

Strand: 8.1	Standard: 8.1.3	Episode 4	Big Idea: Are there predictable patterns in property changes during chemical reactions?
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Title: Is it a chemical reaction or not?	Time: 45-90 mins	CCCs: <u>Patterns</u>	Practices: Plan and conduct an investigation Analyze and interpret the data
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Episode Snapshot:

Students will **plan and conduct an investigation** to test whether mentos and diet coke is actually a chemical reaction. They will **analyze and interpret the data** using the patterns they have identified in property changes. Then using their evidence they will make the argument as to whether the mentos and diet coke phenomena is a reaction or not.

Gathering: Show students the mentos and diet coke phenomenon. Ask them to identify if it is chemical reaction or not. Ask them what should change about the substances if it is a chemical reaction. Have them make a list of things that should change.

Reasoning Have students design an experiment to be able to test whether a chemical reaction has occurred. Students will most likely want to focus on flavor change. This is fine so long as you are very clear that this lab has to be run in a very different way if they are going to test flavor. I.e food safe cups and non contaminated items. Students can place the mentos in a container of coke without fear of it bubbling up because it is the small mouth of the bottle and the volume that normally makes it erupt. Putting a mentos in a beaker of coke is very unassuming and doesn't do much. Have the students run their experiments and come up with their conclusion on why it is or is not a chemical reaction.

Communicating

Have students share their claims and argue their claims based on the evidence presented.

For your information as a teacher so that you can talk to them about the right ideas mentos and diet coke is not a chemical reaction. Instead it is a change that happens when the coating of the mentos allows the gas in the coke to come out of solution. When they are finished if they do taste the mentos or the coke the mentos tastes like mentos and the coke tastes like minty coke.

Assessment: The students according to this standard should be able to plan and conduct an investigation so their planning and analyzing of data are your assessment. See that they can design a good experiment as well as that they are analyzing and interpreting their data correctly.	Materials, resources, handouts, etc: - Food safe containers/cups, - Mentos (large quantities can be bought at costco) - Diet coke (diet makes it so it's not super sticky and doesn't attract many ants) - Any other items the students need based on their experiments they designed. - Student planning sheet
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