



Key Vocabulary

Tier 1

Rock	Solid material made of minerals forming the Earth's crust.
Earth	The planet we live on; also, the ground or soil.
Layer	A sheet or level of material (e.g. rock, soil) lying over or under another.
Soil	Mixture of rock, minerals, organic matter where plants grow.
Fossil	Remains or traces of ancient living organisms preserved in rock

Tier 2

Erosion	Process by which material is worn away and moved elsewhere
Weathering	Breakdown of rock by physical or chemical processes (e.g. rain, temperature)
Magma	Molten (melted) rock beneath the Earth's surface
Sediment	Small particles of rock and mineral transported by wind, water, or ice.
Pressure	Force applied over an area; under Earth structure, the compression from above

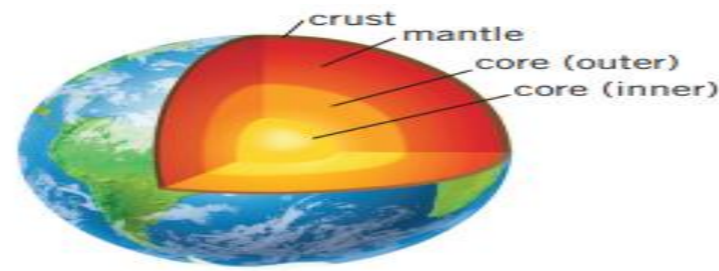
Tier 3

Cementation	Process in sedimentary rock formation where dissolved minerals fill gaps and bind sediments together
Sedimentary Rock	Rock formed by compaction and cementation of sediments, often in layers
Metamorphic Rock	Rock formed from existing rock under heat and/or pressure, without melting
Rock Cycle	The continuous processes by which rocks are transformed between igneous, sedimentary, and metamorphic forms
Intrusive Igneous rock	Forms when magma cools slowly beneath the Earth's surface, creating large crystals.
Extrusive igneous rock	Forms when lava cools quickly on the Earth's surface, resulting in small or no visible crystals.

Career Links

Chemist, Pharmacist, Chemical Engineer, Materials Scientist, Biochemist, Environmental Scientist, Nuclear Scientist, Forensic Scientist, Nanotechnologist, Biomedical Engineer, Physicist

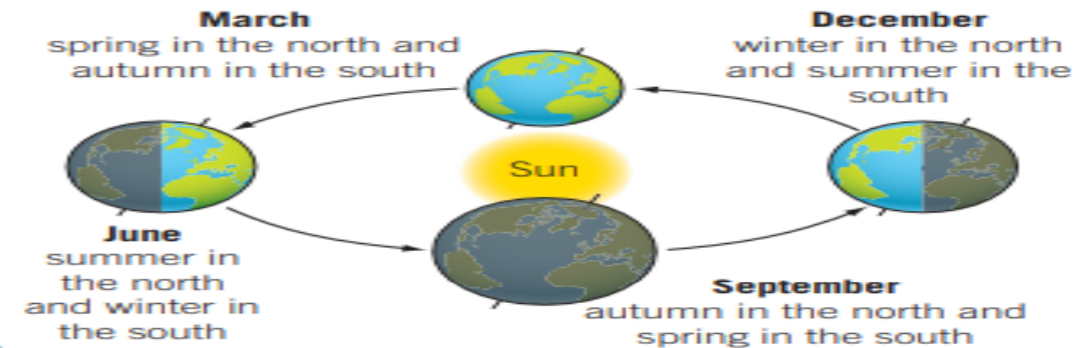
Homework



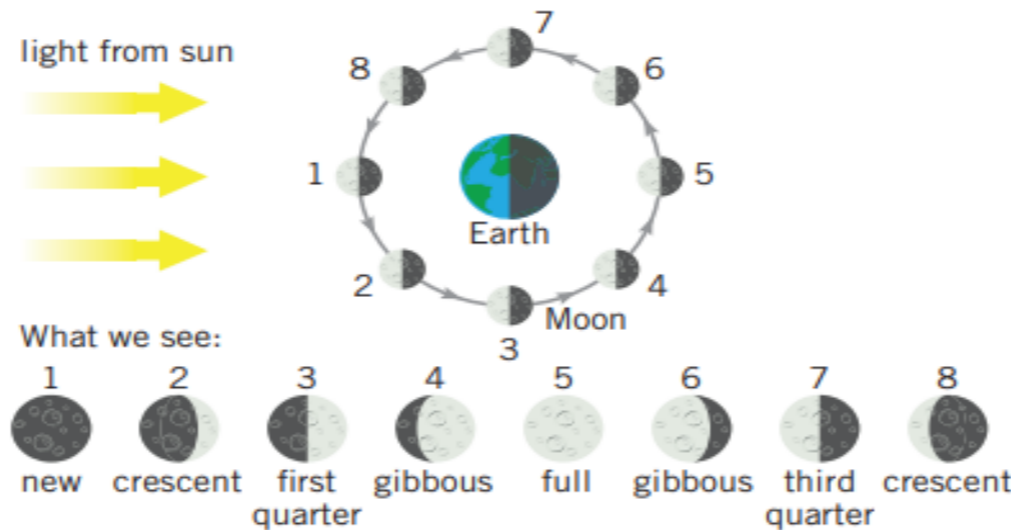
The Earth has three main layers:

- The **crust** is rocky and solid
- The **mantle** is made from mainly solid rock but this can flow
- The **outer core** is liquid metal and the **inner core** is solid

- The Earth takes 365 days to **orbit** the Sun, this is one Earth **year**
- The Earth takes 24 hours to spin on its axis, that is why we have day and night
- The Earth's **axis** has a tilt of 23.4° which gives rise to our **seasons**



- The Moon is a **natural satellite** which orbits the Earth
- One orbit of the Earth takes 27 days and 7 hours, this causes us to see the **phases of the moon**
- The different phases of the moon are caused by different parts of the Moon being lit by the Sun



Type of rock	How it is formed	Properties	Uses
sedimentary rock	<ul style="list-style-type: none"> • sediment piles up in one place and, over many years, sticks together by compaction or cementation • compaction: weight of sediments above squeeze them into rocks • cementation: another substance sticks the sediments together 	<ul style="list-style-type: none"> • porous: made of small grains stuck together so there are holes that water can pass through • soft: easy to break apart the sediments 	building materials (e.g. sandstone and limestone)
igneous rock	<ul style="list-style-type: none"> • when liquid rock cools it turns into igneous rocks these are made of crystals locked tightly together • magma: liquid rock underground-cools slowly and forms large crystal • lava: liquid rock above the ground-cools quickly and forms small crystals 	<ul style="list-style-type: none"> • durable and hard (difficult to damage): the crystals are locked tightly together • not porous: there is no space between crystals 	pavement rail tracks
metamorphic rock	<ul style="list-style-type: none"> • other rocks under that Earth are heated and put under pressure • over time, these rocks become metamorphic 	<ul style="list-style-type: none"> • not porous: there is no space between crystals 	marble used for kitchens slate used for roofing tiles

Key Knowledge

- The Earth is made of layers: the crust, mantle, outer core, and inner core.
- The crust is the thin, solid outer layer of the Earth where we live.
- Rocks are naturally occurring solid materials made of minerals.
- There are three main types of rock: igneous, sedimentary, and metamorphic.
- Weathering is the breakdown of rocks by wind, rain, temperature changes, or biological activity.
- Erosion is the movement of rock particles by wind, water, or ice.
- Deposition occurs when eroded material is laid down or settles in a new place.
- Compaction and cementation turn sediment into sedimentary rock.
- Rocks can be porous, allow water to pass through
- Fossils are the preserved remains or traces of ancient organisms, usually found in sedimentary rock.

