



High Touch High Tech[®]

Science Experiences That Come To You

Pumpkin Parts Density Tower

Supplies:

- Corn syrup
- Water
- Food coloring
- Vegetable oil
- Small pumpkin
- Large jar
- Spoons
- Knife (parental supervision)

Instructions:

1. Using the food color of your choice, dye the corn syrup
2. Layer the liquids in your jar in the following order:
 - a. 1/3 full of corn
 - b. 1/3 full of water
 - c. 1/3 full of vegetable oil
3. With the help of a supervising adult, cut open the pumpkin and remove the seeds & guts.
 - a. Separate the seeds from the guts
4. Cut chunks of pumpkin flesh from the pumpkin and set aside
5. Cut the stem into pieces and set aside
6. Using your spoon, push each part of the pumpkin to the bottom of the density jar
7. Watch as each pumpkin part rises according to its density

The Science Behind It:

Density is basically how much "stuff" is smashed into a particular area or a comparison between an object's mass and volume. The same amount of two different liquids will have different weights because they have different masses. The liquids that weigh more (have a higher density) will sink below the liquids that weigh less (have a lower density).



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Remember the all-important equation: $\text{Density} = \text{Mass} \div \text{Volume}$. Based on this equation, if the weight (or mass) of something increases but the volume stays the same, the density must go up. Likewise, if the mass decreases but the volume stays the same, the density must go down.

Based upon what we now know about density, which of your pumpkin parts had the highest density? Which pumpkin parts had the lowest density?

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