**Droughts + Floods, Lesson 1**

**Notice/Wonder**

- **I notice**
  - Some people used to live there.
  - The water is not very clean.
  - People are moving around.
  - There is a well nearby.

- **I wonder**
  - Where did the water go?
  - What do you think happened?
  - Why do they have a well near the house?
  - Will they have to keep going to the pump?

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**Everest, Lesson 1**

**DQB questions**

- Why does Mt. Everest move?
  - A.P.
  - Will Mt. Everest ever stop growing?
  - D.F.
  - Do the earth's layers move?
  - Can we feel the ground moving?

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**Collisions, Lesson 1**

**Initial Model**

- Time Point 1: Right when the objects touch, I would see the rest of the damage that happened after the two objects made contact.
- Time Point 2: A split second later, I would see the rest of the damage that happened after the two objects made contact.

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**Bath Bombs, Lesson 2**

**Progress Tracker**

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>SOURCES OF EVIDENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where is the gas coming from?</td>
<td>Zip-lock bag experiment where we used a scale.</td>
</tr>
</tbody>
</table>

**WHAT WE FIGURED OUT IN WORDS/PICTURES**

What we found out is that there is no new matter. We know this because the mass/weight didn’t change so the claim - “The gas was formed from a chemical reaction when you add water.” - is right because when we broke the bath bomb into lots of pieces in the bag no mass was added or released because the bag didn’t expand and the weight stayed the same.
Sound Unit, Lesson 5

Planning for an investigation

Lesson 5: Investigation plan & Observations

What is the question we are trying to answer today?
We want to know how high pitch and low pitch vibrations compare?

What kinds of instruments or other sound sources make higher pitch sounds?
Smaller instruments and sound sources make higher sounds.

What kinds of instruments or other sound sources make higher pitch sounds?
Larger instruments and sound sources make lower pitches.

How can we use the stick and motion detector to help us answer our question?
We can resize the stick to make different pitch vibrations. Smaller to make higher pitch and longer for a lower pitch.

Part 2: Use the data table below to record your observations as we try our investigation plan with the stick and the motion detector.

<table>
<thead>
<tr>
<th>Length of stick</th>
<th>Observation #1</th>
<th>Observation #2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Longer Length (Video 1)</td>
<td>The vibrations are not very far from rest (low amplitude)</td>
<td>There were only 2 vibrations in 2 seconds. (Frequency)</td>
</tr>
<tr>
<td>Medium Length (Video 2)</td>
<td>The vibrations are close to rest position (Low amplitude)</td>
<td>There were 4 vibrations in 2 seconds. (Higher Frequency)</td>
</tr>
<tr>
<td>Shorter Length (Video 3)</td>
<td>The vibrations are close to rest position (Low amplitude)</td>
<td>There were 8 vibrations in 2 seconds. (Even higher frequency)</td>
</tr>
</tbody>
</table>

Bath Bomb, Lesson 5

Argument

Our question: What gases could be produced by a bath bomb?

- Your written argument should provide a claim to answer this question.
- You should use all relevant evidence and reasoning (using scientific principles and ideas based on science) to support your claim. Look through your science notebook for ideas.
- You should use your anchor chart to remind you of what is important to include.

The gases that could be produced by a bath bomb are Argon, Nitrogen, Carbon Dioxide, or Carbon Monoxide. A little app for an experiment we put a lit match into the bath bomb gas, setting a with and the matching flame extinguished. This means that we can eliminate the with it behavior. Propagation in hydrogen, methane, and oxygen because in our “Some Common Gases” data. Here those gases won’t extinguish a flame, and this connects to our scientific principle that certain proportion can identify specific gases. Therefore those gases are removed from the list of possible gases in the bath bomb. In our most recent experiment we passed a bottle of bath bomb gas into an allevein container and it extinguished the lit candle inside, and it was found dangerous. This means that the gas produced by a bath bomb is more dense than air because of the scientific principle that less dense things rise and more dense things sink. Which determines they get hotter from the hotter gases that could be produced by a bath bomb. In short, the gases that could be produced by a bath bomb are Argon, Nitrogen, Carbon Dioxide or Carbon Monoxide, and the only gases that are remaining on this list of gases that could be produced by a bath bomb based on our data and requirements.

Everest Unit, Lesson 8

Small group model with student feedback

Thermal Energy, Lesson 16

Design ideas