S8P1a. I can develop and use a model to compare and contrast pure substances (elements and compounds) and mixtures. This includes homogeneous and heterogeneous mixtures.

Pure substance (element), Compound, Mixture Lab

Prior Knowledge:

1. What is a Pure substance? _____
2. What is a Compound? _____
3. What is a Homogeneous mixture? _____
4. What is a Heterogeneous mixture? _____

Problem: How can you tell the difference between a pure substance, element, and compound?

Hypothesis: If _____, then _____
_____

Materials: Sheets of paper, Play-Doh, Toothpicks

Blue Play-Doh = Hydrogen
Red Play-Doh = Oxygen
Green Play-Doh = Carbon
Yellow Play-Doh = Nitrogen

Instructions/Procedure:

1. Write 'Element' on one sheet of paper. Write 'Compound' on one sheet of paper. Write 'Mixture' on one sheet of paper.

2. Follow along with the teacher. Take some of the blue Play-Doh and make eight small spheres. Connect two small spheres together using a toothpick. What have you just made? _____ Have you made an element, compound, or mixture? _____ How do you know? _____
_____

2. Take some of the red Play-Doh and make eight larger spheres.

3. Use two toothpicks to connect the red sphere to the two blue spheres that are connected to the toothpick. What have you just made? _____ Have you made an element, compound, or mixture? _____How do you know? _____
_____

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4. Put two oxygen atoms together, put two hydrogen atoms together, and put a water molecule together. What have you created when you put all three of these together (Element, Compound, Mixture)? _____ How do you know? _____

_____

5. Now put CO_2 together. What have you created? _____

6. Now put N_2 together. What have you created? _____

7. Now put NH_3 together. What have you created? _____

Lab Review Questions

8. How can you tell if you have made an element/pure substance? _____

_____

9. How can you tell if you have made a compound/molecule? _____

_____

10. How can you tell if you have made a mixture? _____

_____

11. What is the difference between a pure substance (element) and compound (molecule)? ___

_____

12. What is the difference between a compound (molecule) and a mixture? _____

_____

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