**Notice**

- grainy texture
- porous (small holes)
- different colors
- smell

**Wonder**

<table>
<thead>
<tr>
<th>Something in the middle?</th>
</tr>
</thead>
<tbody>
<tr>
<td>- How will it act in water?</td>
</tr>
<tr>
<td>- Other liquids?</td>
</tr>
<tr>
<td>- Are the colors inside?</td>
</tr>
<tr>
<td>- What's keeping it together?</td>
</tr>
<tr>
<td>- What is the bath bomb made of?</td>
</tr>
<tr>
<td>- Would temp/amp affect the bath bomb?</td>
</tr>
<tr>
<td>- Is volume the same after bubbles go away?</td>
</tr>
<tr>
<td>- Will the bubbles go away</td>
</tr>
<tr>
<td>- What caused the bubbles to form?</td>
</tr>
<tr>
<td>- Is the water still water? Did it change?</td>
</tr>
</tbody>
</table>
Initial Consensus Model
(What we see)

A. Bath Bomb

B. Water

Right before adding the bath bomb to water

D. Bath bomb goes down and up

During

A couple seconds after adding the bath bomb to water

After

A few minutes later

Water?
Initial Consensus Model

Before putting these together:
- A. Sample of bath bomb
- B. Sample of water

A couple seconds after adding the bath bomb to water:
- Key:
  - o - bath bomb particle
  - o - water
  - o - gas (something new)
- breaking apart?
- Chem rxn? dissolving?

As gas bubbles appear:
- D. Sample of gas in a bubble
- C. Sample of liquid left over

Evidence?

? Are all particles the same

? Carbon dioxide?
Driving Question Board

Questions about the BB Reaction
- Why didn't all the colors appear?
- Why did the foam turn back into a liquid?
- Why did the water from the bottle absorb the surfactant?
- How does the foam form/disappear?
- Change the Color & Liquid
- Then?

Questions about the BB Ingredients
- Does the green bottle react with the warm liquid?
- Why do the surfactant and the surfactant-associated dye not react?
- Why does the water from the bottle absorb the surfactant?
- What is the role of the surfactant in the reaction?

Questions about the Formation of Bubbles
- What caused the bubbles?
- What are the bubbles made of?
- What is the bath bomb made of?
- What makes up the bomb?
- Besides a gas, was anything else created from the reaction?
- What is the end result of the liquid after the reaction is dissolved?
- What gas is being formed when the bubbly bomb is dropped in the water?

Questions about what made up the bath bomb
- What was in the beaker that caused the foam to form?
- How do the bubbles start forming?
- How does the gas form/where does it come from?
- Where did the bubbles come from?
- What causes the foaming & bubbles?
Lesson Question

What happens when a bath bomb is added to water?

What is going on inside the BB? Is it changing states?

Phenomenon/Activity

Observe both baths bombs and what they do when added to water.

Simulation to learn about different states of matter.

What we figure out

The solid bath bomb shrinks. Bubbles appear.

Although the substance stays the same (same substance and particle motion is different in the different states of matter even)

Navigation

Where is the gas coming from?

Where is the gas coming from?
GOTS

- Get: I understand how this can be done in my classroom.
- Got: I practiced how to organize students during into learning.
- Off: I learned to facilitate questions to foster discussion.
- Tends: I am more students who have common goals.
- Thank you for all.

- I learned new strategies and I need the establishment of the content to study.
- Acknowledged carefully.
- Got: New ideas on how to introduce topics.
- Needs: New way of presenting resources.
NEEDS

- How do we plan units?
- Timeline for the whole unit
- Order of units

Pharmacies? How to explain to the students?

Less teacher talking?

How much time (real time) these lessons will take?

How should I break down the lessons according to my schedule?

Training videos?

NEED:
- How to incorporate new concepts and time?

We need to dissect the new curriculum:
- What changing?
- How is it going to look like?

Needs:
- Be able to finish the lesson in one class

Need:
- More details on New Curriculum
- What is new and what needs to be revised

Additional needs:
- Classroom management
- Additional planning tools
- Content writer's ability to plan

How to utilize this within my class schedule (time) and stay deep dive in New Curriculum.
- Air conditioning
Sensemaking

coming to a scientific conclusion of phenomena using self discovery, investigations, collaborating, developing ideas

- discussions
  → alone zone
  partner talk
- pulling prior knowledge
- CER
- questioning
- teacher scribe
- modeling

[teacher doing]
- engaging
  - scientist circles
- Student led
- making visuals

[Student doing]
- prompting
  - back pocket questions
- using examples
- allowing misconceptions
  - respect ideas
  - all ideas are heard
- collaborating
- investigating
- classroom norms
- revisit norms

Pulling Prior Knowledge
Observing

Asking Questions → Drawing models → Look for evidence → Explain what you know

Building on other ideas → Listening → Clarify others
**Sensemaking**

The process of students developing their own understanding based on observations, data, and prior knowledge & discussions around a phenomenon

**Students:**
- Observations based on data
- Sharing ideas
- Making connections
- Agreeing/disagreeing
- Applying prior knowledge

**Teachers:**
- Facilitating recording ideas
- Providing questions to develop answers
- Asked STs with misconceptions to explain & elaborate
- Created a safe place for STs to share ideas

**Student Supports:**
- Need goals
- Need models
- Need a safe zone
- Need clearly defined expectations

**Teacher Supports:**
- Toolbox of Guiding Questions
- Need modeling
- Set expectations and procedures on Day 1
- Time to collaborate with other teachers

Need alone time
What is Sensemaking?

Instructional modeling of the real world/phenomena

- Inquiry
- Telling their stories or understanding based on their knowledge (prior) and/or learning.

**Elementary**
- Viewing and analyzing their drawings
- Misconceptions between the life cycle and germination

**High School**
- Feeling comfortable to share what they don't know
  * that was the student’s story *
- Sharing their own thoughts without hesitation

Top 5 Supports that students need:
1) Vocabulary
2) Safe environment/space
3) Visuals/Modeling
4) Wait time
5) Teachers’ relationships

Top 5 Supports that teachers need:
1) TIME
2) Resources: enough supplies
3) Training
4) District/Admin Support
5) Realistic expectations

Building Relationships

Norms, Productive Talk
SENSEMAKING

Ask a question

Explore the question.

New claim with evidence

Correct

Incorrect

Repeat

New question

Discussion and model

Discussion and update model

Clarification

Move to next question

1st draft of claim with evidence

If correct

Incorrect

Process
1. Safe, Supportive Environment
2. Norms and Routines
3. Vocabulary (Science)
4. Clear Instructions
5. High Expectations

INVESTIGATE

REAL WORLD PHENOMENON

SENSEMAKING

NOT A "1 AND DONE" ITS A PROCESS TO BUILD ON. STARTS WITH A QUESTION.

USES PRIOR LEARNING

Consensus "WE TEAM"

STUDENT OWNERSHIP "CONNECTIONS"

USE OF RELEVANT EVIDENCE TO DEVELOP A CLAIM

ASK QUESTIONS

PRODUCTIVE TALK

*NORMS*

VISUAL MAPPING OF STUDENT IDEAS

"SPARK" N.E.

DEVELOP MODELS!

PRACTICE!
Sensemaking
- thinking out loud
- communicating/working together
- evidence based investigation
- respective argumentation
- developing a product - ownership

Student Support
- Sentence Starters
- Example dialogue
- Protocol in place
- Discussion strategies
- Effort
- Model support

Teacher Support
- How to create classroom norms
- Model
- Supportive questions to guide students
- Exemplars (posters, models, etc.)
- Teacher video
- Backpocket questions