

Name _____

Let's Review

1. The changeable factor in an experiment is called a **variable**.
2. The factor in the experiment that stays the same is called the **constant**.
3. The amount of space an object takes up is the **volume**.
4. The amount of matter packed into a certain volume is **density**.
5. The formula for density is **$D = \text{Mass/Volume}$** .
6. Which would change if you traveled to another planet: your weight or mass? **weight**
7. A group of hundreds of thousands of stars, gas, and dust is called a **galaxy**.
8. The name of our galaxy is **Milky Way**.
9. An object that orbits another object is called a **satellite**.
10. Why does Mercury have such extreme temperatures? **No atmosphere, close to the sun**
11. Why is Venus so hot? **Greenhouse effect, high CO₂ levels**
12. Which planet spins on its side? **Uranus**
13. Which planet has a lot of iron in its soil (red color)? **Mars**
14. Which planet has the Great Red Spot? **Jupiter**
15. Where is the asteroid belt? **Between Mars and Jupiter**
16. A piece of space rock that burns as it enters our atmosphere is called **meteor**.
17. A meteor that reaches the earth's surface is called a **meteorite**.
18. A comet's tail always faces **away from the sun**.
19. Another name for the "North Star" is **Polaris**.
20. A cloud of gas and dust where new stars are formed is called a **nebula**.
21. In a star, **hydrogen** fuses into **helium**.
22. A star that is cool, big and bright is called a **red giant**.
23. A star that is hot, small and dim is called a **white dwarf**.
24. The final stage for low mass stars is called a **black dwarf**.
25. A large star that explodes is called a **supernova**.
26. A star that continues to collapse to the point where not even light can escape **black hole**.
27. The distance light travels in a year is called **light year**.
28. The apparent shift of a star when compared to more distant stars is called **parallax**.
29. When the moon blocks out the light from the sun it is called a **solar** eclipse.
30. When the earth's shadow blocks out the light from the moon, it is called a **lunar** eclipse.
31. The only layer of the sun that can be seen during a solar eclipse is the **corona**.
32. Another name for infrared radiation is **heat**.
33. The type of radiation that gives us a sunburn is **ultraviolet**.
34. **Latitude** measures the distance North or South of the Equator.
35. **Longitude** measures the distance East or West of the Prime Meridian.
36. When the Northern Hemisphere is tilted towards the sun, we are having **summer**. The Southern Hemisphere is having **winter**.

37. Day and night are caused by Earth's **rotation**.
38. A year is caused by the Earth's **revolution** around the sun.
39. **50%** of the Earth is illuminated by the sun at all times.
40. **50%** of the moon is illuminated by the sun at all times.
41. For each time zone we travel to the **west/left** we subtract one hour.
42. Rocks are made of **minerals**.
43. Will a 7 scratch a 6 on Moh's Hardness Scale? **Yes**
44. Will a 3 scratch a 4 on Moh's Hardness Scale? **No**
45. The color of the powder of a mineral is called **streak**.
46. To be magnetic, a mineral must contain some **iron**.
47. Fool's gold is the common name for **pyrite**.
48. Salt is the common name for **halite**.
49. Pencil "lead" is really made from **graphite**.
50. **Quartz** is the mineral used to make glass.
51. **Gems** are minerals that are rare and valuable and are hard enough to be cut and polished.
52. **Ores** are minerals that are mined to obtain useful and profitable materials.
53. **Sedimentary** rocks are rocks made when layers of sediment become solid.
54. **Igneous** rocks are rocks made from molten material that cools.
55. **Metamorphic** rocks are rocks made when other rocks change due to heat and pressure.
56. Areas with lots of limestone and caves have **karst** topography.
57. The law of superposition states that the oldest layers are on the **bottom**.
58. The only type of rock to have fossils are **sedimentary** rocks.
59. Coal is made from **organic material/dead plants**.
60. Intrusive igneous rocks cooled **inside** (inside/outside) the earth.
61. Intrusive igneous rocks cool **slowly** (slowly/quickly).
62. Extrusive igneous rocks cooled **outside** (inside/outside) the earth.
63. Extrusive igneous rocks cool **quickly** (slowly/quickly).
64. **Granite** is the most common intrusive igneous rock.
65. **Basalt** is the most common extrusive igneous rock.
66. When a body of rock cuts another body of rock (an intrusion), the one that cuts across is **younger** (younger/older).
67. Metamorphic rocks that form in layers or bands are called **foliated**.
68. Are fossil fuels renewable or nonrenewable? **nonrenewable**
69. Is solar energy renewable or nonrenewable? **renewable**
70. Which is the hardest form of coal? **anthracite**
71. The splitting of atoms is called **fission**.
72. To put atoms together (like stars do) is called **fusion**.
73. **Absolute** age is the actual age of a rock.
74. **Relative** age compares the age of one rock layer to another.
75. Gaps in the rock record (unconformities) are usually caused by **erosion**.

76. The time it takes for half of a radioactive substance to change into another substance is called **half-life**.
77. Which are longer: eons, eras, periods, or epochs? **eons**
78. Did man live at the time of the dinosaurs? **no**
79. The most common theory for dinosaur extinction is that a giant **meteorite** hit the earth and blocked out the sun.
80. The “present is the key to the **past**” – the law of uniformitarianism
81. The name of Alfred Wegener’s supercontinent is **Pangaea**.
82. New ocean crust is being formed at **mid-ocean ridges**.
83. Old ocean crust is destroyed in the **trenches**.
84. When one plate goes under another, it is called **subduction**.
85. Divergent boundaries are where plates **move apart**.
86. Convergent boundaries are where plates **move together**.
87. Transform boundaries are where plates **slide side by side**.
88. A crack in the rock that moves is called a **fault**.
89. The **focus** is the point underground where an earthquake originates.
90. The **epicenter** is the point on the surface above the focus.
91. The **primary (P)** waves are the first ones to arrive from an earthquake.
92. The **secondary (S)** waves can’t travel through liquid.
93. **Surface** waves from an earthquake do the most damage.
94. The machine that measures seismic waves is called a **seismometer**.
95. A giant sea wave from an earthquake is called a **tsunami**.
96. Earthquakes and volcanoes usually occur **along** plate boundaries.
97. **Shield** are gently sloped volcanoes that put out mostly lava.
98. **Cinder-cone** are steep sided volcanoes that put out mostly ash and rock.
99. **Composite** are volcanoes that put out alternating layers of lava and ash.
100. The Hawaiian Islands formed when the Pacific plate passed over a **hot spot**.
101. Normal faults (one block moves down) are due to **tension** (tension or compression).
102. Reverse faults are caused by **compression** (tension or compression).
103. **Strike slip** faults are caused by shear forces.
104. Folded mountains are caused by **compression** (tension or compression).
105. Which layer of the earth is the most dense? **Inner core**
106. Convection currents are where hot material **rises** and cool material **sinks**.
107. The breaking down of Earth’s materials into smaller and smaller pieces is called **weathering**.
108. The movement of weathered material is called **erosion**.
109. When water dissolves minerals and carries them away, it is called **hydrolysis/leaching**.
110. Oxidation is where oxygen and **iron** mix to form rust.
111. When CO₂ mixes with H₂O, it forms **carbonic acid**.
112. When feldspar is broken down and mixed with water it forms **clay**.
113. Is soil creep fast or slow? **slow**

114. What agent of erosion moves more material than any other? **water**
115. Do mudflows occur in wet or dry climates? **dry**
116. List two characteristics of a young river valley. **Fast, waterfalls**
117. List two characteristics of a mature river valley. **Slower, meanders, floodplain**
118. List two characteristics of an old river valley. **Slowest, oxbows, large floodplain**
119. Each layer in a soil profile is called a **horizon**.
120. Which layer has the most humus (organic material)? **Horizon A**
121. Which layer is the darkest and most fertile? **Horizon A**
122. What lies beneath three layers of soil? **bedrock**
123. A fan shaped feature where a mountain stream empties onto a flat land is called a(n) **alluvial fan**.
124. A fan shaped feature where a stream dumps its load as it enters a lake or ocean is called a(n) **delta**.
125. The flat land bordering the side of a river is called a **floodplain**.
126. The zone of saturation is where **water** fills the pores in the rock.
127. The zone of aeration is where **air** fills the pores in the rock.
128. The top of the zone of saturation is called the **water table**.
129. A layer of permeable rock that allows water to flow through it is called a(n) **aquifer**.
130. A hot spring that erupts periodically is called a(n) **geyser**.
131. Underground openings caused when limestone is dissolved are called **caves**.
132. The formations that form from water dripping from the ceiling of a cave are called **stalactites**.
133. The formations that form from water dripping on the floor of the cave are called **stalagmites**.
134. Sand and gravel is a major resource from which Virginia province? **Coastal Plain**
135. Coal is a major resource from which Virginia province? **Appalachian Plateau**
136. Which Virginia province do we live in? **Valley and Ridge**
137. Which Virginia province is Richmond in? **Piedmont**
138. Using the map scale 1:24,000, one inch on the map equals 24,000 **inches** on the ground.
139. On a topographic map, the closer the contour lines, the **steeper** the land.
140. The distance between two neighboring contour lines is called the contour **interval**.
141. The ozone layer protects us from harmful **ultraviolet** rays from the sun.
142. What is destroying the ozone layer? **CFCs**
143. What is the gas in the atmosphere that causes the “greenhouse effect?” **carbon dioxide**
144. What other planet has a greenhouse effect? **Venus**
145. The temperature where air reaches saturation is called **dew point**.
146. The amount of moisture in the air is called? **humidity**
147. A sling psychrometer or hygrometer measures **humidity**.
148. An anemometer measures **wind speed**.
149. A barometer measures **air pressure**.
150. A weather vane measures **wind direction**.
151. High, thin, and wispy clouds are called **cirrus**.

152. Layered sheets of clouds are called **stratus**.
153. Puffy clouds are called **cumulus**.
154. The word **nimbus** is added to a cloud name to indicate precipitation.
155. A low stratus cloud that is near the ground is called **fog**.
156. The type of precipitation that forms when the ice crystal melts and then refreezes before it hits the ground is called **sleet**.
157. If the ice crystal melts on the way down, it is called **rain**.
158. If the ice crystal stays frozen all the way down, it is called **snow**.
159. If the ice crystal melts and then refreezes on the ground, it is called **freezing rain**.
160. To form hail, there must be high **wind** in the cloud.
161. The symbol for a cold front is **triangles on a line pointing in the direction the front moves**.
162. The symbol for a warm front is **half circles on a line pointing in the direction the front moves**.
163. Tornadoes form over **land**.
164. Hurricanes form over **water**.
165. Sea breezes and land breezes form because **land** heats up and cools down more quickly than **water**.
166. Is it cloudy or clear when we are under high pressure? **clear**
167. When the barometer is falling, are we under high pressure or low pressure? **low**
168. **High** pressure always moves towards **low** pressure.
169. The saltiness of ocean water is called **salinity**.
170. Which can hold more dissolved water, cold or warm water? **cold**
171. Removing the salt from ocean water is called **desalinization**
172. The force that causes all currents to curve to the right in the Northern Hemisphere is called the **Coriolis effect**
173. The flat part of the deep ocean floor is called the **abyssal plain**.
174. Is the Gulf Stream warm or cold? **warm**
175. What causes waves? **wind**
176. As waves come into shore, does the wave height increase or decrease? **increase**
177. What causes tides? **gravitational pull of the moon and sun**
178. When the sun and moon pull together, these tides are called **spring** tides.
179. When the sun and moon pull on the earth at right angles, these tides are called **neap** tides.
180. Which of these tides have the highest highs and the lowest lows? **spring**
181. Longshore currents form because water comes in **at an angle** and goes out **straight**.
182. **Nekton** are ocean critters that swim freely through the ocean.
183. **Benthos** are ocean critters that live on the ocean bottom.
184. **Plankton** are ocean critters that drift with the current.
185. Are you ready for the SOL yet? **YES**

SOL Tips

- 1) Read the question AND the instructions. Do NOT freak out if you do not automatically know the answer. You may see questions about material we did not specifically discuss.
- 2) Read the question again and ask yourself, "What are they asking?"
- 3) Look carefully at the chart or graph, if there is one. How does it relate?
- 4) Eliminate the wrong answers.
- 5) Choose the BEST answer.

Root Words to Know

Photo = light
Geo = earth
Bio = living
Helio = sun
Circum = around
Thermo = heat
De = to undo
Re = to do again
Meta = change
Morph = form
Hydro = water
Inter = between

SOL Words to Know

Descends – goes down
Ascends – goes up
Illuminate – to light up
Intrusion – something that pushes into something else
Specific Gravity – relates to weight
Dense – how tightly packed something is (may relate to heaviness)
Exert – to put into action
Solar – sun
Lunar – moon
Terrestrial – land
Aquatic – fresh water
Marine – ocean water
Remediation – fix, help

MINERALS TO KNOW

Rock-forming minerals: quartz, feldspar, calcite, mica
Ore minerals: pyrite, magnetite, hematite, galena, graphite, sulfur

ROCKS TO KNOW

Igneous: pumice, obsidian, basalt, granite
Sedimentary: sandstone, conglomerate, shale, limestone
Metamorphic: slate, schist, gneiss, marble, quartzite

VOLCANIC ACTIVITY TO KNOW

Hawaii, Iceland, Mount St. Helens, Tambora, Deccan Traps, Yellowstone, Catoctin Greenstone

PLATE BOUNDARIES TO KNOW

Japan, California, New Madrid, Appalachian system, Iceland, Tonga

WATERSHED SYSTEMS TO KNOW

Chesapeake Bay, Gulf of Mexico, North Carolina sounds