

# Earth/Space Science

1.1

## Answers

- 1 living things
- 2 see  $H_2O$
- 3 not seen  $H_2O$
- 4 mtn / front of pic
- 5 interaction
- 6 Inter dependence (Relationship)
- 7 connection (correlation)
- 8 ~~B~~ Land, Water, Space Atmosphere, Biosphere, Geosphere,
- 9 (Ecology) Earth System Science Hydrosphere
- 10 turning pt.
- 11 whole
- 12 water erodes rocks, minerals feed plants, people eat
- 13 model
- 14 System (part of universe that's studied separately)
- 15 Separately
- 16 closed
- 17 open
- 18 Earth = closed (no matter essential enters or leaves)
- 19 #2
- 20 #3
- 21 #6
- 22 #1
- 23 #4

## 1.2 Answers

- 24 Atmosphere
- 25  $O_2$ ,  $N_2$ ,  $CO_2$
- 26 All the atoms that existed @ her time are still present today.  
We breathe them in.
- 27 Geosphere
- 28 Hydrosphere
- 29 solid ice/snow, liquid water, gaseous water vapor.

30 Biosphere (Single-celled protozoans, jellyfish, trees, people)

31 4

32 5

33 2

34. water evaporates from the hydrosphere, forming clouds.

Clouds are in the atmosphere; the rain falls.

The Biosphere uses the water to hydrate plants & animals.

They are using minerals and nutrients from the Geosphere

which makes the rocks and soil.

③ 35 water cycle (aka hydrologic cycle)

36 - water evaporates from fresh or salt water (lakes/oceans)

- it condenses into clouds

- when drops are large enough, precipitation falls as snow or rain

- rain runoff and snow/ice melting accumulates or collects in lakes, rivers, oceans, or underground

- plants go through evapotranspiration, also

① evaporation

② condensation

③ precipitation

④ storage

37 plants, animals,  $\text{CO}_2$  absorbed by plants, coal, oil, dead organisms

38  $\text{CO}_2$  dissolves in the ocean and converted into carbon compounds.

Phytoplankton live in oceans.

Organic deposits turn into coal & oil.

Living/Dead organisms contain carbon

39.  $\text{CO}_2$  from volcanic eruptions and forest fires and burning of fossil fuels enters the atmosphere.

Carbon compounds break down.

Animals exhale  $\text{CO}_2$ .

Methane ( $\text{CH}_4$ ) is produced during digestion & decomposition.

40) Coal and oil are found underground.

Dead / decaying organisms in the earth

41) Solar Energy

42) within the earth (core & mantle)

43) energy resulting from the pull of the moon & the sun on Earth's oceans

45) Energy can never be created or destroyed, only changed from one form to the other.

44) The Physics of how heat energy is converted into other forms of energy.

46) It goes to less useful forms of energy and eventually into heat.

ES0103

1) Biosphere Geosphere Hydrosphere Atmosphere

2) life rocks water air

examples vary by person

3) pick one but justify your answer

4a) sun light heats water and grows plants. \* Hydrosphere, Biosphere, Geosphere, Atmosphere  
(island) (air) (water) (plants)

the water evaporates and causes rain to fall on the sand and plants.

4b) the biosphere is burning and transferring heat energy and ash into the atmosphere. The ash also falls on the biosphere (plants), the hydrosphere (water), and the geosphere (rocks).

4c) the oil burns, causing  $CO_2$  to move into the atmosphere. It is absorbed by the hydrosphere (ocean).

4d) The geosphere was changed by humans (biosphere) carving out the canal. water (hydrosphere) evaporated into the atmosphere and moves from one large body of water through the canal to another large body of water

4e) Wind energy from the atmosphere moves the wind turbines that were produced from materials from the biosphere and geosphere. Metals and oil, which is used to make plastic, are found in the geosphere. Electricity is then used by humans.

4f) Magma under the crust of the geosphere has heat energy that is released during an eruption into the atmosphere.  $\text{CO}_2$  is also released. Some ash also falls onto the geosphere (surface of the mountain.)

5. Materials that I use come from the renewable and nonrenewable resources found in the geosphere & biosphere. Writing on paper with a plastic pen uses oil to make plastic, trees to make the paper, and the ink is made from a mixture of living and nonliving materials.

6. Places where the population is high are in less dangerous places. You don't see a lot of people living in deserts, mountains, or really cold regions. More materials are used from all spheres where there are more people.

ES0105 Left = precipitation as snow Middle = precip. as rain on geosphere  
Right = precip. as rain on hydrosphere

ES0106 1) the areas along the equator have year round plant growth.

2) during the winter... it's too cold to grow plants

3) the movement of carbon from one form to the next, from the atmosphere to the biosphere

ES0102: Geosphere: the rocks and land

Hydrosphere: the water @ and below the surface

Biosphere: living organisms

Atmosphere: the air above the surface