



STEM Ahoy! Exploding Chalk Challenge Directions



Challenge:

Create a new way to design with chalk!

Directions

1. Research and read about chemical reactions! What makes different states of matter react with one another?
2. Gather all materials.
3. Sketch or brainstorm how the different materials might react with one another!
4. Begin by combining 1 cup of corn starch with 1 cup of white vinegar in a large zip-seal bag.
5. Mix until combined. Repeat this process until the desired amount of “exploding chalk” are prepared!
6. In each bag, place several drops of food coloring and seal them tightly.
7. Once sealed, mix around the materials in the bag with hands “massaging” the mixture until fully combined.
8. In addition to the paint bags, you will need baking soda exploders!
9. Start with a toilet-paper square
10. Place 1-2 tablespoons of baking soda into the middle of the paper.
11. Then tuck and fold the paper securely around the baking soda.
12. Repeat this process for the number of bags you created.
13. Once outside on the sidewalk, take prepped baking soda exploder and drop it into a sealed bag.
14. QUICKLY seal the bag and observe the chemical reactions!

VDOE Engineering Design Process:



Materials:

- *Suggested Items*
- *Zip-seal bag
- *Corn starch
- *Vinegar
- *Food Coloring/Watercolors
- *Baking soda
- *Toilet paper