

Dear students,

I have posted work packets for the next two weeks, April 13th-17th and April 20th-24th. Additionally, I have posted one video for each class introducing a topic related to your work packets. Within the videos, I have discussed important videos for you to watch. I have posted those links below as well if it is easier to access them here.

In environmental science, we are exploring topics related to the upcoming Earth Day 2020 on April 22nd. The theme for this year's Earth Day is climate change!

In chemistry, we will be briefly reviewing the last work packet I posted, and diving into chemical reactions. This week my video is related to physical changes, chemical changes, and evidence for chemical reactions. I have posted an experiment that you can do at home with your family at the end of this letter. All of my science students feel free to participate!

In biology, we will be covering cell structure and function. I have posted two helpful YouTube video links below!

If you ever have any questions, please write them down and forward them to your homeroom teacher. I am happy to answer anything! Have a wonderful week!

Sincerely,

Ms. S

Important Links for April 13-24th:

Chemistry YouTube video:

<https://www.youtube.com/watch?v=C4pQQQNwy30>

Chemistry Periodic Table: <https://ptable.com/>

Environmental Science YouTube video: <https://youtu.be/B80s5IwHuTg>

Biology YouTube videos:

<https://www.youtube.com/watch?v=4OpBylwH9DU>

<https://www.youtube.com/watch?v=8IlzKri08kk>

Optional Science Experiment:

Making Ice cream!!

Link: <https://www.scientificamerican.com/article/scrumptious-science-making-ice-cream-in-a-bag/>

Have you ever-created homemade ice cream? A lot of interesting chemistry is actually needed to make ice cream. For example, think about how you start out with refrigerated (or even room-temperature) ingredients and then need to cool them down to turn them turn into ice cream. How do the ingredients change during this process? How important do you think they get cooled to a certain temperature? In this science activity you'll make your own ice cream (in a bag!) and explore the best way to chill the ingredients to make them become a delicious reward!

Materials:

- Measuring spoons
- Measuring cup
- Sugar
- Half and half (Alternatively, milk or heavy whipping cream may be used.)
- Vanilla extract
- Salt (Different types of salts, such as table salt or rock salt, should work but may give slightly different results.)
- Two small, sealable bags such as pint-size or sandwich-size Ziplocs
- Two gallon-size sealable bags
- Eight cups of ice cubes
- Oven mitts or a small towel
- Timer or clock

Procedure:

FIRST: In each small bag, place one tablespoon of sugar, one half cup of half and half (or milk or heavy whipping cream) and one quarter teaspoon of vanilla extract. Seal

up each bag after adding the ingredients. Keep the bags in the refrigerator until you are ready to continue on to the procedure.

- Add four cups of ice cubes to one of the large, gallon-size bags. Then add one half cup of salt to the bag. *What do you think the salt will do?*
- Put one of the small bags you prepared into the large bag with the ice cubes. Be sure both bags are sealed shut.
- Put on oven mitts or wrap the bag in a small towel and then shake the bag for five minutes. Feel the smaller bag every couple of minutes while you shake it and take a peek at it. *What happens to the ingredients over time? When five minutes are up, how do the ingredients look? What about the ice cubes—how do they change over time and how do they look by the end?*
- Now add four cups of ice cubes to the other large, gallon-sized bag, but this time do not add any salt to it. *What do you think will happen without using salt?*
- Put the other small bag you prepared into this large bag. Be sure both bags are sealed.
- Put on oven mitts or wrap the bag in a small towel and then shake the bag for five minutes, as you did before. Again, feel the smaller bag every couple of minutes while you shake it, and take a peek at it. *What happens to the ingredients over time now? When five minutes are up, how do they look now compared with last time? What about the ice cubes—did they change in the same way?*
- You can also compare how cold the different ice cube bags feel. *Does one feel much colder than the other?*
- If you successfully made some ice cream, you can enjoy it now as a tasty reward for your chemistry challenge! If the ingredients in one of your bags did not become ice cream, check out the extras below for tips on turning them into ice cream.
- **Extra:** If one of your bags did not make ice cream, try putting it back inside the large bag that had ice cubes and salt and then shake it for five minutes. *Did it turn into ice cream? Why do you think you got the results that you did?*