

**Must Remember**

- Everything we use comes from the Earth’s crust, atmosphere or oceans.
- The Earth consists of crust, mantle, inner core and outer core.
- Sedimentary rocks form as a result of weathering, erosion, transport, deposition, and compaction or cementation.
- Sedimentary rocks have separate grains. They are mostly porous and soft.
- Igneous forms when liquid solidifies/freezes. They contain crystals. They are non-porous, hard and durable.
- Slow cooling causes large crystals, quick cooling causes small crystals.
- Metamorphic rocks form when heating, high pressure, or both change existing rock. They consist of crystals and are non-porous.
- The rock cycle shows how materials in rocks are recycled over millions of years.
- Huge forces inside the Earth push rocks upwards to form mountains. This is called uplift.
- Fossils can form, almost always in sedimentary rocks, when dead organisms have sediment fall on them and they get compacted with the sediment.
- Uplift can cause fossils that were once underwater to be higher up, sometimes high up mountains.
- Oil spills are significant problems to ecosystems and require clearing up. The oil and water layers don’t mix, which makes the cleaning process slightly more straightforward.

**Nice to know that...**

Type of rock	How it is formed	Properties
Sedimentary rock	<ul style="list-style-type: none"> <li>• Sediment piles up in one place and over many years stick together by compaction or cementation.</li> <li>• Compaction: weight of sediments above squeeze them into rocks.</li> <li>• Cementation: another substance sticks the sediments together.</li> </ul>	Porous: made of small grains so there are holes that water can pass through.  Soft: easy to break.
Igneous Rock	<ul style="list-style-type: none"> <li>• When liquid rock cools it turns into igneous rocks these are made of crystals locked tightly together.</li> <li>• Magma: liquid rock underground.</li> <li>• Lava: liquid rock above ground.</li> </ul>	Durable and hard: the crystals are locked tightly together.  Not porous.
Metamorphic Rock	<ul style="list-style-type: none"> <li>• Other rocks under the Earth are heated and put under pressure.</li> <li>• Over time, these rocks become metamorphic.</li> </ul>	Not porous.

**Maritime Futures – Oil Spills**

The burning of fossil fuels and pollution have devastating effects on the oceans. Oil spills are one contributor to damaging ocean ecosystems. Oil spills leave a layer of oil on the surface of the sea. This prevents light from reaching organisms. The oil is also very toxic to aquatic organisms. Oil can be very difficult to clear, one method is the physical extraction. Another method is the emulsify the oil with another chemical, this breaks up the oil into small droplets however these droplets can then be ingested by animals.

**Key Terms**

- Cementation - The ‘gluing together’ of sediments by different chemicals to make sedimentary rocks.
- Compaction - The process of squashing sediments together to make new rocks by the weight of layers above.
- Crust - The rocky outer layer of the Earth.
- Deposition - The settling of sediments that have moved away from their original rock.
- Erosion - The breaking of a rock into sediments, and their movement away from the original rock.
- Igneous Rock - Rock made when liquid rock (magma or lava) cools and freezes.
- Inner Core - The solid iron and nickel at the centre of the Earth.
- Mantle - The layer of Earth that is below the crust. It is solid but can flow very slowly.
- Metamorphic Rock - Rock formed by the action of heating and/or pressure on the sedimentary or igneous rock.
- Outer Core - The liquid iron and nickel between the Earth’s mantle and inner core.
- Rock Cycle - The rock cycle explains how rocks change and are recycled into new rocks over millions of years.
- Sediment - Pieces of rock that have broken away from their original rock.
- Sedimentary Rock - Rock made from sediments.
- Transport - Movement of sediments far from their original rock.
- Weathering - Weathering breaks up all types of rock into smaller pieces, called sediments.