

## Designer Hand Cream

The best way to make your skin look good is to eat a proper diet and drink plenty of water. You can also help your skin to stay moist using a skin cream. Some skin creams will help make the skin look smoother by putting moisture back into the skin. Other skin creams create a barrier preventing the evaporation of water from the skin. You can make your own skin cream that can help prevent dry hands.

### Safety Precautions



- Clean up the work area and wash your hands thoroughly at the end of this activity.

### What You Need

60 mL distilled water  
100 mL tap water  
1 g borax  
120 mL mineral oil  
30 mL grated beeswax  
hot plate  
ice bath or access to a refrigerator  
100 mL beaker  
250 mL beaker  
1000 mL beaker or small saucepan  
100 mL graduated cylinder  
stir stick or plastic spoon

### What to Do

1. Use the graduated cylinder to add 60 mL of distilled water to the 100 mL beaker.
2. Dissolve the borax in the distilled water and set aside.
3. Use the graduated cylinder to add 120 mL of mineral oil to the 250 mL beaker. Add the beeswax to the mineral oil.

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(continued)

4. Pour approximately 100 mL of tap water into the 1000 mL beaker. Place this on the hot plate and gradually warm the water. This is the hot water bath.
5. Carefully place the 250 mL beaker of oil and beeswax mixture into the hot water bath. Heat the mixture for approximately 10 min or until the beeswax melts. Describe the appearance of this mixture.

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6. Put on heatproof gloves and carefully remove the melted oil-wax mixture from the hot water bath. Remove the hot water bath from the hot plate. Let the hot plate cool down before doing the next step.
7. Place the 100 mL beaker containing the borax solution on the hot plate and bring it almost to a boil. Describe the appearance of this mixture.

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8. Use heatproof gloves to slowly add the borax solution to the oil-wax mixture. Stir this mixture continuously with the spoon. Describe the appearance of this mixture.

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9. Cool the beaker containing the oil, wax, water, and borax mixture in an ice bath or the refrigerator.
10. Check the beaker every 5 min for the remainder of the class. Record the appearance of the mixture.

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### **What Did You Observe?**

- 11.** Describe the changes in appearance of the oil, wax, water, and borax mixture as it cools.

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### **What Did You Learn?**

- 12.** Rub a small amount of the hand cream on your hands. How does this mixture feel?

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- 13. a)** Do you think this mixture will help to keep your hands moist?

YES      NO

- b)** Explain.

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