

NAME: _____

GET PHYSICAL

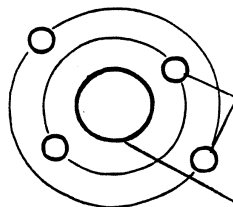
Name of Object	State Solid/Liquid/Gas	Colour	Hardness	Flexibility (bendy)	Odour (smell)	Mass (grams)	Texture
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							

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THE AMAZING ATOM QUIZZ

NAME: _____

1. Label the parts of the atom



2. List important points about each.

- Atom 1) _____
- Nucleus 1) _____
2) _____
3) _____
- Electrons 1) _____
2) _____
3) _____

3. When two things combine to form a brand new substance a chemical place. Explain why electrons are so important when chemical change

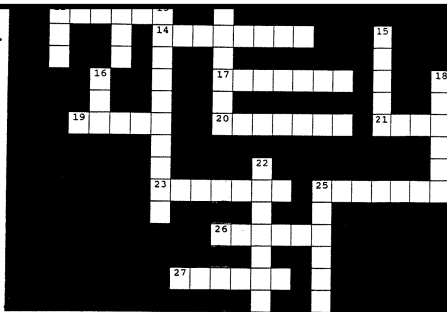
Across

2. The Greek word "the building blocks of matter"
4. When two or more atoms join together they form the smallest particles of a substance
5. Has mass and takes up space
7. A very valuable element
8. Highest energy level
10. Animals breathe in this gas
12. Particles are very small
14. Smallest, lightest, part of the atom which are important in chemical changes.
17. Contains atoms of only one kind.
19. H₂O
20. This important non-metal element is used to make computer chips.
21. Pb
23. Fuel for nuclear reactors.
25. Element in bones and teeth.
26. Element found in pencils and wires.
27. A gas element that makes balloons rise.

Down

1. Another word for gas
3. A substance that is shiny, ductile and conducts electricity.
6. This physical property describes how smooth the surface of an object is.
9. Lowest energy state, particles close together and vibrating.
11. Heavy, central part of the atom.
13. First to think that matter was made of small particles called atoms.
15. The elements of iron and carbon are mixed to get this compound.
16. Deoxyribonucleic Acid
18. Too much of this element may cause high blood pressure.
22. Element used in making of matches.
25. Element in diamonds, charcoal, living things and graphite. (the stuff in pencils)

Bonus Question: Name the detective who made famous the words "Elementary My Dear Watson" (Hint: Sir Arthur Conan Doyle)



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DNA: THE CRIMESTOPPER MOLECULE

NAME: _____

Molecule Of Life

Inside every cell of every living thing is a molecule called deoxyribonucleic acid. (It is no wonder the name was shortened to DNA!) DNA molecules make up the chromosomes found inside the center of each cell and carry all the information or "genes" that the animal or plant will need to grow. DNA is like an instruction booklet or a "blueprint" telling how to build a living thing. Half of a person's DNA is inherited from their mother and half from their father.

Big! Big! Big!

Like other molecules, DNA is a combination of two or more elements - except there is a difference. While salt (NaCl) is made by joining sodium atoms (Na) with chlorine atoms (Cl), and water molecules (H₂O) are made by joining two hydrogen atoms (H) to a single oxygen atom (O), DNA combines thousands or millions of atoms of carbon, oxygen, nitrogen phosphorus and hydrogen. DNA is a complicated molecule.

The Double Helix

In addition to being large, DNA molecules also have a special shape. The atoms are joined together into two, long spiral chains called the "Double Helix".

The DNA Fingerprint

Recently, forensic (crime) scientists have started to use DNA to help solve crimes.

As scientists learned more about DNA they discovered that although most humans have very similar DNA, one person's DNA is a tiny bit different from anyone else's. (except for identical twins) They also learned that the DNA molecules were all the same throughout a person's body. For example the DNA found in a person's blood cells would be the same as the DNA in their bone cells or hair cells. In this way DNA could be used like a sort of "fingerprint" to tell people apart.

DNA And The Fight On Crime

Today, forensic scientists use special tests to help solve crimes. If a person is suspected of committing a crime, they can make to give a sample of their DNA (blood or hair) to the police. If the police have found any evidence at the scene of a crime that has DNA in it - like hair, blood drops or skin cells - they can check it against the suspect's DNA. If the DNA is the same, then the police are more likely to get a conviction and put the person in jail.



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Questions (Answer in Full Sentences)

- What is the purpose of DNA in a living thing?

- How is a molecule of DNA different from a molecule of salt?

- Describe the shape of a DNA molecule.

- Why is it important to forensic scientists that everyone's DNA is different?

- Describe how DNA evidence might be used to help convict a criminal?

- Describe how DNA evidence collected at a crime scene could become contaminated?

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WHICH FREEZES FASTER - HOT WATER OR COLD?

NAME: _____

1) **Purpose** (What are you trying to find out?)

Materials

Steps or instructions on how to do the experiment

Results (What I think will happen and why)



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CHEMICAL AND PHYSICAL CHANGES

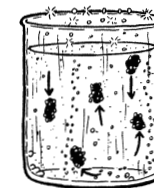
NAME: _____

- What is the difference between a chemical change and a physical change?

- What is a compound?

- List the things that tell a person if a chemical change has happened.
1) _____
2) _____
3) _____
- Five raisins are placed in a jar of water containing vinegar and two tablespoons of baking soda. What do you think will happen?

- Explain a possible reason for your answer in question 4.



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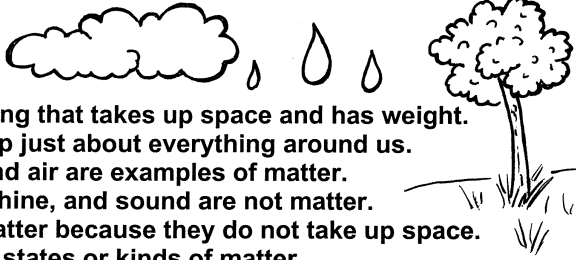


Matter And Its Changes



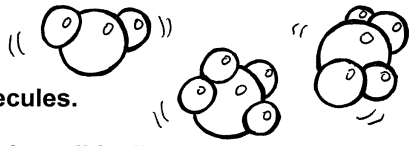
MATTER FACT CARD

MATTER



Matter is anything that takes up space and has weight. Matter makes up just about everything around us. Trees, water, and air are examples of matter. Shadows, sunshine, and sound are not matter. They are not matter because they do not take up space. There are three states or kinds of matter. The three states of matter are solids, liquids, and gases.

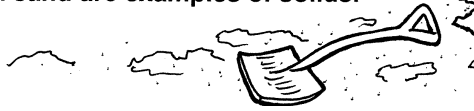
MOLECULES



All matter is made up of molecules. Molecules are little particles. Molecules join together to make solids, liquids, and gases. Molecules are always moving.

SOLIDS

Solids are one kind of matter. They take up space. Solids have a shape of their own. They keep their shape and size. The molecules in solids are very close together. The molecules have little space to move around. Trees and sand are examples of solids.



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DISCOVERY CARD #5 MATTER HUNT

Discovery Question:

What solids, liquids, and gases are found around classroom and school?

Materials:

student booklets

Steps:

1. Find the chart on the matter hunt in your booklet.
2. Walk around your classroom and write down examples of solids, liquids, and gases in the correct columns.
3. When you are finished recording the solids, liquids, and gases in your classroom, walk around the school and then the outside of the school to find more examples of solids, liquids, and gases. Write down more examples of solids, liquids, and gases you notice inside and outside of the school.
4. When the allowed time is up, go back to the classroom.
5. As a class, record all your findings.
6. Answer the questions in your student booklet.

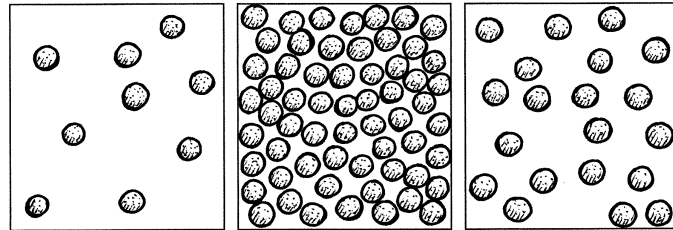


B. Fill in each blank.

1. _____ take the shape of the _____ they are in. They keep their size but _____ their shape.
2. _____ have no constant shape or size. They _____ around in different _____.

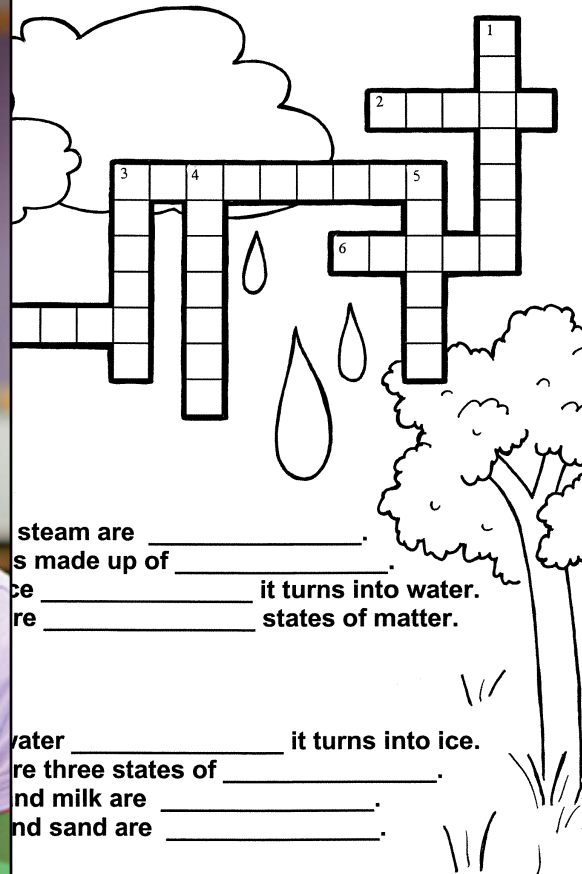
directions	solids	liquids	float
gases	container	change	moving
shape	keep	molecules	

C. Label the following boxes with 'solid', 'liquid', or 'gas':



Name: _____

CROSSWORD PUZZLE



steam are _____
 s made up of _____
 ce _____ it turns into water.
 re _____ states of matter.

water _____ it turns into ice.
 re three states of _____
 nd milk are _____
 nd sand are _____.

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DISCOVERY CARD #7 FREEZING ACTIVITY

Discovery Question:

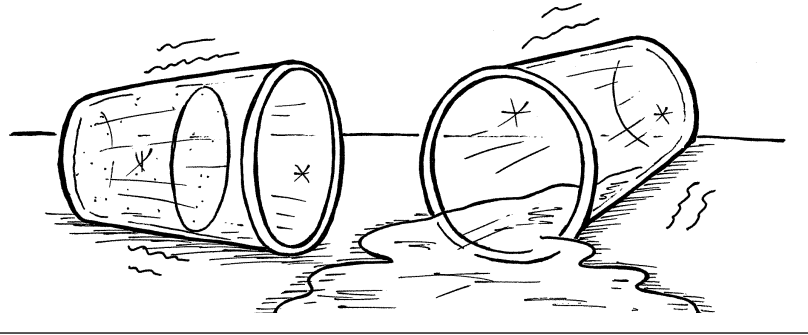
What happens when liquids are placed in the freezer?

Materials:

cooking oil, honey, orange juice, shampoo, water, five plastic cups, student booklets

Steps:

1. Pour one material into each plastic cup. Fill the cups half-full.
2. Stand the cups in the freezer.
3. Wait an hour or until your teacher tells you that the time is up.
4. While you are waiting, complete an activity on matter or play the *Matter Vocabulary Match* game.
5. After an hour, take the cups out of the freezer. What do you see? What has happened? Answer the questions in your student booklet.



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Matter Fact Card

A. Answer in complete sentences.

1. What is matter?

2. What are molecules?

3. What is a solid?

4. What is a liquid?

5. What is a gas?



Materials:

Steps:

Name: _____

UNIT TEST

- A. Match the word to the correct definition by drawing a line from the word to the correct definition.

matter	little tiny particles
molecules	matter that keeps its size but changes its shape
solids	anything that takes up space and has weight
liquids	matter that has no constant shape or size
gases	matter that keeps its shape and size

- B. Print the word 'solid', 'liquid', or 'gas' beside each material.

tree	_____	steam	_____
oxygen	_____	sugar	_____
milk	_____	water	_____
honey	_____	ice	_____
air	_____	sand	_____

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Matter Properties
Liquids & Solids

