oil into a glass bowl.
- b. Melt ingredients using either a microwave or an electric skillet.
  - Place bowl in an electric skillet with 1 to 2 inches of water. Turn heat to 250 degrees to melt ingredients. Do not get it too hot.
  - Place glass bowl in microwave at medium power. Melt in 15 second intervals until oils just melt. Do not get it too hot.
- c. Once melted, fill your lip balm containers using a pipette. The mixture will quickly cool and thicken, which will make it too thick for the pipette. Students will need to work quickly to fill their lip balm tubes. If mixture thickens, re-heat if necessary.
- d. Allow tubes to set without disturbing. This takes about 15-20 minutes.
- e. Run a knife edge over the surface of each lip balm to remove excess and have a “factory fresh” appearance.
- f. Place lid or cap on container. Lip balm is ready to use.

### **STORAGE AND USE:**

1. As soon as it is set, lip balm is ready to use.
2. Like all lip balms, avoid exposure to heat as this will soften or melt the lip balm.
3. Use within 6-8 months.

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### **You Do the Math – 10 minutes**

1. Calculate the cost of making the product and compare with retail costs.

# TRY Lotions & Potions - Lesson 7

## PROJECT: BODY SCRUB



### BODY SCRUB

**TIME:** 15 minutes

#### OBJECTIVES:

- Students will learn how to measure dry and liquid ingredients.
- Students will learn about the layers of the skin.
- Students will learn about skin care and exfoliation.
- Students will learn that plants contain oils that can be extracted.

#### INGREDIENTS:

- Brown sugar
- Sunflower, sweet almond or jojoba oils
- Honey
- Vitamin E oil (optional)
- Fragrance or essential oil

#### MATERIALS:

- Plastic mixing bowl (one/student)
- Dry measuring cups (1/4 c, 1/2 c)
- Liquid measuring cup
- Measuring spoons (1T, 1t., and 1/2 t.)
- Plastic spoon
- Pipettes
- Plastic container with lid (one per student)
- Product label

### Body Scrub

**Lead In:** Do you get dry, calloused skin on your feet, elbows, or knees? Your body is constantly growing new skin cells. New skin cells are created in the skin's lower layer, the dermis. Over time, cells migrate to the surface of the skin to the layer known as the epidermis. As skins cells age in the epidermis, they become rough and uneven. We can remove these cells through exfoliation. Exfoliation is using physical or chemical means to remove the outer cells, revealing newer skin beneath. Exfoliation unclogs pores, keeps skin clean and helps reduce acne breakouts. Exfoliation should always be done on clean skin. Keep in mind it is possible to over exfoliate, which dries and irritates the skin.

Today we are going to make a body scrub to help exfoliate our skin. This is a type of physical exfoliation, which means we are using coarse ingredients such as sea salt to help rub away old skin cells.

We are using coarse (large) sea salt, so this is an abrasive scrub. To exfoliate with the body scrub, you will gently rub it on your skin while in the shower or bath. This scrub works very well on legs, feet, knees, elbows, arms and back. Do not use it on your face as it is too abrasive. Also, do not use this mixture on broken or irritated skin.

In our recipe we are using fragrance oils; however you can use essential oils to provide the fragrance you desire. *If you use essential oils, it is important that you avoid exposing skin to direct sun.* You will be working individually to make your own body scrub.

### ***Tips for Body Scrub Activity***

Have the correctly-sized dry measuring cup next to the appropriate ingredient at the bath salts station.

Place a separate paper plate under each fragrance jar; provide a separate pipette dropper for each fragrance.

Set clear limits on the quantity of fragrance to use for each project and have appropriate supervision; fragrances are *very expensive*.

Vitamin E Oil is optional to use as a preservative; however it is very expensive. Have appropriate supervision to ensure it is not spilled.

Many of the oils come in large, gallon-sized containers, which are too heavy for elementary students. If ordering in large quantities, transfer oils to smaller bottles to make it easier for youth to safely pour.

### **INGREDIENT REVIEW**

**Essential oils** are pure plant distillates and extracts. The oils are extracted (removed) from the plant using different methods; steam distillation is the most common. Essential oils are very concentrated and more expensive than fragrance oils.

**Fragrance oils** are a combination of essential oils and synthetic oils. Only cosmetic grade fragrance oils should be used in spa products, which mean they have been tested and determined to be skin safe when used properly diluted.

**Sea salt** comes from the minerals in the ocean. The ocean water is allowed to flood a huge, flat, shallow bed and then the dam is closed to trap the water. The water evaporates leaving the concentrated minerals behind.

**Sunflower, sweet almond or jojoba oils** are oils from plants. The oil is typically cold pressed to remove it from the plant. These oils, and other similar oils, are valued in the cosmetic industry for their moisturizing and storage properties.

1. Carefully review the different abbreviations used for teaspoon versus tablespoon.
  - a. Teaspoon = t. or tsp.
  - b. Tablespoon = T or TBSP
  - c. Cup = c or cup
2. Demonstrate how to properly measure liquid and dry ingredients as you review recipe and explain purposes of key ingredients.
  - a.  $\frac{1}{2}$  cup sea salt (you can use a fine grain for a less vigorous scrub; a coarse grain will provide a more abrasive scrub)



- b.  $\frac{1}{3}$  c of sunflower, sweet almond, or jojoba oil
  - c.  $\frac{1}{4}$  cup brown sugar (can use granulated sugar for a grainier scrub)
  - d. 1 tablespoon honey
  - e. 1 teaspoon Vitamin E oil (optional, serves as a preservative)
  - f.  $\frac{1}{2}$  teaspoon fragrance or essential oil
3. Demonstrate preparation steps:
    - a. Measure all dry ingredients into a plastic bowl.
    - b. Add oils and fragrance and mix well.
    - c. Spoon into plastic storage container.

**STORAGE AND USE:**

1. In between use, the oils will separate and rise to the surface. At each use, mix body scrub using a spoon (not fingers).
2. Use within 2-3 months if no Vitamin E was added; will store 6-8 months with Vitamin E.

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**You Do the Math**

1. Show retail prices of body scrub.
2. Calculate the price to make one recipe of body scrub.
3. Discuss the price differences.
4. Brainstorm ways to reduce the price of the homemade product.

## **Lotions & Potions Teaching Supplement**

### **YIELDS FROM 1 BATCH OF EACH RECIPE**

#### **Individual:**

- **Brown Sugar Body Scrub** – one recipe makes approximately 8 ounces. One youth will make the recipe and fill one 8 oz. jar.
- **Basic Bubble Bath** – one recipe makes 16 ounces. One youth will make the recipe and fill one 16 oz. bottle of bubble bath.

#### **Teams of Two:**

- **Hunsaker's Basic Lotion** – one recipe makes 16 ounces. Two youth will make the recipe together and split it so each one gets an 8 oz. bottle of lotion.
- **Aches and Itches Bath Salts** – one recipe makes approximately 3 cups. Two youth will make the recipe together and split it. They will put the salts in cellophane bags, seal with twist tie, and decorate with raffia or ribbon.

#### **Make as Group:**

- **Lip Balm** – one recipe makes enough to fill 20 lip balm tubes. If your class has less than 20 youth, only fill **ONE TUBE PER CHILD**. You can store the extra product in a clean, glass jar with a lid and use it with the next group of youth you teach.

## MEASUREMENT CONVERSIONS

- 3 teaspoons (tsp.) = 1 tablespoon (TBSP)
- 4 tablespoons =  $\frac{1}{4}$  cup
- 8 ounces = 1 cup
- 2 cups (16 ounces) = 1 pint
- 2 pints (32 ounces) = 1 quart
- 2 quarts (64 ounces) =  $\frac{1}{2}$  gallon
- 4 quarts (128 ounces) = 1 gallon

So, when a recipe calls for **2  $\frac{1}{2}$  tablespoons** that is the same as **7  $\frac{1}{2}$  teaspoons:**

- You can measure 2 tablespoons, 1 teaspoon, and one  $\frac{1}{2}$  teaspoon
- You can measure 7 teaspoons, and then  $\frac{1}{2}$  teaspoon

## FRAGRANCES

The fragrances are very expensive, so only use the amount indicated below. Please have a team member to supervise fragrance measuring. When finished, make sure to tighten the lids carefully, so the fragrance doesn't leak out.

When measuring fragrances,

1 pipette (up to about the 2  $\frac{1}{2}$  ml mark) =  $\frac{1}{2}$  teaspoon = approximately 30 drops

Lotion – 1 pipette for the entire 16 ounce recipe

Body Scrub – 1 pipette for the whole recipe

Bubble Bath – just 5 drops for the whole recipe

Bath Salts – 2 pipettes for the whole recipe

Lip Balm – just 10 drops for the whole recipe

## USING OILS

- For the lotion, use the plain vegetable oil.
- For the body scrub, use the almond or grape seed oil.
- Because it is so expensive, Vitamin E oil is not used in any of the recipes.



# Massage Melts

*(Two students split recipe)*

## **INGREDIENTS:**

- 3 tablespoons Shea butter
- 3 tablespoons solid cocoa butter
- 2 tablespoons solid coconut oil
- 1 tablespoon beeswax
- 10 drops of fragrance or essential oil

## **DIRECTIONS:**

1. Heat all ingredients, except fragrance or essential oil, in a microwave (medium-high power) for approximately 2 minutes or until just melted. You can also melt in a double boiler.
2. Stir until liquid.
3. Beat for several minutes until slightly thick.
4. Add in fragrance or essential oil.
5. Pour into lightly oiled plastic/glass molds.
6. Refrigerate until set; then remove from mold.

# Bath Salts

## *Aches and Itches Recipe*

*(One student per recipe)*

### **INGREDIENTS:**

- ¼ cup baking soda
- ½ cup sea salt
- ¼ cup dry milk
- ½ cup Epsom salt
- ½ pipette essential or fragrance oil
- 5 drops of food coloring

### **DIRECTIONS:**

1. Measure all ingredients into a quart size Ziploc bag.
2. Add 5 drops of food coloring and blend in closed bag.
3. Add fragrance.
4. Mix well in closed bag.
5. Pour into cellophane gift bag and tie with raffia.

# Bubble Bath Jelly Jars

*(One student per recipe)*

## **INGREDIENTS:**

- 1 packet of Knox unflavored gelatin
- $\frac{3}{4}$  cup water
- $\frac{1}{2}$  cup clear liquid soap or inexpensive bubble bath
- $\frac{1}{2}$  teaspoon fragrance oil or essential oil
- 3-4 drops of food coloring

## **DIRECTIONS:**

1. Empty the packet of gelatin into a large mixing bowl. Set aside.
2. Heat water in a saucepan, just until boiling.
3. Immediately remove from heat and pour over the gelatin.
4. Stir gently to dissolve.
5. Once dissolved, stir in the liquid soap/bubble bath and the food coloring.
6. Add fragrance oil or essential oil. Stir well.
7. Pour mixture into clean jars.
8. Refrigerate until set.

# Bath Fizzies

*(Two students split recipe)*

## **INGREDIENTS:**

- 2 teaspoons Shea butter
- 4 teaspoons essential oil or fragrance oil
- 1 cup baking soda
- ½ cup cornstarch
- ½ cup citric acid
- 1 tablespoon distilled water

## **DIRECTIONS:**

1. Melt Shea butter in a double boiler; add essential oil.
2. Mix baking soda, cornstarch and citric acid together in a glass bowl.
3. Make an indentation in the center of the mixture and drizzle the melted Shea butter mixture into the indentation and mix well.
4. Add water a little at a time and blend.
5. Once blended, scoop out 1 tablespoon of mixture. Shape into a ball squeezing tightly.
6. Allow to dry overnight before packaging.
7. Place in cellophane bags and tie off with raffia.



# Body Lotion

*(Two students split recipe)*

## **INGREDIENTS:**

- ¼ teaspoon citric acid
- 1 teaspoon melted cocoa butter
- 5 teaspoons stearic acid
- 7 ½ teaspoons emulsifying wax (2 T + 1 t. + ½ t.)
- 1/3 cup oil
- 1 teaspoon liquid glycerin
- 1 2/3 cup distilled water
- Fragrance or essential oils, 1/4 to 1/2 teaspoon

## **DIRECTIONS:**

1. Add one drop of food coloring to lotion bottle.
2. Measure citric acid, stearic acid, emulsifying wax, and cocoa butter into a mixing bowl.
3. Add 1 2/3 cups distilled water and 1/3 cup oil.
4. Heat in microwave on HIGH for 2 minutes.
5. Blend with blender stick 20-30 seconds.
6. Cool slightly; then add 1 tsp. of liquid glycerin. Blend for 20-30 seconds.
7. Using a funnel, pour lotion into an 8-oz. bottle that has ½ pipette of your chosen fragrance oil. Shake well.
8. Continue to shake every 15 minutes until cool.

# Lip Balm

(One recipe per 20 students)

## **INGREDIENTS:**

- 2 tablespoons beeswax
- 2 ½ tablespoons Shea butter
- 2 ½ tablespoons cocoa butter
- 3 tablespoons almond or olive oil
- 10 drops flavor oil

## **DIRECTIONS:**

1. Measure all ingredients except flavor oil into a glass bowl.
2. Melt ingredients using either a microwave or an electric skillet.
3. Once melted, fill your lip balm containers using a pipette.
4. Allow tubes to set without disturbing. This takes about 15-20 minutes.
5. Run a knife edge over the surface of each lip balm to remove excess and have a “factory fresh” appearance.
6. Place lid or cap on container. Lip balm is ready to use.

# Body Scrub

(One recipe per student)

## **INGREDIENTS:**

- ½ cup sea salt
- 1/3 cup of sunflower, sweet almond, or jojoba oil
- ¼ cup brown sugar
- 1 tablespoon honey
- 1 teaspoon Vitamin E oil (optional)
- ½ teaspoon fragrance or essential oil

## **DIRECTIONS:**

1. Measure all dry ingredients into a plastic bowl.
2. Add oils and fragrance and mix well.
3. Spoon into plastic storage container.