Teacher Resource

Chemical Engineering

Grades 3-5

We are so excited to have you utilize our Stem with Storm videos in your classroom! Innovation One and Education One have partnered together for some fun with our campus mascot, Storm, to share his love of learning with STEM- Science, Technology, Engineering and Mathematics with students near and far demonstrating some fun experiments directly aligned to Indiana State Standards!

The enclosed follow-up activities can be utilized for extended hands-on learning for your scholars. Our goal is to get those young brains thinking and spark the imagination and love of learning of future professionals!

Let's Learn Together with Storm!

A partnership of:

Indiana Standards Connection:

Science Standards:

3-5.E.1: Identify a simple problem with the design of an object that reflects a need or want. Include criteria for success and constraints on materials, time, or cost.

3-5.E.2: Construct and compare multiple plausible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

3-5.E.3: Construct and perform fair investigations in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Classroom Extension:

This corn will hop up and down repeatedly in your container for over an hour. It's so much fun to watch (mesmerizing would be the best word to describe it) and it creates a great opportunity to talk about gasses, liquids, and solids with your child.

YOU WILL NEED:

- a clear glass container
- popping corn
- 2 1/2 – 3 cups of water
- 2 Tbsp. of baking soda
- 6 Tbsp. of white vinegar
- food coloring (optional)

INSTRUCTIONS:

1. Fill your jar with water and add a couple drops of food coloring.
2. Add your baking soda and stir well until it is all dissolved.
3. Add a small handful of popping corn kernels.
4. Add the vinegar and watch the corn start to hop up and down!

Basically the science behind the activity is that when the baking soda and vinegar combine, they react to form carbon dioxide (CO_2) gas. The gas forms bubbles in the water which circle around the corn kernels. The bubbles lift the kernels up to the surface and when they get there they pop and the kernels sink again.

The “hopping” continues until the vinegar and baking soda have finished reacting. For us, it lasted over an hour!