

CURIOSITY AT HOME

PRESSURE INSIDE



Have you ever wondered what makes popcorn pop? Try the following activity to help students understand what is happening inside a kernel of popcorn to make it explode into a tasty treat.

MATERIALS

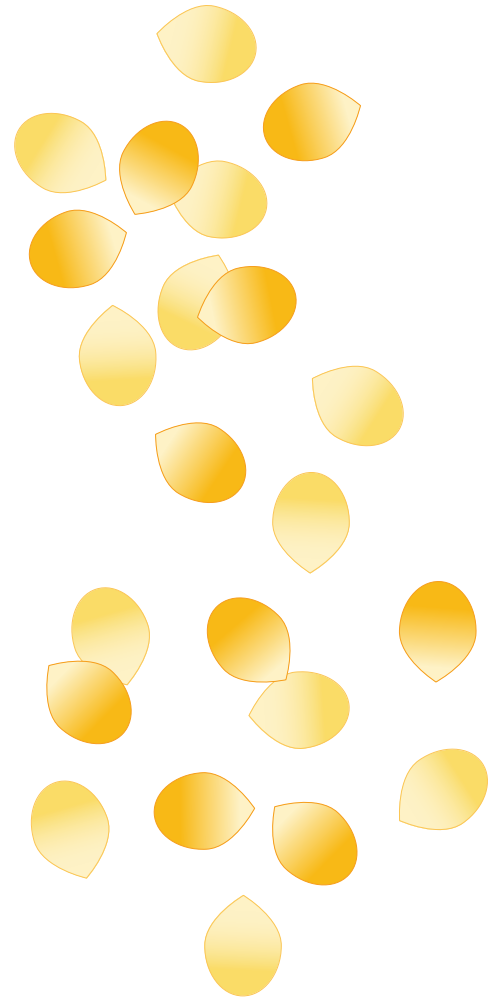
- unpopped popcorn
- popcorn popper (a model that allows you to see the popcorn while it is in the popper makes observation easier, but is not necessary)

PROCEDURE

- Observe some kernels of unpopped popcorn.
- Have students take note of size and shape.
- Set up the popper and begin heating the popcorn kernels. Observe changes in size and shape as the popcorn heats up.
- Finish popping the popcorn and have students use their senses, including taste, to make observations about the final change in the kernels.

DID YOU KNOW

The starch inside of the popcorn kernels contains a small amount of water. As the kernels are heated, that water changes from a liquid to a gas (water vapor). A gas takes up more space than a liquid. As the gas builds up in each kernel, it takes up more and more space, causing more and more pressure to build. Finally, the pressure of the expanding gas is so great, it causes the kernel to explode. In the explosion, the outside of the kernel, the pericarp, is broken and the starchy tissue of the inside is blown out.



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