**Below are the 50 –sphere answers to your 50 packet questions. Scroll down until you get to the sphere that you still need answers to. ALL answers are due on Tuesday, January 17, 2017.**

**REMINDERS:** (Five (5) points off, per sphere, for not following directions!)  **A) One sphere set of answers per page. B) These are written as sentences with capital letters and periods. C) Your numbers are to the left of the red line. D) SKIP LINES BETWEEN ANSWERS! E) Readable answers** (Not too small or too messy, just right!)

**Atmosphere Answers**

1. The air contains 78% nitrogen, 21% oxygen and trace amounts of argon, CO2, H, methane, and helium.
2. Atmosphere layers contain:

A) Troposphere – weather, clouds

B) Stratosphere – ozone layer, weather balloons

C) Mesosphere – meteors, coldest layer

D) Thermosphere – Northern Lights, ISS (International Space Station)

E) Exosphere – outer space, some satellites

1. The earth’s atmosphere protects life on Earth by keeping out a lot of harmful UV rays.
2. The earth’s atmosphere insulates Earth by keeping heat in so the temperatures can sustain life.
3. The ozone layer in the stratosphere absorbs a lot of the harmful UV rays.
4. Ozone depletion impacts could include more skin cancer and more harm to plants and animals.
5. Climate change impacts could include changes in rising sea levels, more intense heat and animal migration patterns changing.
6. Good air quality keeps us healthy and active and bad air quality can give us asthma and cancer.
7. Interactions between the atmosphere and hydrosphere include storms, hurricane, and the water cycle.
8. Interactions between the atmosphere and geosphere include plant photosynthesis, erosion and deforestation.

**Biosphere Answers**

1. Ecological communities are called biomes.
2. Plants or producers use the sunlight to make food through the process of photosynthesis.
3. Organisms that cannot make their own food are called consumers.
4. In the Taiga you will find pine trees and in the Tundra you will find mosses and lichens.
5. Decomposers break apart dead plants and animals.
6. Plants interact with the atmosphere by taking carbon dioxide out of the air.
7. Abiotic factors are not alive in an ecosystem, such as water, soil and air.
8. A food chain can show how living things get their food and energy.
9. Plants are an important source of oxygen and food.
10. The ocean is divided into the sunlit zone, the twilight zone and the midnight zone.

**Cryosphere Answers**

1. The two major components of the cryosphere are ice and snow.
2. Glaciologists and climatologists are interested in studying the cryosphere.
3. Antarctica has the largest amount of the cryosphere layer.
4. A glacier is a large mass of ice and snow that has been compressed together and moves about one inch a year.
5. Polar bears and Arctic foxes live in the Arctic region while penguins and orca whales can be found in Antarctica.
6. Ice is formed when the temperature gets below 32° F or 0° C.
7. Snow is precipitation in the form of ice crystals and formed through supercooled cloud drops of water.
8. Frozen ground occurs when the water in the soil or dirt freezes.
9. An ice sheet is a permanent large mass of glacial ice that forms over land, mainly in Antarctica or Greenland.
10. Climate Change involves the melting of Earth’s ice and the heating up of Earth’s climate.

**Geosphere Answers**

1. The 4 different layers of the Earth are the crust, the mantle, the outer core and the inner core.
2. The 3 processes that help form landforms and shape the Earth’s surface are weathering, erosion and deposition.
3. The Earth’s crust and upper mantle layer is called the lithosphere.
4. The outer core is molten or liquid nickel and iron rock but the inner core is solid nickel and iron rock.
5. Scientists map fossils, rocks and soil by using seismic technology, the Law of Superposition and geological maps.
6. Eight landforms that are part of the geosphere include caves, mountains, volcanoes, deserts, glaciers, islands, valleys, and canyons.
7. Some of the minerals that can be found in the geosphere include quartz, copper, diamonds, silver, pyrite, talc and gold.
8. Scientists who study the geosphere are called geologists.
9. The 3 main types of rocks are sedimentary, igneous and metamorphic.
10. The 3 types of boundaries created by the movement of Earth’s plates are the convergent, divergent and transform boundaries.

**Hydrosphere Answers**

1. The sun’s energy makes the water cycle work.
2. When water vapor turns into water droplets and clouds that is called condensation.
3. Good water quality helps to keep us healthy and active, while bad water quality can make us very sick and not energetic.
4. Groundwater is underground water found in the cracks and the spaces in soil, sand or rocks. In Florida we call it an aquifer.
5. The release of water from plant leaves back into the air is called transpiration.
6. In the ocean, we find 97% of Earth’s water.
7. Water falling out of the clouds is called precipitation.
8. Frozen water on earth is mainly stored as glaciers and ice sheets.
9. The Gulf Stream is a warm water current in the Atlantic Ocean that flows northward.
10. Clouds are part of the hydrosphere and the atmosphere.