Strand: **8.1**	Standard: **8.1.3**	Episode 3	**Big Idea:** Are there predictable patterns in property changes during chemical reactions?

Title: Is it a chemical reaction or not?	**Time**: 50 mins	CCCs: Patterns	Practices: **Plan and conduct an investigation** **Analyze and interpret the data**

Episode Snapshot:
Students are presented with situations where chemicals are mixed and some cause chemical reactions and others that do not cause a chemical reaction. Students will **analyze and interpret** the results based on the patterns they have identified previously to determine if they are a reaction or not.

The episode is to make sure that students can clearly identify whether a chemical reaction has occurred or not. Many students think that in certain situations a reaction has occurred when in reality it has not. For example, students think when a powder dissolves it always indicates a chemical reaction when it doesn't. Koolaid is a prime example that students think it is a chemical reaction but is not. Within this episode you will again collect several example of chemical reaction, as well as examples of non-chemical reactions. You can present them in the form of a station lab again or another format. Below is a list of non-chemical reactions you can use.

Non-chemical Reactions:
- Mixing Koolaid (dissolving anything)
- Diffuse (food coloring in water)
- Dry Ice in Colored Water (phase change items)
- Making cookie dough
- Instant Snow polymer or showing a diaper and how it can hold the liquid (let them cut it open to show)
- Or any of the reactions from this document

Gathering: Students will watch some of the change as demonstrations and do some of the changes at their table (depending on the safety of them conducting the changes).

Reasoning As they observe each of the changes they will write down a claim for each as to whether it is a chemical reaction or not. They will give evidence to support the claim for each one. Be sure to remind them to be specific on their evidence that it is specific to that experiment.

Communicating
Students will then share why or why not with the class. Allow some debate and discussion. You can play a game where students go to one corner if it is a chemical reaction or another corner that is not a chemical reaction than have them give their reasons.

Assessment: The students' claim and evidence is the assessment for you to check.	**Materials, resources, handouts, etc:** - Mics. items depending on what you use for changes & demos