

# WPS SCIENCE CURRICULUM OVERVIEW

[OpenSciEd](#)

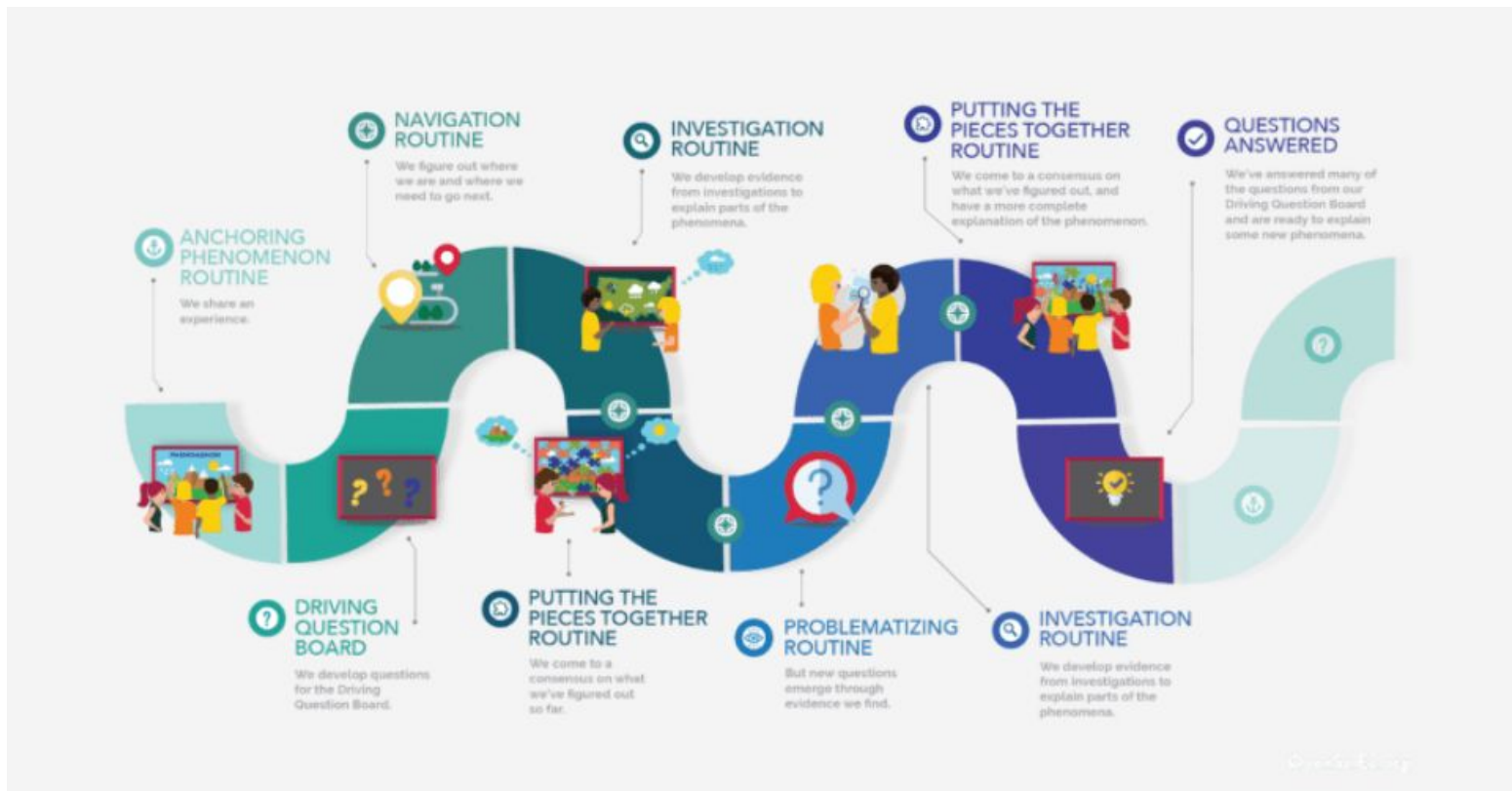
# WHY OPENSCIED?

- Only resource that has every unit rated as high quality
  - Science researchers and educators develop, pilot and revise units
  - Fully designed to NGSS
  - Phenomena based
  - Driven by student led questioning, investigating and problem solving
  - Teacher is learning facilitator not lecturer
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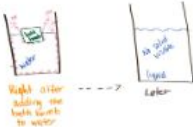
# LET'S PEEK INSIDE AN OPENSIED CLASSROOM




# SCIENCE ROUTINES



# STORYLINES (PG. 11-19)

Lesson Question	Phenomena or Design Problem	What we do and figure out	How we represent it
<p><b>LESSON 1</b></p> <p>4 days</p> <p><b>What happens when a bath bomb is added to water (and what causes it to happen)?</b></p> <p>Anchoring Phenomenon</p> 	 <p><i>When solid bath bombs are added to water, they start breaking apart, and gas bubbles appear on and around them for a few minutes, until no solid is left.</i></p>	<p>We observe different bath bombs and what they do when added to water and then develop individual models and explanations to show what is happening at a scale smaller than we can see. We develop an initial class consensus model, brainstorm related phenomena, develop a DQB and ideas for investigations to pursue. We figure out that:</p> <ul style="list-style-type: none"> <li>• We had competing ideas for whether the matter in the solid that we started with is still there after it is added to water. Some thought that it was all still there, while others thought not all of it was still there.</li> <li>• We had competing ideas for where the gas came from that was in the bubbles that appeared. One was that it was there to start with (trapped inside the solid). The other was that it formed from some of the stuff we started with (e.g., in the solid and/or water).</li> </ul>	<p><u>Our Initial Consensus Model</u> for what we saw happening to the solid bath bombs in water.</p> 

Navigation to Next Lesson: We want to collect some data to see whether we can find evidence for the gas being in the solid before it is added to water.

<p><b>LESSON 2</b></p> <p>2 days</p> <p><b>Where is the gas coming from?</b></p> <p>Investigation</p>	 <p><i>The mass of a bath bomb put in water in an airtight container does not change, but the mass decreases after the cap on the bottle is</i></p>	<p>We investigate bath bombs, measuring their mass in a closed and open system before and after crushing them and before and after we add the bath bomb to water. We argue from evidence about where the gas came from. We figure out that:</p> <ul style="list-style-type: none"> <li>• The gas we observed from the bath bomb does not come from any gas that was originally trapped in the bath bomb itself.</li> <li>• Instead, the gas we observed when the bath bomb was placed in water comes from some change to the matter that is already there.</li> </ul>	<p><u>Arguing for (or against) a claim:</u></p> <ol style="list-style-type: none"> <li>1) Make a claim that answers a question about a phenomenon.</li> <li>2) Support your claim with both             <ul style="list-style-type: none"> <li>A) evidence: referencing data that support (or refute) the claim</li> <li>B) reasoning: explaining what these data mean and when applicable using the <u>key model terms</u></li> </ul> </li> </ol>
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# VOCABULARY

**Earned**- This signifies the word is a priority word or concept for the unit. Students grapple with the concept of the new vocabulary word using descriptions of it until the entire class has a solid understanding of the word/concept then the word is formally introduced.

**Encountered**- Students come across these terms/concepts but they are not a term/concept students need to grapple with for the unit.

**Reinforced**- Words that students have already encountered and used in past units or grades.

# K-8 CURRICULUM

- MS Units grade 6-8 Complete and used for 5-8 currently
  - 5/6 half year of Science (2 units)
  - 7/8 whole year of Science (4 units)
  - 5th grade is using 6th grade units until K-5 is published
- We chose units using NGSS testing data and prerequisites needed for those units
  - Example- students were scoring lower in Earth and Space Science so we were sure to include those. With the dependency of prior units being taught in order to access concepts for new units we added in the required units.
  - We then balanced out as much as we could the other major science concept areas
- K-5 Science Curriculum
  - Units for K-5 will begin to release in late 2024 with all units complete by 2026
  - Until they are released we are using [Mystery Science](#) K-4
    - Mystery Science is NGSS aligned and uses phenomena based story lines

QUESTIONS?