

Sink or Float

If you hang around near a pond, you might see a bug skate across the water. How does it do that? The answer has to do with surface tension.

The water molecules on the top of the pond stick tightly together. This creates surface tension. Since bugs are very light, they can rest on top of the water without breaking the tension. It's like they are standing on solid ground.

You can explore the power of surface tension with a paperclip. First, get a bowl of water. Next, put a small paper towel square on top of the water. Then, put a paperclip on top of the paper towel.

What will happen if you use a pencil to push the paper towel into the water and away from the paperclip? The paperclip should float! It floats because of the surface tension of the water. The water molecules are sticking together.

Now you can repeat the experiment. But this time, add some dish soap to the water and stir. Then put the paper towel and paperclip on top. What happens when you push the paper towel away this time?

Most likely the paperclip will not float. The soap has caused the water molecules not to stick together as tightly. It has interrupted the surface tension. Because the surface tension is lower, the paperclip will sink.



You can also repeat the experiment with something heavier than a paperclip. You can test different items to see how heavy they can be before they break the tension and sink to the bottom of the bowl. Will two paperclips float? How about an eraser? Try it and see!



This page has been intentionally left blank.

NAME: _____ DATE: _____

1. What natural event demonstrates surface tension?
 - a. A paperclip sinking in a bowl of water
 - b. A bug skating on the surface of a pond
 - c. A goldfish swimming in a fish bowl
 - d. A duck diving in a pond

2. In the experiment, what do you put between the water and the paperclip?
 - a. A paper towel
 - b. Dish soap
 - c. Another paperclip
 - d. A pencil

3. How does the addition of dish soap make the paperclip sink?
 - a. It causes the water molecules to stick together more tightly
 - b. It forms bubbles
 - c. It interrupts the surface tension
 - d. It makes everything clean

4. What is more likely to sink, something heavy or something light?
 - a. Neither
 - b. Both
 - c. Something light
 - d. Something heavy

Instructions for teachers:

These questions can be used to assess understanding of the reading passage.

The item in bold is the correct answer for each question.

1. What natural event demonstrates surface tension?
 - a. A paperclip sinking in a bowl of water
 - b. A bug skating on the surface of a pond**
 - c. A goldfish swimming in a fish bowl
 - d. A duck diving in a pond
2. In the experiment, what do you put between the water and the paperclip?
 - a. A paper towel**
 - b. Dish soap
 - c. Another paperclip
 - d. A pencil
3. How does the addition of dish soap make the paperclip sink?
 - a. It causes the water molecules to stick together more tightly
 - b. It forms bubbles
 - c. It interrupts the surface tension**
 - d. It makes everything clean
4. What is more likely to sink, something heavy or something light?
 - a. Neither
 - b. Both
 - c. Something light
 - d. Something heavy**