

CROSSWORD Vocabulary

Across

5. Shortwave electromagnetic waves having wavelengths between 0.1 and 0.4 micrometers that is harmful to plants and animals, including humans.
6. The full range of frequencies, from radio waves to gamma rays.
7. The redirection of light after entering a medium; in the atmosphere, solar rays are redirected by interactions with air, cloud and aerosol particles.
10. The Clouds and the Earth's Radiant Energy System is one of the scientific instruments developed for NASA's Earth Observing System (EOS) satellites.
12. A measure which identifies the north - south location of a point on the Earth. It is the angle between the line connecting a point on the Earth and the Earth's center, and the equatorial plane of the Earth.
14. The second layer of the atmosphere, which contains most of the ozone in Earth's atmosphere.
15. The lowest layer of the atmosphere extending from the surface to an altitude between 8 kilometers (at the poles) and 14 kilometers (in the tropics); most weather occurs in this layer.
17. Columns of rising air caused by uneven warming of the land's surface.
19. A standard unit of power.
20. The transfer of energy through a medium from molecule to molecule due to a gradient in temperature (or electric potential).
21. The continuous distribution of energy in the form of electromagnetic waves, which are arranged in order of their frequencies or wavelengths.
23. More outgoing energy or less incoming energy: results in cooling.
25. The rate of transfer of a fluid, particles or energy across a unit area. In the atmosphere, this can be air, a particular pollutant or aerosol, or light or heat energy (which has units of Watts per square meter).
26. A solid particle suspended in the atmosphere. Volcanic eruptions, salt spray, dust storms and forest fires are natural sources of this.
28. Any change to the Earth's climate system that affects how much energy enters or leaves the system alters Earth's radiative equilibrium and can cause temperatures to rise or fall.
29. The mixture of gases that surrounds the Earth and some other planets. Biogeochemical processes, including human activities, determine the concentrations of the gaseous constituents of this.
32. A molecule consisting of 3 oxygen atoms found primarily in the stratosphere. When created in the troposphere, it can be a harmful pollutant.
33. An abbreviated term for incoming solar radiation.

Down

1. The combined energy transfer from evaporation of water from the surface and transpiration of water by plants growing on that surface.
2. Collections of water (in liquid or ice phase) in the atmosphere that are often classified by their shape and height.
3. The difference between absorbed and emitted radiation.
4. A naturally occurring process that aids in heating the Earth's surface and atmosphere
8. The layer of the Earth's atmosphere between the stratosphere and the ionosphere.
9. Of or relating to invisible (to the human eye) radiation with wavelengths in the range from about 750 nanometers, just longer than red in the visible spectrum, to 1 millimeter, on the border of the microwave region.
11. A process by which energy penetrates the inner structure of a material, causing that material to gain energy.
13. A standard unit of energy (radiation) or work (mechanics). For energy, it is equal to one watt second.
16. More incoming energy or less outgoing energy: results in warming.
18. Is a form of electromagnetic radiation, with a wavelength that is visible to the human eye (about 400–750 nanometers).
20. The transfer of heat energy vertically through a medium through motion of matter. In the atmosphere, it may be seen visibly by cloud formation and thunderstorm development.
22. The return of sound or light back to its source. In the atmosphere, the process where incoming solar rays are redirected back upward after striking particles.

24. Energy that is emitted from a source in the form of rays or waves.
27. Named for Samuel P. Langley (1834-1906), a pioneering solar energy researcher at the Smithsonian Institution, this unit of radiant flux is one calorie per square centimeter (cal/cm²).
30. A measure which identifies the east - west location of a point on the Earth.

