



LIP GLOSS (CHEMICAL ENGINEERING)

Courtesy of: Engineers Nova Scotia

Chemical engineers produce, transform, transport, and properly use chemicals, materials and energy. Through this activity the Brownies will learn how heat can transform solids into liquids, how liquids of different densities can be combined, and how engineers create new and better products.

On display

- Colourful liquids of different densities
- Ingredients for lip gloss

Setting up the group

- Divide the Brownies into groups of 5.
- Introduce yourself and the lip gloss project.
- Have them guess what the ingredients will be.
- Unveil the ingredients and describe them.



Materials you will need:

- 3 teaspoons of Beeswax (pearls - or use a grater to shred it)
- 4.5 teaspoons of cocoa butter
- 3 teaspoons of castor oil
- 1.5 teaspoons of vitamin E oil
- essential oil of your choice for a nice scent (Grapefruit, Orange and Peppermint)
- 7 containers
- chocolate melting pot
- wooden stirring sticks
- measuring spoons
- stickers with ingredients
- decorating stickers

Instructions

Have the Brownies participate as you feel comfortable, ensuring they are aware of the hot pot and stay far enough back. Have the girls take turns stirring and pouring in ingredients. This isn't an exact recipe so don't worry about amounts too much. Have them smell the essential oils and choose the flavor for the group. You should pour the liquid into the tubes at the end. Then, if there is time, have them decorate the tubes with stickers.



Melt the beeswax and cocoa butter on high, then have the girls watch how the beeswax beads become transparent and the butter melts quickly. Have them stir and see how that speeds up the process. Ask them why they think beeswax takes longer to melt than cocoa butter. Next, reduce to warm and add the castor oil and vitamin E oil. Note how the oils are liquids in the bottle but turn to solid immediately when added and then melt and become unrecognizable in the mixture.

Turn off and add the essential oils.

Pour mixture into lip gloss holders and allow them to cool for a few minutes. There is one lip gloss holder to avoid pouring the lip gloss on your hands. This will need to be shared between groups. Groups may want to decorate their holders before pouring the liquid in while other groups are pouring.

