

## 6th Grade Science AMI Assignments

**AMI Day 1 :** Thermal energy is very useful to help you have many of the luxuries you have around your home.

- a. How does thermal energy heat your home?
- b. What devices, or systems, are involved?
- c. While you are home, find 3 ways that you used thermal energy throughout your day.

**AMI Day 2:** You wake up and there is snow on the ground. Your family looks out at 10 a.m., and all of the snow is gone. The following conversation happens: Your little sister asks, "What happened to the snow?" Your dad says, "The water that used to be in the snow is now in the air." Your little brother says, "I don't think the snow is anywhere now. It's just gone." Your mom says, "I think the water from the snow is in the clouds."

Write a response to each of your family members. What do you think of their ideas and why?

### AMI Day 3:

Problem: We need to build a bridge that can hold pennies. Use one piece of paper to design a bridge and see how many pennies it can hold. (If no pennies are available, find something else you may have at home..ie toothpicks, cotton swabs, paper clips, bobby pins etc...)

- Design an improvement or solution to the problem.
- Make a sketch of your design.
- What limitations did you encounter as you began to design?
- Test and make improvements. Draw a sketch and explain your changes.
- Share your data-How many pennies did your design hold? After your improvements, how many pennies did your design hold?

### AMI Day 4:

You are sitting at home on this snow day and realize that you want to bake some cookies for your classmates. You use the following recipe to make 24 cookies for your classmates:

- 1- $\frac{1}{3}$  cups all-purpose flour
- $\frac{1}{2}$  teaspoon baking soda
- $\frac{1}{4}$  teaspoon baking powder
- $\frac{1}{2}$  cup butter, SOFTENED
- $\frac{3}{4}$  cup white sugar

- 1/2 egg
- 1/2 teaspoon vanilla extra

1. How many teaspoons are in 1 cup of sugar? How could you test this to find out? What would you need to make sure you were careful about to ensure your results were fair and accurate?

2. If 48 teaspoons equal 1 cup of sugar, how many teaspoons are in  $\frac{3}{4}$  cup of sugar? How many teaspoons are in  $\frac{3}{8}$  cups of sugar? 3. You taste one of the cookies and decide that you could make it better by increasing one or more of the ingredients or adding an ingredient. What would you change? Why would you make that change? 4. Write a testable hypothesis for your idea. 5. Design a new recipe with all of the correct measurements and ingredients for your new cookie. 6. Oh, no! Someone threw away some of the measuring tools. You can only find the  $\frac{2}{3}$  cup measuring tool, the  $\frac{1}{2}$  cup measuring tool, and the  $\frac{1}{8}$  teaspoon measuring tool. Create a table that will show how many of each measuring tool that you will need to use in order to make the original recipe with the correct measurements.

### **AMI Day 5:**

It's time to review matter with some examples around your home. 1. Find 3 items in your kitchen that are made of matter. Tell what they are and model what the particles inside of them would look like. 2. You mix some marshmallows in hot chocolate to make it taste better. Did a chemical change happen to the marshmallows? Explain why you think that. 3. You've left your bike outside all year and just remembered that it is still out there in the snow/ice. You go to bring it in and notice that there are some rust spots. The iron on your bicycle, the oxygen in the air, and the water in the ice/snow, worked together to form the rust on your bike. Is the rust a new substance, forming from a chemical change? Use evidence from the prompt to support your answer.