Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ U3L1 Notes

WHAT ON EARTH?

What is the Earth System?

* A system is a group of \_\_\_\_\_\_\_\_ objects or parts that work together to form a whole.
* The **Earth system** is all of the \_\_\_\_\_\_\_\_, energy, and \_\_\_\_\_\_\_\_\_\_\_\_\_ within Earth’s boundary.
* Earth is a \_\_\_\_\_\_\_\_\_\_ system full of living and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ things and the matter and energy that continuously cycle through the smaller systems.
* The **\_\_\_\_\_\_\_\_\_\_\_\_\_** is the mostly solid, rocky part of Earth. It extends from the center of Earth to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of Earth.
* The \_\_\_\_\_\_\_\_\_\_\_ is the thin, outermost layer of the geosphere.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_ crust is 5 to 10 km thick. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ crust is 15 to 70 km thick.
* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is below the crust. It is about 2,900 km thick.
* A small layer of \_\_\_\_\_\_\_\_\_ mantle, right below the crust, flows and causes movement of the \_\_\_\_\_\_\_\_\_\_\_\_ of the crust.

The \_\_\_\_\_\_\_\_\_ of Earth has a radius of about 3,900 km. It is made of \_\_\_\_\_\_ and nickel.

GOT WATER?

What is the hydrosphere?

* The **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** is the part of Earth that is liquid water.
* Oceans, \_\_\_\_\_\_\_\_\_, rivers, marshes, and groundwater are part of the hydrosphere.
* Water is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ moving through Earth and even into and out of living things.

What is the cryosphere?

* The **\_\_\_\_\_\_\_\_\_\_\_\_\_\_** is made up of all of the \_\_\_\_\_\_\_\_\_\_ water on Earth.
* Snow, \_\_\_\_\_\_, sea ice, glaciers, ice shelves, icebergs, and frozen \_\_\_\_\_\_\_\_\_\_\_ water are all part of the cryosphere.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the cryosphere can play an important role in Earth’s \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and species’ survival.

WHAT A GAS!

What is the atmosphere?

* The **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** is a mixture of mostly invisible \_\_\_\_\_\_\_\_\_\_ that surrounds Earth.
* About \_\_\_\_\_ percent of the atmosphere is \_\_\_\_\_\_\_\_\_\_\_\_. Oxygen makes up \_\_\_\_ percent of the atmosphere.
* Other gases in the atmosphere include \_\_\_\_\_\_\_\_\_, carbon dioxide, and water vapor.
* Some of the energy from the \_\_\_\_\_\_\_ is trapped by Earth’s atmosphere, which helps keep temperatures \_\_\_\_\_\_\_\_\_\_.
* Part of the atmosphere \_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_ harmful ultraviolet (UV) rays from the sun.

Other parts of the atmosphere cause space \_\_\_\_\_\_\_\_\_\_\_\_ to burn up before reaching Earth’s surface.

What is the biosphere?

* The **\_\_\_\_\_\_\_\_\_\_\_\_\_\_** is made up of living things and the areas of Earth where they are found.
* Organisms usually need \_\_\_\_\_\_\_\_\_\_\_\_\_ or carbon dioxide to carry out life processes.
* Liquid water, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ temperatures, and a stable source of \_\_\_\_\_\_\_\_\_\_\_\_ are also important for most living things.

WHAT’S THE MATTER?

How do Earth’s spheres interact?

* All of the \_\_\_\_\_\_\_ spheres of Earth interact as matter and energy change and \_\_\_\_\_\_\_\_\_\_\_\_\_ through the system.
* If matter or energy \_\_\_\_\_\_\_\_\_\_\_\_\_ changed from one form to another, life on Earth would not be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ moves between Earth’s spheres.
* Sometimes, matter moves through \_\_\_\_\_\_\_\_\_\_\_ spheres before returning to a sphere.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_ moves between spheres. Energy also moves \_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ between spheres.
* How many of the parts of the Earth system can you identify in this image? How do they interact?

