

How does carbon move from the geosphere to the atmosphere?

A: volcanic eruptions, forest fires, factories

★★★★

Name 3 biogeochemical cycles.

A: H₂O cycle nitrogen cycle
Carbon cycle phosphorus cycle
Oxygen cycle

★★★★

How does carbon move from the biosphere to the atmosphere?

A: animals exhale CO₂

★★★

What ~~molecule~~ compound contains 3 oxygen molecules?

A: ozone

★★★

What is the state of carbon as a solid?

A: coal

★

Why is the atmosphere important?

A: allows for a stable environment, allows for liquid H₂O, protects from harmful radiation

★★

How do animals get carbon?

A: by eating plants

★★

Name the 2 spheres that are interacting when CO₂ in the air dissolves in the ocean.

A: atmosphere & hydrosphere

★★★

What is the ultimate energy source for all Earth processes?

A: The sun

★

_____ is the interaction of of complex set of cycles.

A: system

★★★★

What atmosphere layer is the most dense?

A: troposphere

★★

What does "mesos" stand for?

A: middle

★★★

What happens to temp. as elevation increases in the troposphere?

A: it decreases (gets colder)

★

What happens to the temp. in the mesosphere as elevation increases?

A: temp. decreases

★★.

What does "strato" mean?

A: layers

★★

What does "thermo" mean?

A: heat

★

~~What~~ Why does temp. increase in the stratosphere with elevation?

A: because the ozone layer absorbs heat/energy

★★★

What does temp. increase in the thermosphere?

A: absorbs high intensity solar rays

★★★

What layer breaks up meteoroids?

A: mesosphere

★★

What layer creates charged particles & allows for radio communication?

A: ionosphere

★★★★

_____ is the state of Earth's atmosphere at a ~~state~~ time & place.

A: weather

★

What layer contains the ozone layer?

A: stratosphere

★★

_____ is a cycle that moves through living & non-living parts of earth.

A: biogeochemical

★★★

What atmosphere layer contains weather?

A: troposphere

★

What part of Earth stores the most carbon?

A: oceans

★★★

What weather scale shows the potential of frostbite?

A: wind chill scale

★★★

Name the 4 layers of the atmosphere?

A: troposphere, stratosphere, mesosphere, thermosphere

★★★★

Name 4 components of the atmosphere.

A: nitrogen, oxygen, carbon dioxide, water vapor

★★★★★

How does carbon move from the atmosphere to the biosphere?

A: plants take in CO₂ (photosynthesis)

★★★

How ~~is~~ ^{are} the layers of the atmosphere different?

A: different temperatures

★★★

Name 3 types of kinetic energy

A: electrical, radiation, electromagnetic, thermal, motion, sound

★★★★

_____ transfer of heat through waves.

A: radiation

★

What type of energy includes splitting or combining atoms?

A: nuclear

★★

_____ transfer of heat through a liquid.

A: convection

★★

_____ is the total kinetic energy of all the particles

A: Heat

★★

An archer pulling a bow & arrow before releasing the arrow is an example of what type of energy

A: stored mechanical

★★★★

Name the 3 ways heat is transferred.

A: radiation, convection, conduction

★★★★

All the living organisms on Earth are made of this element?

A: carbon

★★

_____ is the transfer of heat through direct contact.

A: conduction

★

_____ is a series of repeated steps.

~~★~~ A: cycle

★

_____ is the solid portion of earth?

A: geosphere

★

What happens to density when energy is added to a system?

A: decreases

★★

_____ is the ability to do work or produce heat.

A: Energy

★

_____ is the space atoms occupy.

A: Volume

★★

Give 2 examples of potential energy.

A: snow, rock on hill, gasoline

★★

What happens to volume when energy leaves a system?

A: decreases

★★★

Energy of motion is called: _____

A: kinetic energy

★

Describe why pressure decreases when energy is added to a system.

A: energy causes atoms to move faster & a part, causing less force on an area

★★★★

What happens to atoms when temp. increases?

A: atoms move faster & become "excited"

★★

Give an example of chemical energy?

A: fireworks, lighting a match, digesting food

★★

Name the 5 branches of ES.

A: geology, oceanography, hydrology, meteorology, environ. sci. ★★★

Describe a system.

A: interaction of matter, energy & life. ★★

Describe Geology

A: study of materials that make up Earth & the processes that shape & change them ★★

What sphere includes weather systems & protection against UV rays?

A: atmosphere ★★

What is the study of Earth's atmosphere & climate?

A: Meteorology ★★

Name 1 positive impact humans have on the atmosphere...

A: hybrid cars, wind/solar power, planting trees ★★★

Name the study of Earth's oceans.

A: oceanography ★

What sphere includes all living things?

A: biosphere ★

What type of ES branch includes pollution & management of resources?

A: Environmental Science ★★

What is the main difference between the hydrosphere & cryosphere?

A: hydrosphere = liquid H₂O on earth
cryosphere = frozen H₂O on earth ★★