Colegio Metropolitano
Sixth grade ENCINO PINO SAUCE
Science
Miss Alisson Coronado

Knowledge Check No. 1

Contents to evaluate: states of matter, changes of state of matter, physical and chemical changes, mixtures, volume.

Part 1 (2 point each=10 points)
Instructions: Choose the state that represents each property below.

Property	State of Matter			
Particles lose electrons due to energy upon them.	Solid	Liquid	Gas	Plasma
Flow, with fixed volume	Solid	Liquid	Gas	Plasma
Particles are tightly packed together.	Solid	Liquid	Gas	Plasma
Particles are separated	Solid	Liquid	Gas	Plasma
Releases light and/or heat.	Solid	Liquid	Gas	Plasma

Part 2 (1 point each=12 points)
Instructions: Put the following materials and objects into the column of their natural state of matter. The missing spaces write FREE.

Smell of popcorn	Sun corona	Chicken	Blood
Saliva	Thunderlight	Bad breath	Ice tea
Sunflowers	Aurora borealis	Hydrogen	Sand

Solid	Liquid	Gas	Plasma

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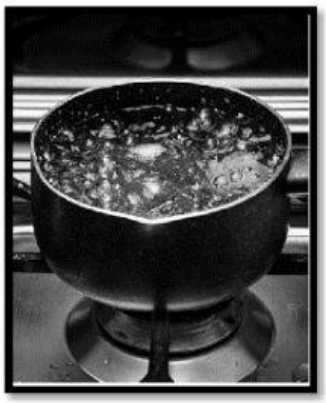
Part 3 (2 points each=16 points)
Instructions: Identify the following changes of state by writing the correct event in each space provided.



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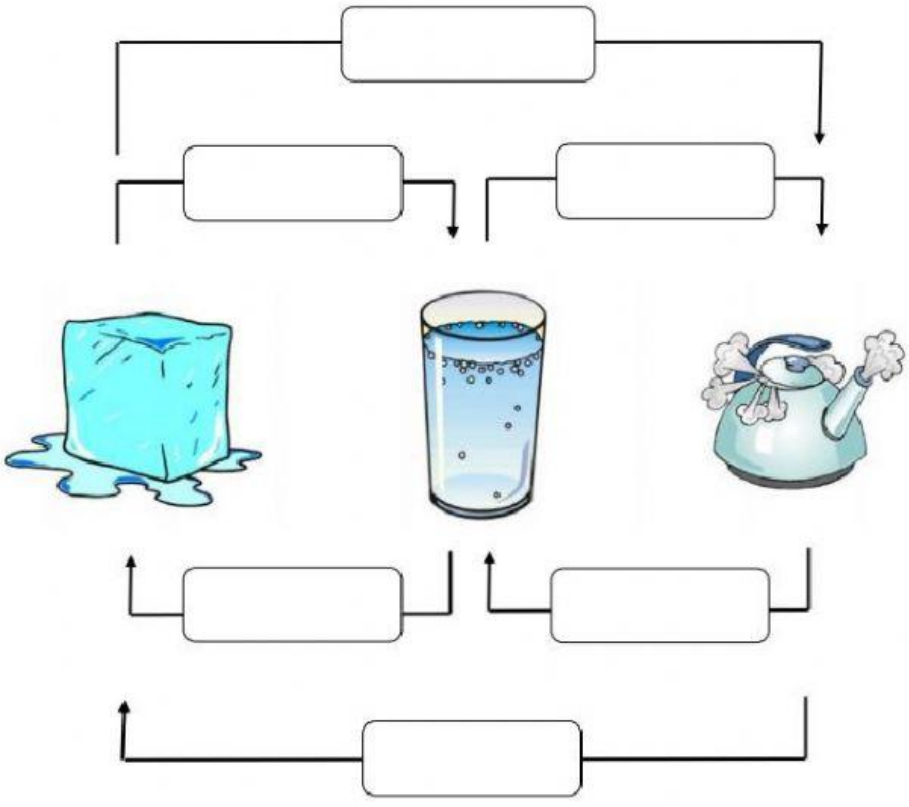
Part 4 (2 points each=12 points)
Instructions: Label the diagram showing the changing states of matter.



MELTING

FREEZING

VAPORIZATION

CONDENSATION

SUBLIMATION

DEPOSITION

LIVEWORKSHEETS

Part 5 (4 points each=20 points)
Instructions: For each scenario below, explain whether a physical or chemical change is taking place.

1. You cut a piece of paper into small pieces. Is this a physical or chemical change? Explain your answer.

2. You put gasoline in your car and the car burns the fuel. Is this a physical or chemical change? Explain your answer.

3. You are cleaning the chalk off the chalkboard. White chalk dust enters the air and makes you cough. Cleaning the chalkboard with the eraser is causing physical or chemical change? Explain your answer.

4. You get a can of soda. Your malicious friend shook it before opening. You open the can and it fizzes all over your hands. Is this a chemical or physical change? Explain your answer.

5. You pick up ice-cream from cafeteria. You placed it in your lunchbox and forgot all about it. Later you check your lunchbox all mushed with ice-cream. Is this a physical or chemical change? Explain your answer.

Part 6 (2 points each=10 points)
Instructions: Read the story below. Answer the questions correctly.

The Beach, the Bike, and a Chemical Change

Alexis and Javar have been in the same class since kindergarten. The children and their families have become great friends and often take summer vacations together. This year they decided to go to a beachside vacation. Alexis' dad likes to spend time outdoors with the kids so he brought the family bikes along. It was a nice day and Alexis and Javar decided to take the bikes for a ride. As they were riding they thought it would be fun to ride their bikes into the water. "Whee, "yelled Alexis as the salt water splashed in her face.

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"Wow this is cool" exclaimed Javar as he drove his bike into the ocean. It became hard to ride the bikes in the wet sand, so they laid the bikes down in the sand and swam for a while in the ocean. The ocean waves splashed on the bikes while they swam, but Alexis and Javar did not care, it was only water. It was almost lunch time now and the sun was getting hot so Alexis and Javar went back to the hotel to meet up with their families. As soon as they got back, Alexis' sister started yelling. "Dad! Dad! Look what Alexis did. She got the bike all wet and dirty. How am I going to ride now?" Dad took one look at the bikes and said, "We need to get those bikes cleaned off and dried as soon as possible." "Why?" Alexis asked. "Because the bikes will rust," Dad explained. "What's rust?" Alexis and Javar both asked.

Dad began to explain to them. "Rust is when the water and the oxygen from the air react with the metal in the bikes and turn it into a different substance. This new substance is rust colored and not as strong as the original metal in the bike. It will cause the bikes to eventually fall apart. " "Oh" said Alexis. "Let's clean those bikes up now. I like my bike and don't want it to rust." A few weeks later, Alexis and Javar found themselves sitting in the same class again for third grade. Mrs. Smith, their new teacher, told the class that this year they would learn about physical and chemical changes in matter.

Mrs. Smith explained to the class, "A physical change is when the substance does not change what it is; it only changes its shape. A chemical change happens when we get a new substance that is different from the original substance. Can anyone think of some examples? I want you to discuss this with your workgroups before I call on you to answer." Alexis and Javar both looked at each other and thought. Javar said, "Remember when we went to the beach this summer?" "Yes." "And remember when you accidently fell with your bike on the sidewalk and dented your fender." "Yes." "Well that was a physical change because the metal in the bike did not change to another substance; it only changed its shape." "Right Javar," Mrs. Smith said as she walked around the classroom. "And after we drove our bikes into the ocean, you did not clean all the water off your bike and it started to rust," Alexis added. "Rust is a new substance and that was a chemical change." "Correct Alexis," replied Mrs. Smith. "Those are very good examples. Would you two like to share with the class?"

1. Why is denting the bike fender not a chemical change?

    a. The bike looks different

    b. The metal does not change into another substance it only changed its shape

    c. The metal does not change its shape it changed into another substance

    d. The bike fell apart

2. How can we tell if a chemical change has taken place?

    a. You can't tell

    b. A new substance is formed that is the same as the old substance

    c. A new substance is formed that is different from the original substance

    d. It only changes shape

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3. Why did Dad tell Alexis and Javar to clean and dry the bikes?

a. So their bikes would not rust

b. So their bikes would be ready to ride again

c. Dad does not like dirty bikes

d. Alexis' sister does not like to ride a dirty bike

4. What happened to Javar's bike as a result of his not cleaning all the water off of his bike?

a. Nothing, he still has his bike

b. He dented the fender

c. His bike was stolen

d. His bike began to rust

5. Which of these examples is a physical change?

a. A bike rusting

b. Folding paper into a paper airplane

c. Baking a cake

d. Oxygen and water reacting with metal to form rust

Part 7 (2 points each=10 points)
Instructions: Choose what type of mixture each substance is: solution, suspension, emulsion or colloid.

1. Soda _____
2. Slime with glitter _____
3. Hair spray _____
4. Jelly _____
5. Orange juice _____

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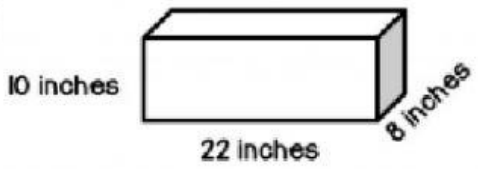
Part 8 (2 points each=10 points)
Instructions: Solve the following problems.

1. The Scott family wants to fill up their swimming pool to the very top with water. The length of the pool is 50 meters and the width is 25 meters. The pool is 10 meters deep. How much water will the pool hold?

2. Milly measured a cereal box. It is two inches wide, six inches long, and twelve inches tall. What is the volume of the cereal box?

3. Abby is going to use this box to carry home her new kittens. What is the volume of the box?



4. What is the volume of a shoe box that is 15 x 10 x 8 inches?

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