

Seventh Grade Science Midterm Study Packet

1. Properties of States of Matter:

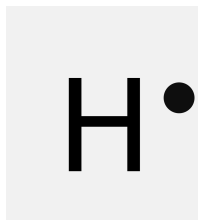
Solid	Liquid	Gas
1.	1.	1.
2.	2.	2.
3.	3.	3.
Solids look like:	Liquids look like:	Gasses look like:

2. Parts of an atom

Part 1:	Part 2:	Part 3:
1.	1.	1.
2.	2.	2.
3.	3.	3.

3. Which atomic particle makes atoms want to bond together? _____

4. Why? Describe what atoms want, and why they bond together – be specific.



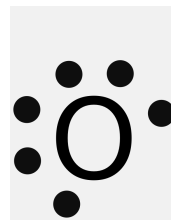
Hydrogen



Magnesium



Fluorine



Oxygen



Chlorine

5. From the atoms above, choose two that would want to bond together. Write them below, and describe why you chose them.

Atom 1: _____

Atom 2: _____

Why? _____

6. Define the properties below:

Physical Property:

Chemical Property:

7. Use the table below to record at least three chemical and physical properties:

Chemical Properties	Physical Properties

8. Joe is lighting candles for his family during Noche de las Velas. He notices that when he lights each candle the wick burns, while the wax just melts. Which one of these is a chemical change, and which is a physical change? How do you know?

9. Gustavo puts a glass of water in the refrigerator to make it nice and cold. Describe what happens to the speed and motion of the water molecules as the water cools.

10. One day, while playing in the kitchen, Betty mixed vinegar and baking powder, and noticed that it formed bubbles. She decided to see what would happen if she did this reaction inside a sealed plastic bag. Betty took the mass of the baking powder, the vinegar, and the plastic bag before, and got 37.45 grams. Then Betty sealed the bag and shook it, mixing the baking powder and vinegar, not letting any of the gas escape. Assume that the bag seal is completely air-tight, so no molecules could get in or out.

When Betty took the mass after the reaction, was it:

- a. Less than 37.45 g
- b. The same (37.45 g)
- c. More than 37.45 g

Explain your answer. **Be sure to name the scientific law** that supports your idea.

11a. Put the following steps of Universe formation (The Big Bang) in order from the earliest (1) to most recent (5).

___ Inflation slows down and the Universe cools. Matter starts to stick together to form protons & neutrons, and then eventually atoms.

___ Singularity: All matter in the Universe is smashed into one tiny point, which was very hot and dense.

___ Our Solar System forms about 5 billion years ago.

___ Inflation: Suddenly, in about a billionth of a second, the Universe expands VERY quickly in every direction. It gets cooler as it expands.

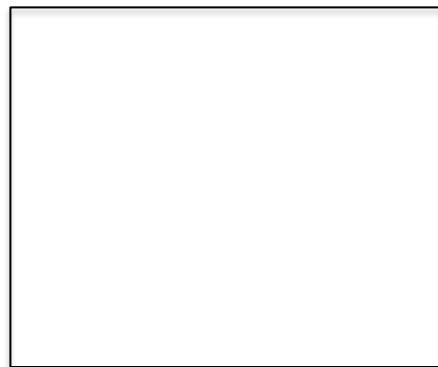
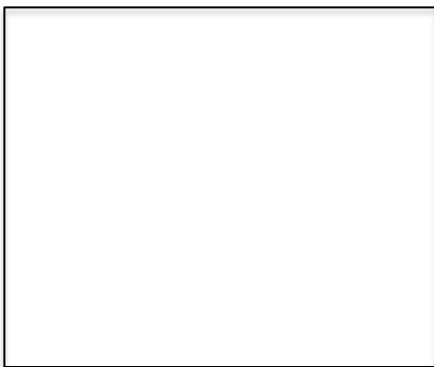
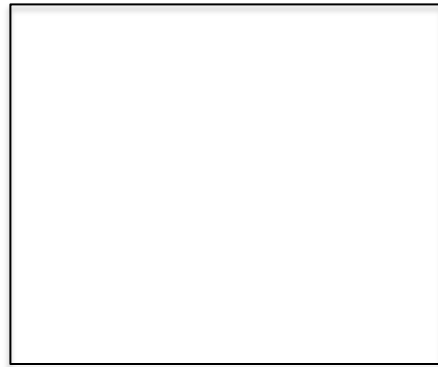
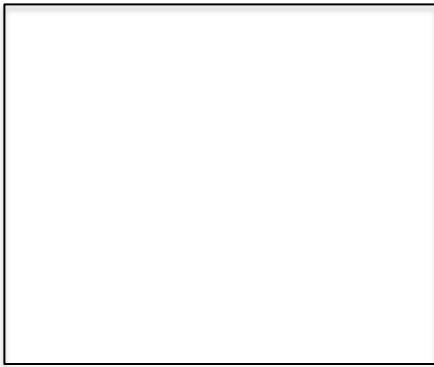
___ Stars and galaxies begin to form from clumps of gas that are still moving away from the center of the Universe.

11b. Current scientists have collected a lot of evidence that supports the Big Bang Theory. Give one piece of evidence below, and explain how it supports the theory that the Universe started with a really, really, really, really, really, really, really, really (+1 billion more really) big explosion.

12. Planets and other objects revolve around the sun in regular orbits. In the space below, name and describe/discuss the two forces that work together to make planets orbit. Be sure to:

- Name both forces
- Define/describe both forces
- Describe how the two forces work together to (1)keep the planets moving, and (2)make the planets move in a circle/oval/ellipse shape.

13. In the boxes below, draw four pictures that describe what happened when our *solar system* formed. For each box, describe what is happening below.



14. Label or draw each moon phase shown below:

		<p>Lunar Eclipse</p>
		<p>Solar Eclipse</p>

15. Describe each solar system object:

Object	Description
Planet	
Moon	
Asteroid/Asteroid Belt	
Oort Cloud	
Kuiper Belt	
Meteor	
Comet	

16a. The six properties of living things are:

16b. Decide if the following items are living or nonliving, and give evidence using the six properties of living things:

Rain cloud:

Mushroom: