

# THE ROLE OF BILE IN DIGESTION

STUDENT BOOK Chapter 6, page 167

## Goal

Observe a representation of the effect of bile on fats.

## Observation criteria

1. What organ is responsible for secretion of bile?

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2. What category of nutrients is affected by bile?

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3. What category of nutrients largely makes up vegetable oil?

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4. Identify:

- a) the three secretions of the digestive system that act on fats.
- b) the organ or glands that emit each secretion.
- c) the organ or glands to which each secretion passes.

Secretions that act on fats	Organ or glands that emit secretion	Organ or glands to which secretions pass

## Materials

- marker
- 2 125-mL Erlenmeyer flasks and stoppers (no. 5)
- 50-mL graduated cylinder
- dropper bottle of distilled water
- vegetable oil
- dropper bottle of dishwashing liquid



## Procedure



1. Label the Erlenmeyer flasks 1 and 2 with the marker.
2. Pour 50 mL of distilled water into each flask.
3. Add 12 mL of vegetable oil to each flask.
4. Add 12 drops of dishwashing liquid to flask 1.
5. Stopper each flask.
6. Shake each flask vigorously for about 5 seconds.
7. Observe in which flask water and vegetable oil mix most easily. Record the result.
8. Observe in which flask droplets of vegetable oil last longest. Record the result.
9. Clean up and put away materials.

## Observations

1. The Erlenmeyer flask in which distilled water and vegetable oil mixed most easily:

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2. The Erlenmeyer flask in which droplets of vegetable oil lasted longest:

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## Reflecting on your observations

1. According to your observations, what is the role of dishwashing liquid in this lab?

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2. If there had been a substance in the flasks allowing fats to be digested as in the small intestine, in which flask would digestion have been easiest? Give two reasons to explain your answer.

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Name: \_\_\_\_\_ Group: \_\_\_\_\_ Date: \_\_\_\_\_

3. The effect of dishwashing liquid in this lab is similar to the effect of bile in digestion.  
Explain the role of bile in digestion.

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4. Did your observations help you to better understand the effect of bile on fats?  
Explain your answer.

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5. How could you improve the protocol for this lab?

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