

Addison-Wesley **Earth Science – Terms and Definitions**

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Chapter 1	<b>Studying the Earth</b>
Section 1	<b>The Earth - Earth Sciences -The Scientific Method</b>
astronomy	The science concerned with stars and planets.
atmosphere	The blanket of air, dust, water droplets, ice particles, etc. that completely covers the earth's lithosphere and hydrosphere.
biosphere	The region where all life is found.
chemical property	A feature of the way one substance reacts with another substance.
classifying	Grouping similar objects or events.
data	A collection of observations.
direct observation	Information received by one or more of the senses.
geology	The science concerned with the earth's lithosphere.
hydrology	The science concerned with the earth's entire hydrosphere.
hydrosphere	The entire liquid or water part of the earth.
hypothesis	Possible answer to a problem, based on observations.
indirect observation	An observation that requires the use of an instrument.
inference	An interpretation of observations.
instrument	Used to extend our senses when making observations.
lithosphere	The solid part of the earth. The rigid outer shell of the earth, 70 to 125 or more kilometers thick.
meteorology	The science concerned with the earth's atmosphere.
oceanography	The science concerned with the oceans.
petrology	The part of geology that specializes in rocks.
physical property	A feature of a substance in itself.
theory	Based on strong evidence that several generally accepted hypotheses are correct. An explanation for observed phenomena that has a high possibility of being true. (PI)

## Chpt1 Section 2 **Measuring**

Circumference	The distance around a circle or ball.
Density	The mass of 1 cm <sup>3</sup> of a material.
Derived unit	A unit of measure obtained from two or more base units.
Diameter	A straight line that crosses a circle through the center.
Formula	A group of symbols that make a mathematical statement. A representation of a substance using symbols for its constitutional elements.
Mass (hmotnost)	The amount of material in something (the same everywhere).
Radius - pl. radii	the distance from the center to the edge of a circle.
SI	Initials for International System of Units.
Volume	The amount of space that an object takes up or can be filled with.
Weight	The pull of gravity on nearby objects.

## **Numbers and Operations**

<b>Numbers:</b>	even (2,4,6,..) odd (1,3,5,...)
<b>Numerals:</b>	Arabic Roman
<b>Fractions:</b>	a half, a third, a fourth/a quarter, a fifth decimal point, the tenth, the hundredth, the thousandth
<b>Symbols:</b>	percent, infinity, (not)equal to, greater than, less than
<b>Operations:</b>	addition (plus) – result/answer subtraction (minus) - remainder multiplication (multiplied by, times) – product division (divided by) - quotient power (squared, cubed ) root (square/cube/fourth)

## **Geometry**

*Draw small pictures of the lines, angles and shapes:*

<b>Lines:</b>	straight	parallel	curved	spiral	perpendicular
<b>Angles:</b>	right	obtuse	acute		reflex
<b>Shapes:</b>	square, rectangle	- diagonal			
	triangle – base				
	circle – circumference	arc	diameter	radius	
	segment - the area between a chord and an arc				
	sector - the area between two radii				
	ellipse	trapezium	parallelogram (rhombus, rhomboid)		

**Three-dimensional Shapes:** *Give the adjectives:*

cube-	sphere-	
cylinder -	cone -	pyramid

*Check the correct pronunciation:*

Arabic	Roman	equal	quotient	obtuse	acute	diagonal
rectangle	triangle	diameter	radius	trapezium	sphere	
cylinder	circumference	the thousandth				

### Section 3

### Mapping the Earth's Surface

compass	An instrument for locating magnetic north.
contour interval	Difference between contour lines.
contour line	Line indicating the same elevation.
elevation	Height above sea level.
equator	Line that circles the earth at 0° latitude.
globe	A physical model of the earth.
graphic scale of distances	Line divided into units of distance.
hachures	Short lines that indicate direction of slope.
latitude	Distance north or south of the equator.
longitude	Distance east or west of the prime meridian.
magnetic declination	Distance from true to magnetic north.
magnetic north	Direction toward the North Magnetic Pole.
map projection	An attempt to represent the earth's curved surface on a flat surface.
map	A flat representation of the earth's surface.
meridian	A north-south line that crosses the equator.
North Geographic Pole	Point where all meridians meet.
North Magnetic Pole	The North Pole indicated by a compass.
parallel	East-west line parallel to the equator.
prime meridian	The imaginary north-south line that passes through Greenwich, England.
scale	Ratio of map distances and actual distances.
topographic map	A map that shows land features.
topography	Elevations and shapes of land features.
true north	Direction toward the North Geographic Pole.

## Chapter 2

## Earth Materials

### Section 1

### Minerals

atom	The smallest complete part of an element with all the properties of that element
cleavage	The ability of a mineral to break into smooth, parallel surfaces
compound	A substance made up of two or more elements joined together in fixed proportions
crystal	The shape produced when mineral grains have freedom to form in any direction
crystalline solid	A solid substance whose atoms are locked together into fixed patterns; true of all minerals
element	A substance that contains only one kind of atom
heft	A rough-estimate weight test for minerals
impurities	Atoms of elements other than the key elements of a mineral
inorganic	Not organic; formed, for the most part, without the help of plants and animals
luster	The way that a mineral reflects the light
matter	Anything that takes up space and has mass
mineral	A compound that is natural, inorganic, a crystalline solid, and made up of key elements
nonsilicate minerals	All minerals that are not silicates
silicate minerals	Minerals containing silicon and oxygen
streak	The color of the powder of a mineral against a white background
theory	A way of explaining how or why something happens
fracture	The manner in which a mineral breaks (that does not have cleavage)

### Section 2

### Rocks

sedimentary rock	Rock that is formed from sediments
lava	What magma is called after it reaches the surface of the earth
magma	Liquid rock melt that is found in some places beneath the earth's surface
metamorphic rock	Rock that is formed deep within the earth's crust when minerals and rocks are changed by very great heat and pressure which changes the crystal structure
mineral composition	A list of the minerals that make up a rock
rock	A mixture of minerals that is beneath all soil and water on the earth's surface Naturally formed, consolidated material composed of grains of one or more minerals. (There are a few exceptions to this definition.) (PI)
rock cycle	The process by which rock is changed from one class to another
igneous rock	Rock that is formed from hot melted materials
texture	The pattern made by the size, shape, and arrangement of the particles that are in rock

### Section 3

### Using Earth Materials

coal	A solid fossil fuel.
fission	Atomic energy that is produced when certain large, unstable atoms are made to split apart to form atoms of a different element.
fossil fuels	Fuels formed from the remains of plants and animals that lived and died long ago.
fusion	Atomic energy that is produced when atoms of an element are fused together to form atoms of a different element.
geothermal energy	Energy powered by heat from deep within the earth's crust.
hydroelectric energy	Electricity produced by generators powered by moving water.
mine	The place that ore comes from.
natural gas	A fossil fuel that is a gas.
ore	Any mineral or rock from which a needed substance can be removed cheaply enough and easily enough.
peat	A brown, lightweight, unconsolidated or semi-consolidated deposit of plant remains. (PI)
petrochemicals	Chemical products made from petroleum.
petroleum	A liquid fossil fuel.
solar energy	Energy from the sun.
trap	A kind of blockage formed by nonporous rock that traps petroleum and natural gas.