

Rocks at the Earth's surface

Rotten rocks and soil

Mobile sediments

Sedimentary sequences

Sedimentary rocks

Metamorphic rocks

Magma

Intrusive igneous rocks

Extrusive igneous rocks

Weathering

Erosion and transport

Deposition

Compaction and cementation

Metamorphism

Melting

Rising

***Crystallisation
under the Earth's
surface***

Extrusion

Deformation
(folding, faulting,
metamorphism)

**Tens to hundreds
of years**

**Seconds to tens of
years**

**Seconds to
thousands of
years**

**Hundreds to
millions of years**

**Millions of years
during mountain-
building episodes**

**Tens to millions of
years**

**Days (extrusion)
to millions of
years (intrusion)**

**Hundreds of
thousands to
millions of years**

Seconds to weeks

**Seconds (faulting
at active Earth
zones)**

**Seconds to
millions of years
(faulting, folding
metamorphism
during mountain-
building episodes)**