

## **Science Final Study Guide (1st Semester)**

*Exam Date: Wednesday December 13th*

### **Ecosystems**

**Students should know/ be able to explain:**

- All living things work together to create an ecosystem.
- The arrows in a food chain/ web mean "eaten by." When the number of one organism goes down, the other organisms will have less food to eat and can eventually die off.
- When the number of one organism increases, the other organisms can have more food.
- Decomposers - Feed on the remains of dead plants and animals.
- Producers- Organisms that create their own food and energy through processes from the sun.
- Consumers- Organisms that consume other organisms for energy.
- Scarcity- The lack of food or a certain resource.

### **Water Cycle**

**Students should know/ be able to explain:**

- The sun is the major source of energy in the water cycle because it provides the energy to evaporate water on Earth into the atmosphere.
- Precipitation- When water falls to the earth in the form of rain, snow, sleet, or hail.
- Evaporation- The change of state of water from a liquid to a gas. Heat from the sun causes the water to rise.
- Condensation- The change of state of water from a gas to a liquid. Clouds can form when water vapor cools down.
- Runoff- Precipitation that flows downhill on Earth's surface towards, streams, rivers, lakes, and oceans.
- Transpiration- Process where plants absorb water through the roots and gives off water vapor through pores in the leaves.
- When liquid water is heated, the water will evaporate, creating steam.

**Keep reading, there is more to study on the next page!**

## **Weather**

**Students should know/ be able to explain:**

- When the pressure drops, you can expect wet and cooler weather.
- When the pressure rises, you can expect warmer, drier weather.
- Stationary Front- When 2 air masses block each other. The air masses are not strong enough to push each other out of the way. Because of this, the air masses stay over the place where they meet. This produces cloudy and stormy weather for a long time. Shown as a line with both red semi-circles and blue triangles.

### *Weather Instruments:*

- Rain Gauge- Used to collect and measure the amount of precipitation that has fallen in an area.
- Thermometer- Measures the temperature of the air in degrees.
- Anemometer- Measures the speed of the wind.
- Barometer- Measures air pressure.
- Wind Vane- Measures the direction that the wind is blowing from.

## **Clouds**

**Students should know/ be able to explain:**

- We have learned about 3 types of clouds: Cirrus, Stratus, and Cumulus.
- Cumulus can indicate possible storms in the future.
- Stratus clouds - forms close to the surface of the earth.
- Cirrus clouds- clouds that are formed at high altitudes and are made of mostly ice crystals.