Monday, March 23, 2020

Dear 2nd Grade Families,

I hope this letter finds you well. We had a brief but exciting start to our 2nd Grade STEAM/Engineering & Design program before school closed. We made Lego boats, and were beginning to explore science stations about material properties. I was meeting with each class once a week for 45 minutes. Below is a list of “I Can” statements, or learning targets that we identified for students based on national and state science and engineering standards. These standards lend themselves to lots of fun and simple do at home activities. In this document, you will find simple do at home activities for each “I Can” target.

I Can…

1. *Show how parts make a whole and how a whole can be broken into parts.*
2. *Sort materials based on properties they share.*
3. *Make observations of materials as they change.*
4. *Show and explain how materials change when heated and cooled.*
5. *Test materials and objects to see which are best for a job.*

If you think of it, please take photos of your child’s creations and email them to me at rsolway@wtisbury. org. I will put together a slideshow of second grade work! It would be great if we could all stay on the same schedule, so please plan to do **one page worth of activities each week** that we are out of school.

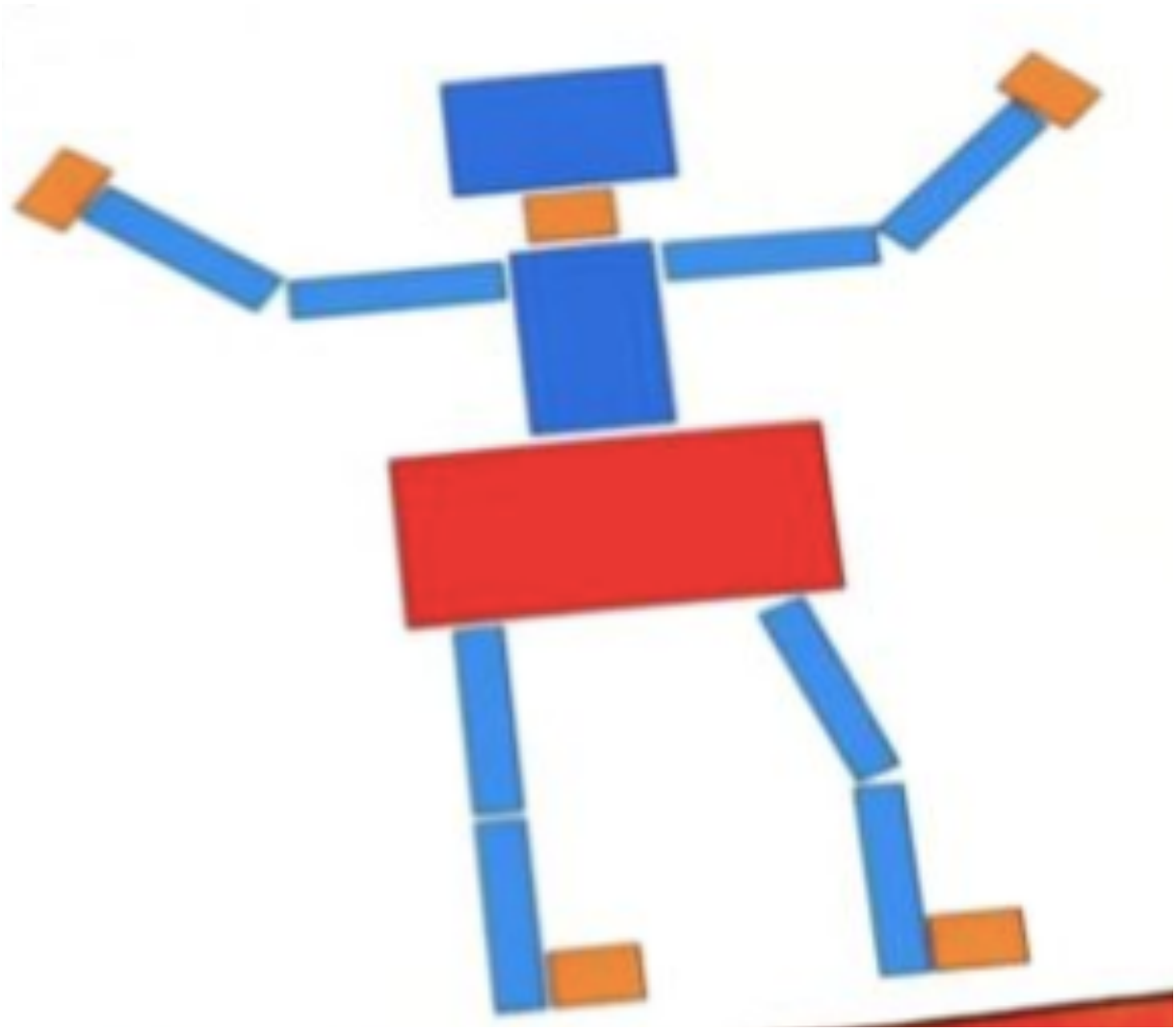
Thank you and Happy Learning!

Rebecca Solway

Engineering & Design Teacher
rsolway@mvyps.org

Week 1: I can show how parts make a whole and how a whole can be broken into parts.

- ***Cut apart*** the pieces of the paper robot and put them back together as different objects. ***Draw and color*** the new objects on separate paper.
  - Can you use all the pieces for each new object?
  - How many different objects can you make?



Week 2: I can sort materials based on properties they share.

- ***Find materials*** and objects around your house. ***Sort*** them five different ways, by the properties listed below.

1. color
2. texture
3. absorbency
4. strength
5. flexibility

- ***Test materials*** to see which are most absorbent. Use a sponge, paper towel, waxed paper, or other similar material.

- ***Make "bridges"*** with layers of paper, pipe cleaners, or popsicle sticks.
  - Which one can hold the most weight?
  - What properties do strong materials share?

Week 3:
I can make observations of materials as they change AND I can show and explain how materials change when heated and cooled.

Help your child to explore heating and cooling of materials with the following activities. Discuss whether the changes are reversible or irreversible!

✺ ***Make Crayon Suncatchers:***
Melt shavings of crayons between two layers of wax paper. Use an iron on low setting, and make sure to put a cloth dishtowel underneath and on top of the wax paper.
https://buggyandbuddy.com/crafts-for-kids-make-a-sun-catcher-with-crayon-shavings/

✺ ***Candy Melting Experiment:***
https://www.playdoughtoplato.com/will-it-melt-candy-science/
(Make sure to put the candies in separate baggies or small containers before putting in hot water.)

✺Free **readings and comprehension questions** available at ReadWorks.com.

- Colorful Crayons tells how crayons are made, starting with melted wax.
- Breakfast Time describes how some breakfast foods change when they're heated.
- A Camping Trip describes how marshmallows change when they are roasted over a fire.

Week 4: I can test materials and objects to see which are best for a job.

✺ *The Best Bag Experiment*

Discuss: What properties would you look for in a bag?

Find: different types of grocery bags around the house: paper, plastic, cloth, etc.

Strength Test:
- Find some heavy objects.
- Add one item at a time until the bag tears or breaks.
- Repeat for each type of bag.
- Which type of bag holds the most weight? Which is the strongest?

Wet Test:
- Spray a paper bag with water and to see if it absorbs or repels water.
- Repeat with each type of bag.
- Does your bag absorb or repel water? Is it absorbent or nonabsorbent?

Stretchy Test:
- Place airfilled balloons or air pillows used for packing into bag one at a time until the bag is full or it tears.
- Repeat with each type of bag.
- Is your bag flexible? Does the material stretch or tear?