

BLM Answers

BLM 15-2 Looking at Skin

4. Accept any two of:
- protects body cells
 - keeps out dirt and bacteria
 - controls body temperature

BLM 15-3 Designer Hand Cream

5. The wax melts in the oil. This mixture is a clear, colourless liquid.
7. The borax dissolves in the hot water. This mixture looks like water.
8. The borax, wax, and oil mixture, when warm, is clear and colourless.
10. As the mixture cools it changes almost instantly from a colourless liquid to a thick, cloudy mixture.
11. As the mixture cools, it becomes cloudy and opaque (you can not see through it). The mixture also thickens and starts to look like hand cream. The colour of the cream depends on the colour of bee's wax that was used.
12. Students may note that the mixture is similar in feel to petroleum jelly.
13. Students may answer yes because skin creams help maintain skin's natural moisture levels. Moisturizers work by providing a seal over your skin keeping water from escaping. Various skin creams will help make the skin look smoother by putting moisture back into the skin. Others create a barrier preventing the evaporation of water from the skin.

BLM 15-5 Are All Tooth Whiteners the Same?

1. Questions will vary. Sample question:
- Which tooth whitener will whiten the shell of a brown egg better?
2. Sample prediction:
- I predict that whitener X will work better because it has a higher percent of active ingredients.
3. Sample list:
- Be careful not to get the whitener on your hands, clothes, or anything other than the egg.
 - Wash your hands thoroughly after using the whitener.
4. **Step 1:** Mark 2 rectangles on the egg where the two whiteners will be applied.

Step 2: Apply the whiteners according to instructions on the package.

Step 3: Each day for 5 days apply fresh whiteners to the rectangles.

Step 4: Compare the 2 rectangles.

6. **Day 1:** Students should not see much change in the colour of the egg. They may see an area that is just a bit lighter than the other part of the egg.
- Day 2:** Students should start to see a change in the colour of the egg. They should see a definite band where the pigment has been bleached by the chemicals in the whitener.
- Day 3:** The area under the whitener will be much lighter. It is not pure white, but students will see that the whitener is removing the pigment from the egg shell.
- Day 4:** It may be difficult for students to see any significant difference. However, they will be able to infer that the whitener did bleach the natural pigments from the egg shell.
7. Answers will vary. Students will likely say that one whitener was better than the other, or that both gave similar results.
8. Answers will vary. Students may report that one whitener worked faster than the other, or that one was more effective over 5 days than the other.
9. Students should have used the same egg for both whiteners and applied either the same amount of whitener to each spot, or the recommended amount to each spot.
10. Answers will vary. Students might mention that they would do several trials of different eggs at the same time or apply more exact amounts of the whitener each time.
11. Students should comment on their own contributions as well as on their support of other group members.

BLM 15-6 Chapter 15 Practice Test

1. **b)** abrasive
2. **d)** detergent
3. **a)** fluoride
4. Answers may vary. For example:
- a)** scrub away plaque
 - b)** slow down growth of plaque bacteria
 - c)** strengthen teeth

5. Eating a proper diet helps to keep your skin healthy and looking good.
6. A layer of oil slows down the evaporation of water.
7. The drawing should show that the chemical sunscreen absorbs the UV rays and the physical sunscreen reflects the UV rays.
8. Accept three functions in any order.
 - a) protects body cells
 - b) keeps out dirt and bacteria
 - c) controls body temperature
9. Understanding the science behind toothpaste helps you to appreciate how the ingredients work together to protect and strengthen the teeth.
10. Ultraviolet rays can burn your skin and cause skin cancer.
11. If the toothpaste is too abrasive, it could damage the outer layer of the teeth.
12. a) No. b) There might have been very little sunlight where he was working. Mario's skin might not burn until more than 30 min in the Sun.

BLM 15–7 Chapter 15 Test

1. b) bacteria
 2. c) Chemical
 3. a) Sun
4. Answers may vary. For example:
 - a) drink lots of water
 - b) eat a proper diet with plenty of fruits and vegetables
 5. Accept any two of:
 - scrub away plaque
 - slow down the growth of plaque bacteria
 - strengthen teeth
 6. Preservative is added to toothpaste to prevent the growth of micro-organisms.
 7. Beaker A should show water evaporating. Beaker B should show that no water (or very little water) is evaporating.
 8. It is important to wear sunscreen to reduce chances of burning your skin and of developing skin cancer.
 9. Physical sunscreens reflect UV rays. Chemical sunscreens absorb UV rays.
 10. Accept any two of:
 - protects body cells
 - keeps out dirt and bacteria
 - controls body temperature
 11. Fluoride helps to strengthen the teeth.
 12. a) No. b) The two sunscreens might have a different SPF rating, and Gina could have been sitting with one side of her face in the shade.