

Earth's Spheres

Standard: 6.1E.1 Describe and compare the properties and composition of the layers of Earth.

Warm Up



To turn page 5

Answer numbers 1-3 on your own

K.I.M. Sheets

Fill out the Vocab Terms on your K.I.M Sheet

Earth System Atmosphere Geosphere	Biosphere Hydrosphere Cryosphere	Energy Budget
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What is the Earth System?

The Earth System is all of the matter, energy and processes within Earth's boundary.

Earth is a complex system made up of living and non-living things.

Five parts to the Earth System

Atmosphere



Biosphere



Cryosphere



Geosphere



Hydrosphere



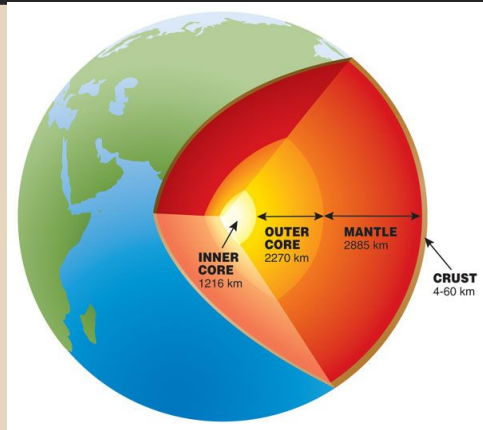
Time Out!



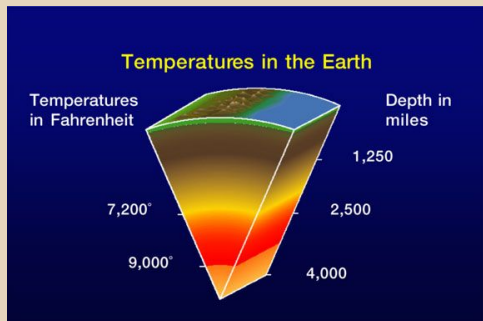
Turn to page 6

Identify question number 5

What is the geosphere?



The geosphere is the mostly solid, rocky part of Earth. Extends from the center of Earth to the surface.



Layers include:

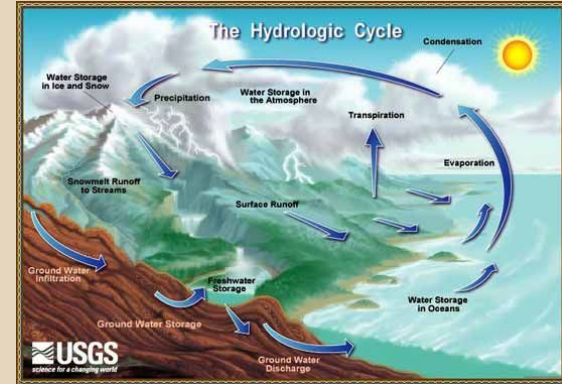
- ☐ Crust, Mantle and Core

What is the hydrosphere?

The hydrosphere is the part of Earth that is liquid water.

97% of all the water on Earth is saltwater.

The hydrosphere includes freshwater in lakes, rivers and frozen ice at the poles.



What is the cryosphere?



Earth's cryosphere is made of all the frozen water on Earth.



This includes frozen ground (permafrost) and ice caps in the Poles.

Time Out!



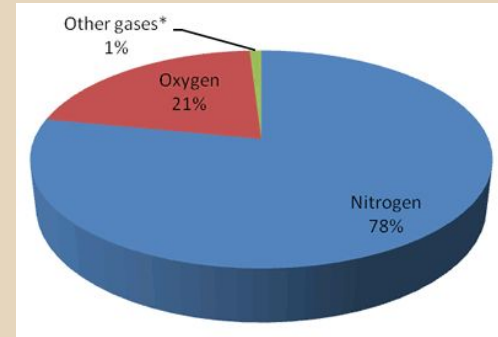
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Identify question number 10 A-D

What is the atmosphere?

The atmosphere is mostly made of invisible gases that surround Earth.

Extends 500-600 km above Earth. Ozone protect against UV radiation.



What is the biosphere?

The biosphere is made up of living things and the areas of Earth where they are found.

Most living things need:

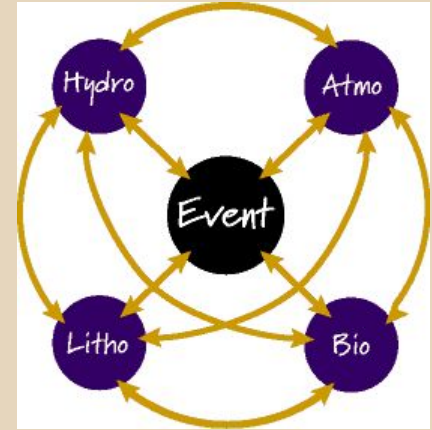
- Oxygen/Carbon Dioxide
- Liquid Water
- Moderate Temperatures
- Stable source of Energy

Lets chat
about that!



How do Earth's spheres interact?

Earth's spheres interact as matter and energy change and cycle between the five different spheres.

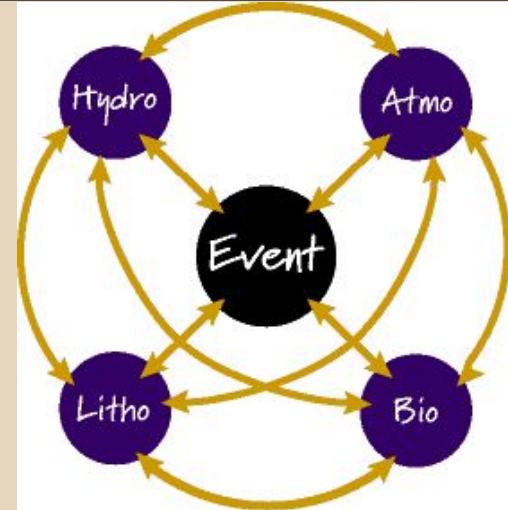


Without interactions we might have a situation in which no more rain falls, and all freshwater drains into the ocean. BUMMER!

Exchanging Matter and Energy

Matter and Energy can move through several spheres, for example, some **bacteria** remove nitrogen gas from the atmosphere.

- They then release a different form of nitrogen into the soil, or geosphere.
- Plants use this in the biosphere to grow.



Time Out!

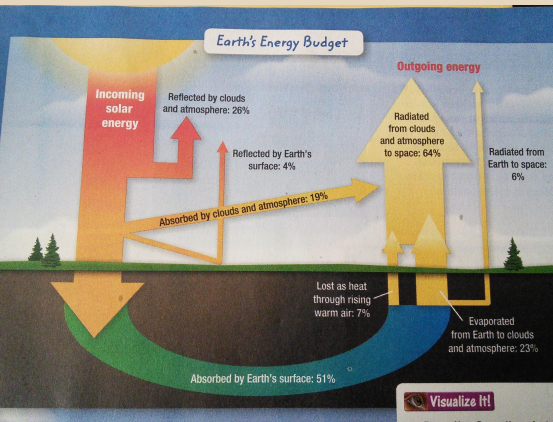


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Analyze question number 15 A-D

What is the source of Earth's energy?

Almost all of Earth's energy comes from the sun.



In any system, input must equal output in order to keep the system balanced.

Earth's energy budget is a way to keep track of energy transfers into and out of the Earth System.

What can disturb Earth's energy budget?

Greenhouse Gases - absorb energy from Earth's surface and keep that energy in the atmosphere.
Temperatures increase globally.

Melting Polar Ice - bright white areas reflect light. Bodies of water absorb radiation. Temperatures increase globally.



Study Up!

With visual summary

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