

Core Idea ESS1 Vocab.

Earth's Place in the Universe

What is the universe, and what is Earth's place in it?

- planet
- Earth
- universe
- time
- physics
- chemistry
- patterns of motion
- solar system
- prediction
- observation
- gravity
- day
- night
- seasons
- tides
- phases of the moon.
- Earth age
- large-scale change

ESS1.A: THE UNIVERSE AND ITS STARS

What is the universe, and what goes on in stars?

- sun
- star
- Milky Way
- galaxy
- universe
- rapid expansion
- Big Bang
- billion
- theory
- fact
- explanation
- nonstellar gases

- map
- spectra
- primordial radiation (cosmic microwave background)
- matter
- hydrogen
- helium
- Elements
- Nuclear fusion
- atomic nuclei
- iron
- energy
- starlight
- heavy elements
- massive stars
- supernova
- radiation
- visible light
- Stars go through a sequence of developmental stages
- Mass
- Brightness
- planetary systems

Grade Band Endpoints for ESS1.A

- Patterns
- Motion
- Sun
- Moon
- stars
- sky
- predict
- light coming
- telescopes
- planets
- bright
- Earth
- Distance
- Observation
- Description
- explanation
- model
- Big Bang
- Milky Way galaxy

- Universe
- billion
- light spectra
- compositional elements of stars

ESS1.B: EARTH AND THE SOLAR SYSTEM

What are the predictable patterns caused by Earth's movement in the solar system?

- solar system
- sun
- planets
- moons
- gravitational pull
- system
- disk of dust and gas
- gravity
- predict
- pattern
- movement
- gravitational forces
- conservation laws (matter and energy)
- large-scale phenomena
- Planetary motions
- Law
- empirical
- Kepler's three empirical laws
- Newton's theory of gravity
- orbit
- collisions
- Gradual changes
- Earth
- tilt of the planet's spin axis (or axis of rotation)
- intensity and distribution of sunlight falling on Earth
- phenomena
- cycles
- climate change
- relatively recent
- ice ages
- ocean tides
- lunar and solar eclipses
- relative positions shine

- reflected sunlight
- phases
- circular
- location
- spin axis tilted
- plane of orbit
- seasons

Earth and the moon, sun, and planets have predictable patterns of movement. These patterns, which are explainable by gravitational forces and conservation laws, in turn explain many large-scale phenomena observed on Earth.

- tilt
- intensity
- sunlight
- surface
- equator
- Seasonal variation
- poles

Grade Band Endpoints for ESS1.B

- Seasonal patterns
- Sunrise
- sunset
- observation
- description
- prediction
- orbits of Earth
- sun
- moon
- rotation
- axis
- North and South poles
- observable pattern
- day
- night
- daily
- seasonal changes
- shadow
- phases of the moon
- position

- day
- month
- year
- solar system
- Planets
- night sky
- constellation
- navigation
- rotation
- asteroids
- gravitational pull
- model
- tides
- eclipses of the sun and the moon
- Earth's spin axis
- differential intensity of sunlight
- Kepler's laws
- Motion
- elliptical path
- gravitational effects
- collisions
- Cyclical changes
- orientation
- planet's axis of rotation
- tens to hundreds of thousands of years
- intensity
- distribution of sunlight falling on Earth.
- phenomena
- cycle
- ice age
- gradual climate change

ESS1.C: THE HISTORY OF PLANET EARTH

How do people reconstruct and date events in Earth's planetary history?

- Earth scientist
- Structure
- sequence
- property
- rock
- sediment
- fossils

- ocean basin
- lake
- river
- Earth's planetary history
- rock layer
- sequence of geological event
- radioactive element
- analysis
- rock formations
- fossil record
- relative age
- column of rock
- tectonic forces
- inference
- inverted
- sequence
- fossil types
- core samples
- continent
- billion
- ocean floor
- tectonic processes
- catastrophic
- massive extinction event(s)
- volcanic activity
- erosion
- solar system
- asteroids
- meteorites
- planet
- moons
- volcanism
- meteor impact
- geological time scale
- eras
- periods
- epochs
- history (in all of its manifestations)
- formation of
 - mountain chains
 - ocean basins
 - volcanic activity
 - the evolution and extinction of living organisms

- periods of massive glaciation
- development of watersheds and rivers
- time period
- dinosaurs
- types of
- geologist
- decipher
- landforms

Grade Band Endpoints for ESS1.C

- Earth
- Cycle(s)
- Day
- Night
- volcanic eruption
- earthquake
- Grand Canyon
- time period
- landforms
- weathered (broken down into smaller pieces)
- erode (get transported elsewhere)
- Local, regional, and global patterns of rock formations
- Earth forces, such as earthquakes
- fossil types
- rock layers
- Patterns
- tree rings
- ice cores
- glaciers
- Earth's recent climate history
- geological time scale
- rock strata
- Earth's history
- history
- formation
- mountain chains
- ocean basins
- evolution and extinction of particular living organisms
- volcanic eruptions
- periods of massive glaciation
- development of watersheds and rivers
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- glaciation
- water erosion
- Analysis
- fossil record
- relative dates,
- absolute scale
- Radioactive decay
- Lifetime
- isotopic content
- dating rock formations
- scale of geological time
- Continental rocks
- billion years
- tectonic processes
- ocean seafloor
- ridges
- seafloor trenches
- geological processes
- plate tectonics
- erosion
- solar system
- lunar rocks
- asteroids,
- meteorites