

## 7th Grade Science AMI Days

**AMI Day 1:** Using the CER model that you applied at Wynne Junior High School apply the following knowledge while you are hanging out at home on this snow day. You notice snow melting and “disappearing” outside and wood burning in the fireplace to produce smoke and ash.

A. The piece of wood you burn turns into a much smaller pile of ash. A family member stated that it disappeared. Based on what you learned about the conservation of matter, what happened to the rest of the wood? B. Was the energy in the burning wood absorbed or released? What evidence supports your answer?

**AMI Day 2:** Sodium (Na) is also known to be extremely violent, exploding when combined with water. When sodium and chlorine combine to form salt (NaCl), as shown in the picture below, there is a change in energy.

A. Write a paragraph with a minimum of 10 sentences describing the effects of the snow/ice. Your paragraph should include the use of salt to melt ice and demonstrate the effects of salt on the freezing point of water. 1. Measure the amount of water in the cups, and record below.

2. Does the ice melt faster in the regular cup or in the cup with salt? Why? 3. What is your control in this experiment? Explain. 4. Is your hypothesis valid? Why or why not? If not, what would be your next steps?

**AMI Day 3:** Look around your home. Do you want to make something better? Is there something that needs improvement? Is there a problem that needs to be solved? Design an improvement or solution to the problem. Explain your problem and design your solution to present in any format you

wish (model, prototype, written explanation, etc.). Then, answer the following questions:

- A. Was the problem/need for improvement something that was felt by others in your home, or was it just personal?
- B. What limitations did you encounter as you began to design your improvement?
- C. Did you have to call on others to help you or give you feedback as you worked through your solution? Why? Who did you call on?

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**AMI Day 4:** Write a hypothesis for each of the statements and identify the variables and controls.

1. Cigarette smoking increases the risk of lung cancer.

- a. Experiment: How does \_\_\_\_\_ affect \_\_\_\_\_? b.
- Hypothesis: If \_\_\_\_\_, then \_\_\_\_\_ c. IV: \_\_\_\_\_
- DV: \_\_\_\_\_ d. Controls: \_\_\_\_\_

2. Eating breakfast increases performance in school.

- a. Experiment: How does \_\_\_\_\_ affect \_\_\_\_\_? b.
- Hypothesis: If \_\_\_\_\_, then \_\_\_\_\_ c. IV: \_\_\_\_\_
- DV: \_\_\_\_\_ d. Controls: \_\_\_\_\_

3. Hummingbirds are attracted to the color red.

- a. Experiment: How does \_\_\_\_\_ affect \_\_\_\_\_?
- b. Hypothesis: If \_\_\_\_\_, then \_\_\_\_\_
- c. IV: \_\_\_\_\_ DV: \_\_\_\_\_ d. Controls: \_\_\_\_\_

### AMI Day 5:

Read the situation below and design an experiment.

John Smith has been hired by the city of Virginia Beach to investigate the recent shark attacks off the resorts coast. He has a budget of \$40,000, a twenty-five foot boat, and three graduate student assistants to help him. A local television station has also donated a helicopter, should he need one. 1. List two hypotheses John and his crew may have come up with for the recent shark attacks.

- a. b. 2. What materials will John need to perform his experiment (How will they spend the \$40,000)?
- 3. Where should they perform the experiment (Hint: Where do sharks

live?)? 4. Pick one of the two hypothesis and determine the following:

a. IV: \_\_\_\_\_ b. DV:

\_\_\_\_\_ c. Controls:

\_\_\_\_\_ 5. What type of data do you think John will

need to collect for the hypothesis you chose? (What will

be the results of the experiment?) 6. What conclusions will John be able

to make from the results of the experiment?