5TH GRADE

Science WEEKLY CHECKLIST

Feb 23 - Feb 27, 2026

Complete this week: due 2/22

Monday

- Worksheet

☐ How Can I Separate a Mixture? Page 1-2

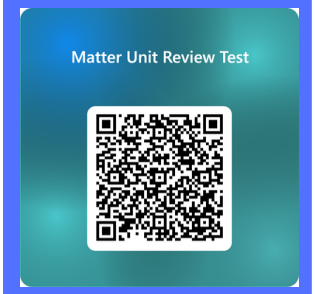
Tuesday

- Worksheet

☐ How Does Temperature Affect Physical & Chemical Changes? Page 3-5

Wednesday

- Review for Matter Test



Thursday

none :)

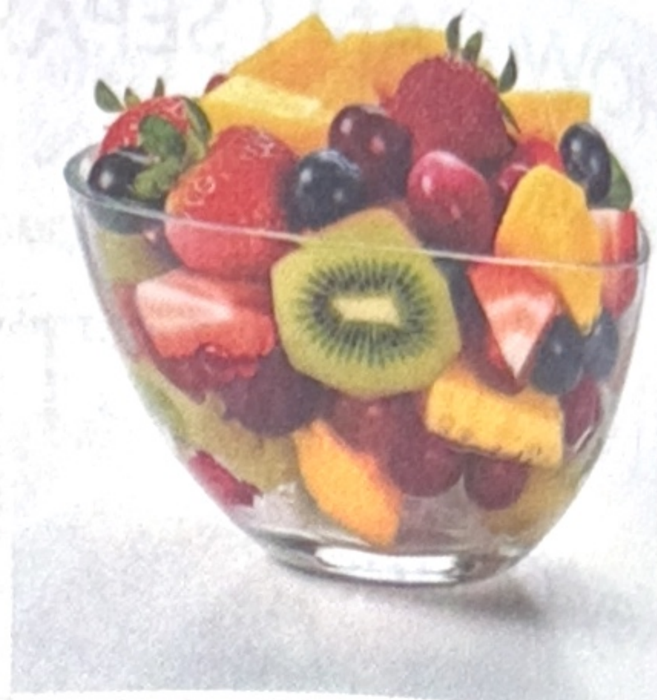
Reminders

- Matter Unit Test (2/26-27).
- Students will also be given time in class to complete HW assignments (if time permits)
- Everglades Field Trip 3/24-3/25 details will be given soon

Matter Unit Vocab

GUIDED INSTRUCTION

When different types of matter combine, it is called a *mixture*. A mixture is a combination of two or more substances that keep their physical properties. Even though they are mixed, you can still see the different substances. Take, for example, a salad. A fruit salad is a mixture. Even though the fruits are mixed, you can still see each of them. You can even remove the individual substances if you want. When you make a salad dressing, however, you combine ingredients to make a solution. The ingredients combine and you cannot pick out one from the other any longer. Their atoms combine, and they join as one thing.



Not everything that you mix is as easy to identify. Solutions often look like one thing, but they have two or more substances mixed. A solution is a mixture of two or more substances in which one dissolves in the other and there is a change in some of the physical properties. When they are mixed, they spread evenly throughout each other. Examples of solutions are salt and water and iced tea made from a powder. In these examples, you do not see all the ingredients. When looking at salt and water, it just looks like water. You do not know the salt is there unless you taste it. The salt's property of shape has changed to a particle so small you cannot see it. Whether it is a mixture or a solution, it is important to know that you still have the same amount of matter. Even if it appears you made something new by mixing two things together, you still have the same amount of matter you had at the start.

When something dissolves, it mixes into a liquid so you cannot see it anymore. Water is capable of dissolving more substances than any other liquid. Salt and sugar dissolve in water and you cannot see them. When something dissolves and is evenly distributed throughout the water or other substance, it is called *homogeneous*, such as the salt and water. Have you ever made lemonade?

Lemonade is a mixture of three ingredients: water, sugar, and lemon juice. It has the properties of its ingredients. You mix lemon juice and water together and add sugar. The three ingredients together are mixed and form a solution. The parts of lemonade are very small. The sugar is sweet, white, and solid. When you mix water and sugar, the sugar seems to disappear. The sugar dissolves in the water. Now the water tastes sweet. When sugar dissolves, it does not disappear. It separates into particles that are too small for you to see. It becomes hidden. Dissolved sugar particles are spread out evenly and surrounded by water particles. It would be hard, but you could take them apart by letting the water evaporate.

Not all substances dissolve in water. If you have three ounces of soil and put it into six ounces of water, together the total ounces of matter are nine ounces. In the same way, if you mix 50 grams of salt into 100 grams of water, the resulting solution of salt water will have a mass of 150 grams. You do not lose or gain any matter

when you create a mixture or solution. If you add sand to a cup of water, the sand will sink to the bottom. Sand and soil do not dissolve in water. Some rivers carry so much sand and soil that the water appears brown. Other substances, such as oil and water, do not mix. Look at the glass of water and oil on the previous page. The oil does not mix in with or dissolve in the water. Substances that do not mix are called *heterogeneous*.

MODEL IT

With a partner, model a homogeneous mixture and a heterogeneous mixture. Then, write an explanation of what you observed.

1. To separate the parts of a mixture, you must rely on the different properties of each part. What physical property would allow you to separate a mixture of iron filings and soil?

2. Could you separate a mixture of iron nails and iron screws with a magnet? Explain.

3. Why do the different parts of a mixture keep the same properties they had before they were mixed but solutions change?

GUIDED INSTRUCTION

Temperature plays a key role in both physical and chemical changes in different ways. Melting, freezing, boiling, evaporation, and condensation can change the states of matter. As temperature increases, the particles in a substance move faster. This increased movement leads to physical and chemical changes. A physical change rearranges existing molecules. It is a transformation in the form or appearance of matter, but it does not alter its chemical composition. Chemical changes create entirely new substances with different properties. Here are examples of physical and chemical changes.

Physical Changes

- Melting – Ice turns to water when heated.
- Boiling – Water turns to steam when heated to its boiling point.
- Freezing – Water turns to ice when cooled.
- Evaporation – Water escapes into the air as water vapor, a gas.
- Condensation – Water vapor turns back into liquid water when cooled. This is what you see as morning dew forming on grass or fog appearing in cool mornings. It is the reverse action of evaporation, where liquid water becomes a vapor.

Chemical Changes

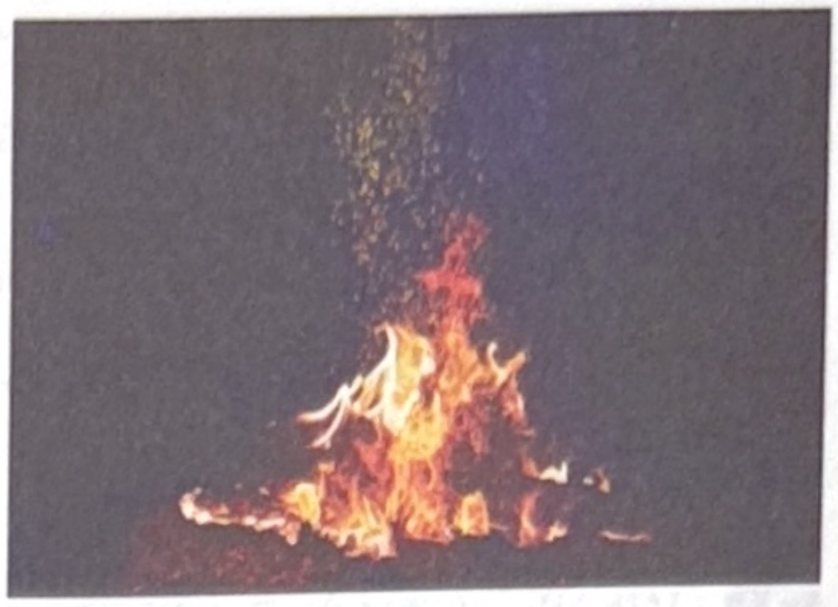
- Burning – When you burn wood, paper, or any other combustible material, a chemical reaction occurs between the fuel and oxygen in the air. This reaction produces heat, light, and new substances such as carbon dioxide and water vapor.
- Cooking Food – Cooking is a series of chemical reactions that transform the ingredients into new dishes with different flavors and textures. For example, when you cook an egg, the proteins in the egg white coagulate, and the yolk thickens.
- Iron Rusting – Iron reacts with oxygen and water in the air to form rust, a reddish-brown flaky material.
- Rotting Fruits and Vegetables – Over time, fruits and vegetables spoil due to decomposers, microorganisms that break down the complex organic molecules in fruits and vegetables into simpler ones.
- Digesting Food – When you eat, your body breaks down the food into its constituent nutrients through a series of chemical reactions. These nutrients are then absorbed into your bloodstream and used to provide energy for your cells.

When something burns it changes into a new material, but does its weight change? A chemical change is a change in matter that affects how the particles are arranged and makes a new substance. Chemical changes alter a substance. When a chemical change occurs, the substances cannot change back. The change is permanent. Chemical reactions produce chemical changes. What about the weight of a substance? You can measure the properties of the substance before and after a chemical

change. You will find that the weight is the same, even though the substance may have different chemical properties.

A chemical property is a property of a substance you can observe during a chemical reaction. The substance may have different physical properties as well, but its weight will be the same as before the chemical change. Suppose you weigh an apple and find it weighs 86 grams. You cut it in quarters and leave it sitting for an hour. When you come back, the apple has turned brown. A chemical change has occurred. You weigh the quarters of the apple. The total weight is still 86 grams.

Collecting all the material after a chemical change can be a challenge. When a substance burns, small particles of burned material rise into the air. This is called *soot*. If you weigh a log and then burn it, the resulting ash might weigh less than the log before burning, but you need to collect all the soot to get the true weight. No matter what chemical change occurs, you will never have fewer or more substances produced than substances reacting.



MODEL IT

Make a poster modeling how temperature affects one physical change and one chemical change. Use new examples, not the ones you learned in the lesson. Label your drawings to explain what is happening. Display your poster in your classroom.

1. Imagine you are baking cookies. Why does the dough spread out and become more solid after baking? What type of change is this, and how does temperature affect it?

2. You left a glass of water outside overnight. In the morning, you found ice. What change did the water undergo, and how did temperature play a role?

3. You leave a juicy steak in the refrigerator for a week and notice it turns grayish and slimy. What kind of change is happening to the steak?

EXIT TICKET

SC.5.P.9.1, SC.3.P.9.1, SC.4.P.9.1

Now that you understand how temperature affects physical and chemical changes, fill in the answers in the column on the right. Use each answer only once.

condensation

melting

both a chemical and physical change

heat triggers chemical changes that break down and rearrange molecules

move slower

Which change in state does increasing temperature cause?	
During cooking, food often changes color because	
Higher temperatures affect the movement of particles by making them	
A pot of soup cools down on the counter. What is the change of state happening to the water vapor above the soup?	
What happens to a log when you burn it?	