

Name: _____

Key

Date: _____

Period: _____

Science Final Review

1. List the steps of the Scientific Method?

1. Ask a question

2. Hypothesis

3. Test (Experiment) Hypothesis

4. Analyze Results

5. Conclusion

2. What is the difference between an observation and an inference? Give an example for each.

• Observation: use one or more of the 5 senses to gather info.

Ex: There is one TV in the room.

• Inference: logical guess based upon prior knowledge + experience. Ex: The TV belongs to you.

3. List 3 conditions when you would be required to wear safety goggles during an 8th Grade Science experiment (we do not dissect in 8th Grade).

a. chemicals

b. heat or fire

c. glass

4. List the purpose of each type of equipment and what it measures.

a. Graduated Cylinder: to measure liquid (volume) - most accurate

b. Celsius Thermometer: measure the presence or absence of heat (temperature)

c. Meter Stick: to measure distance (meters)

d. Goggles: to protect your eyes from chemicals, heat or fire, + glass

e. Spring Scale: to measure weight (mass) or force (Newtons)

f. Beaker: to measure the volume of liquids (volume)

g. Triple Beam Balance: to measure mass (mass)

5. Write the definition and the metric unit for each of the following:

a. Volume: the space occupied by a material or object. (mL or cm^3)

b. Mass: the amount of matter in an object. (grams)

c. Temperature: the absence or presence of heat. (Celsius)

d. Density: the measure of the space of a particular mass of a substance. (g/mL or g/cm^3)

e. Force: a push or pull ... Newtons (N)

f. Work: the product of force + distance (Joules...J)

6. What is the difference between potential and kinetic energy?

* potential energy - energy that is stored

* kinetic energy - energy that is being used

7. What is the difference between a balanced force and an unbalanced force?

* Balanced Force - two forces equal in size + ~~in~~ acting in opposite directions on an object.

* Unbalanced Force - two forces that are unequal in size

8. Balanced forces cause objects to...
- stays at rest, but changes shape
 - stays at rest
 - constant speed

9. Unbalanced forces cause objects to...
- slows down
 - speeds up
 - stop
 - start
 - change direction
 - change shape

10. What is the formula for work? $Work = Force \times Distance$



11. Define speed, velocity, and acceleration then write an example for each.

- Speed: distance + time
- Velocity: speed (distance + time) + direction
- Acceleration: a change in velocity (distance, time, or direction)

12. What is the formula for speed? $Speed = \frac{distance}{time}$



13. KNOW HOW TO READ A DISTANCE-TIME GRAPH AND A SPEED-TIME GRAPH.

14. What is Newton's 1st Law?

An object at rest will remain at rest + an object in motion will stay in motion, unless acted upon by an unbalanced force.

15. What is Newton's 2nd Law?

$$Force = mass \times acceleration$$

16. What is Newton's 3rd Law?

For every action, there is an equal + opposite reaction.

17. Define density and write the formula for density.

The amount of matter ("stuff") in a given volume (amount of space).

18. Define weathering, erosion, and deposition.

$$Density = \frac{mass}{volume}$$

- Weathering: chemical + physical processes that break down rocks
- Erosion: the movement of weathered rock + soil
- Deposition: the process in which sediment is laid down in new locations


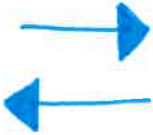


19. What is the continental drift theory and who proposed this theory?

- Today's continents were once one large mass called Pangea.
- Alfred Wegener

20. List 3 types of evidence to help support the continental drift theory?

- continents fit like puzzle pieces
- fossil + glacial evidence
- landforms + rock layers

21. Fill in the table about the types of plate boundaries.

Type of Boundary	Sketch of Boundary	Direction of Movement	Types of Features
Divergent Plate Boundary		Dividing or Moving Apart	1. Rift Valleys 2. Seafloor Spreading 3. Volcanoes 4. Mid-Ocean Ridge
Transform Plate Boundary		Sliding Past Each Other	1. Earthquakes 2. Faults
Convergent Plate Boundary (Collision)		Colliding or Coming Together	Mountains
Convergent Plate Boundary (Subduction)		Ocean - Ocean: older plate sinks under newer. Ocean - Continental: The oceanic plate will sink under the continental.	Volcanic islands 1. Volcanoes 2. Trench

22. A topographical map shows-

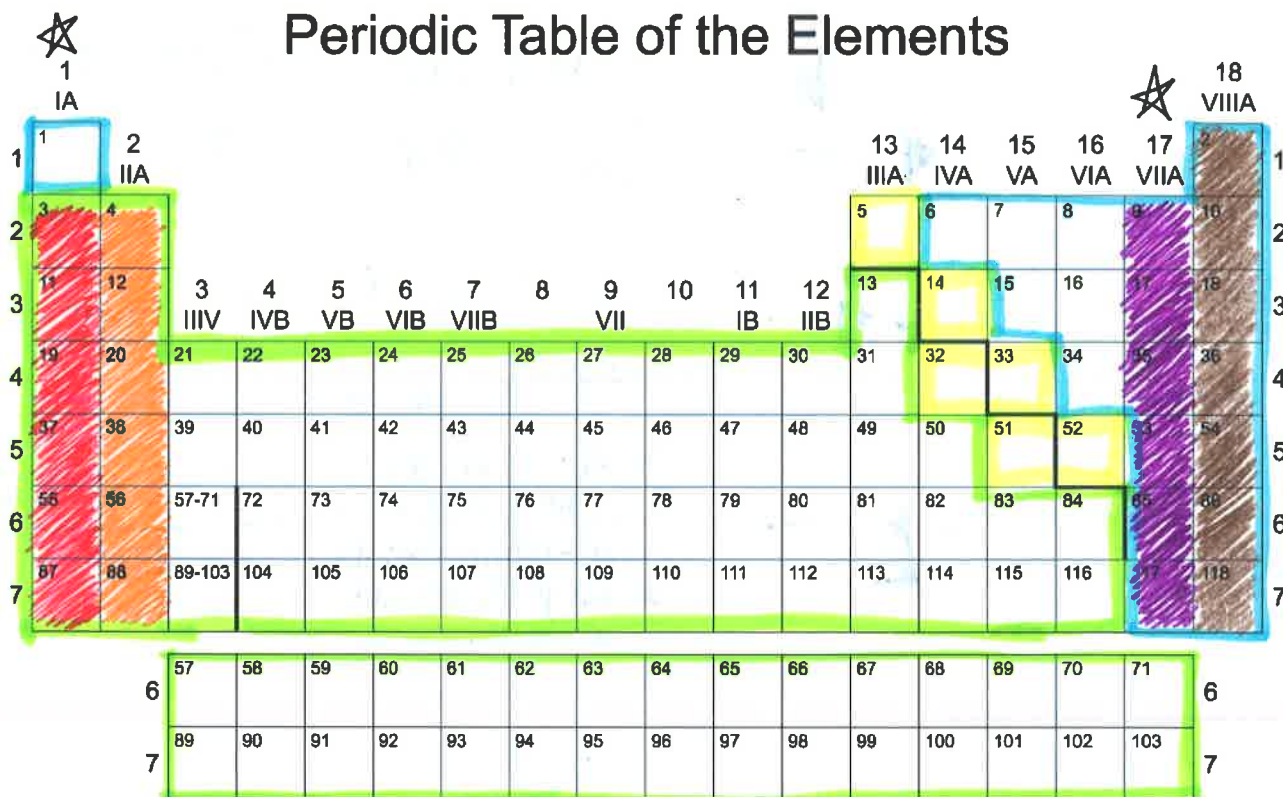
- Earth's layers
- the mineral content of the rocks
- the shape of the Earth's surface
- Earth's climate

23. Fill in the following chart:

	Charge	Location	AMU	Function/Role
Protons	positive (+)	inside nucleus	1 AMU	identity element
Electrons	negative (-)	electron cloud	< 1 AMU	chemical properties
Neutrons	neutral (0)	inside nucleus	1 AMU	give mass

24. Following the instructions below to complete the periodic table:

- a. Metals: circle/outline green
- b. Metalloids: circle/outline yellow
- c. Nonmetals: circle/outline blue
- d. Alkali Metals: color red
- e. Alkaline Earth Metals: color orange
- f. Halogens: color purple
- g. Noble Gases: color brown
- h. Most Reactive Metal Group/Family: draw a star above this group/family ★
- i. Most Reactive Nonmetal Group/Family: draw a star above this group/family ★



25. What do the following stand for?

- a. $A=P=E$ Atomic # = Protons = Electrons
- b. $M-A=N$ Mass # - Atomic # = Neutrons

26. Identify the following elements:

Lithium

Chlorine

Oxygen

