

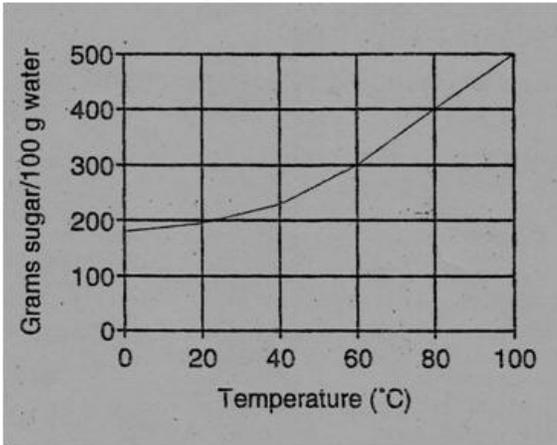
Seventh Grade Final Exam Review
Bring a #2 Pencil for the Exam on _____
(You will be allowed one page of handwritten notes to use on the final)

DIRECTIONS: ANSWER QUESTIONS ON A SEPARATE SHEET OF PAPER.

BASIC KNOWLEDGE

1. What are the steps of the scientific method? Define each step.
2. What is the difference between variables and controls?
3. What is the difference between an observation and an inference?
4. How are mass and volume measured?

Use the following graph to answer questions 5-7



5. Where is the dependent variable on the graph?
6. How many grams of mysterious orange powder will dissolve at 60 degrees Celsius?
7. At what temperature will 200 grams of mysterious orange powder dissolve?
8. Draw a beaker, microscope, flask and graduated cylinder.

MATTER / ELEMENTS & THE PERIODIC TABLE

1. What are the four states of matter?
2. Define evaporation, condensation, freezing, melting, and sublimation.
3. Draw what the molecules look like in each state of matter.
4. Define surface tension.
5. Define pressure.
6. Define an element.

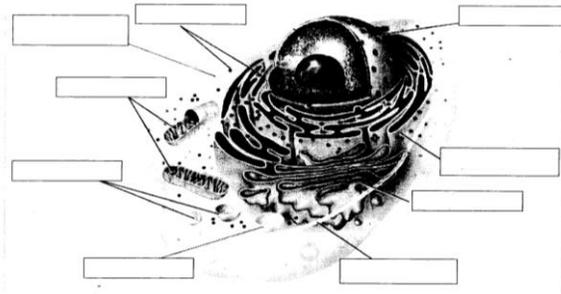
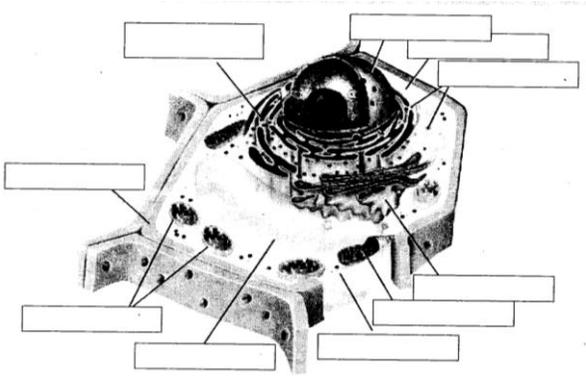
WEATHER

1. What creates the wind patterns on earth?
2. Of what two gases is the majority of the Earth's atmosphere composed?
3. What is the only substance that exists as a solid, liquid, and gas in the earth's atmosphere?
4. What is an air mass?
5. What is wind chill?
6. What two gases are responsible for absorbing radiant energy and contributing to global warming?
7. How is the atmosphere heated?
8. What is the difference between radiation, convection, and conduction?
9. Define evaporation, condensation, precipitation, and transpiration.
10. What will happen to the volume of a balloon if the temperature increases, but the pressure remains the same?
11. What is the study of weather and the processes that cause it?
12. What kind of weather occurs in high and low pressure zones?
13. What influences climate?
14. Understand how to read a weather map.
15. In what type of weather system would the air molecules be more closely packed?
16. If air containing moisture is cooled, the temperature at which the vapor condenses is known as _____.
17. As air rises from the earth into the atmosphere, what happens to the temperature and pressure?
18. As a result of the Prevailing Westerlies, how do air masses move in Michigan?

19. What is a front?
20. Draw the layers of the atmosphere in order. Label what is found in each layer.
21. How much of the water on Earth is **FRESH WATER**?
22. Define differential heating.

BIOLOGY

1. What are the stages of the cell cycle, and what happens in each stage?
2. Review the organelles of a cell, specifically the chloroplast, vacuole, lysosome, cell wall, nucleus, mitochondria, cell membrane, cytoplasm, endoplasmic reticulum, mitochondria, and ribosomes.
3. Label the diagrams below.



4. Where does photosynthesis occur?
5. What is the definition of diffusion?
6. What is osmosis?
7. Mitosis produces _____ cells with _____ number of chromosomes.
8. What is heredity?
9. What is the difference between phenotype and genotype?
10. What is the difference between homozygous (pure) and heterozygous (hybrid)?
11. Whose genes determine the sex of the child?
12. According to Mendel, tall pea plants are dominant over short pea plants. What percent of the offspring would be tall if you crossed a tall plant with a short plant?
13. If a homozygous black guinea pig (BB) is crossed with a heterozygous white guinea pig (bb), what would the percentage of the phenotype and genotype of their offspring be? (Please include the punnett square.)
14. What is the definition of genes?