

STARBASE Hill Review Day 2



1. A ricochet is when a projectile rebounds off a surface one or more times. Which of Newton's Laws of Motion states a ricochet will occur once a projectile strikes a surface? Why?

2. Popcorn is a wonderful snack for the movies, game nights or just walking around the park. But did you ever think about what type of reaction popcorn popping is? Is it a physical or chemical change? If you need to watch it, just check out the video posted on the right. Explain your answer below and support it with terms you learned in class or at STARBASE Hill.



<https://www.youtube.com/watch?v=FSZd33awqQk>



https://www.youtube.com/watch?v=N5_hwplixDg

Recipe for Oobleck

Materials

- 1 cup of water
- 1 to 2 cups of cornstarch
- Mixing bowl
- Food coloring (optional)

Put cornstarch into mixing bowl. Add food coloring to water and mix well. Slowly pour water, a little at a time, into the bowl while stirring continuously. Continue until the mixture has the consistency of glue or syrup.

3. Oobleck is a fun mixture to have when playing with friends...but is it a solid, a liquid or both? Make some yourself or watch the YouTube video above. What do you think? Make an inference on what you think Oobleck is, but also back up your inferences with the observations from the video or your own Oobleck mixture.

The answers will vary but should follow along the line of thinking with the answers below.

Name _____

Date _____

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1. A ricochet is when a projectile rebounds off a surface one or more times. Which of Newton's Laws of Motion states a ricochet will occur once a projectile strikes a surface? Why?

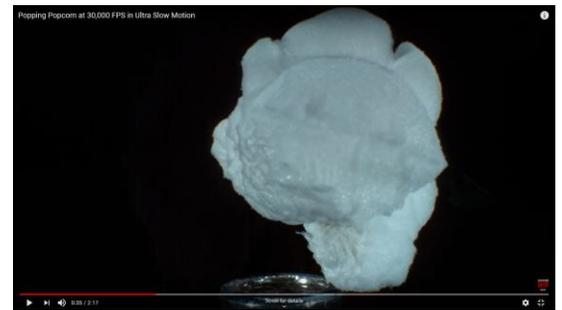
Newton's Third Law of Motion states an object will have

an equal and opposite reaction to a surface it

comes in contact with, while in motion. So, an object

will "ricochet" when it contacts another surface.

2. Popcorn is a wonderful snack for the movies, game nights or just walking around the park. But did you ever think about what type of reaction popcorn popping is? Is it a physical or chemical change? If you need to watch it, just check out the video posted on the right. Explain your answer below and support it with terms you learned in class or at STARBASE Hill.



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This is a physical change, no new chemical is produced. Popcorn kernels contain a small amount of water.

As the kernel heats up, the water reaches its boiling point. As it does this, it becomes steam and

expands pushing out on the kernel's outer shell. The shell gives way and the kernel turns inside out.



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Materials

- 1 cup of water
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- Mixing bowl
- Food coloring (optional)

Put cornstarch into mixing. Add food coloring to water before adding water to cornstarch. Slowly pour water, a little at a time, into the bowl. Stir continuously. Add more water as it disappears into the mix. Continue until the mixture has the consistency of glue or syrup.

3. Oobleck is a fun mixture to have when playing with friends...but is it a solid, a liquid or both. Make some yourself or watch the YouTube video above. What do you think? Make an inference on what you think Oobleck is, but also back up your inferences with the observations from the video or your creation.

Oobleck is what is known as a Non-Newtonian Fluid, like quicksand, or even ketchup. These fluids

can change from solid to liquid or vice versa depending on the pressure applied to them. This is true

for Oobleck because the cornstarch particles are long and thin. If little pressure is applied the particles move past each other, under high pressure the particles rub (friction) and appear solid.