April STEM Challenge

Expanding Balloon Challenge

Challenge: Can you create a chemical reaction to make a balloon expand?

Materials:
- Funnel
- Recycled water bottle
- Balloon 9"
- Spoons
- Measuring cups/spoons

Liquids:
- Water
- Vinegar
- Bubble solution
- Other liquids of choice

Solids:
- Baking soda
- Salt
- Other particle solids of choice

Consideration: What are the things you should know about chemical reactions before you begin?

Procedure:
- Choose the liquids that you would like to place in your bottle.
- Decide how much of each you would like to add (totaling 200 ml)
- Add 200 ml of liquid into the recycled water bottle
- Choose a solid material to put into your balloon (. total 1 Tbs)
- Stretch the opening of your balloon and tap in about 1 Tbs of powder.
- Place the balloon over the lid of your recycled bottle
- Tip the balloon upright until the powder dumps into the liquid
- Make sure to pinch your balloon tight to the lid of the bottle
- Watch your balloon and the liquids in the bottle. Observe what happens. Did you have a chemical reaction?
- Record what you noticed. Draw or take pictures

**Teacher demonstration:** At some point, you might want to stop students to discuss the properties of matter: solids, liquids, and gases and chemical reactions.

Reflection:
- ✓ Draw or take a picture of your balloon investigation. Make sure to include labels.
- ✓ Explain what happened during your investigation
- ✓ Tell what changes you would make if you were given the chance to complete this investigation again.
- ✓ Teachers please submit a list of students who participated by email to the STEM Resource Center stem@gstboces.org

✓ Teachers- Please make sure that your list has your name, school district, grade level and return address included.
✓ This challenge is Due: May 1st
Expanding Balloon Challenge

**Challenge:** Can you combine a solid and a liquid to make a balloon expand?

**Materials:** Balloon, water bottle, solid, and a liquid

**Prediction:** What do you think will happen when you combine a solid and a liquid to blow up a balloon? Circle what you think will happen.

**Observations:** Draw and label what happened.
What happens when the ingredients were combined in a bottle?

Explain the reactions you observe?

_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________

Explain what caused this to happen.

_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
Expanding Balloon Challenge

Challenge: Can you combine a solid and a liquid to make a balloon expand?

Materials: Balloon, recycled water bottle, solid, and a liquid

Solid choice: _____________________________
Liquid choice ____________________________

Prediction: What do you think will happen when you combine a solid and a liquid?

______________________________
______________________________
______________________________
______________________________

Observations: Draw and label what happened
What happens when the ingredients were combined in a bottle?

Explain what you saw:

__________________________________________________________________________________________________
__________________________________________________________________________________________________
__________________________________________________________________________________________________
__________________________________________________________________________________________________
__________________________________________________________________________________________________
__________________________________________________________________________________________________

Explain what caused this to happen:

__________________________________________________________________________________________________
__________________________________________________________________________________________________
__________________________________________________________________________________________________
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