



Express Science Middle School Science Earth/Space Science

Curriculum Features

The Express Science Middle School curriculum is designed as a survey of science topics in order to provide a solid foundation in all of the Sciences. Important concepts are developed in a sequential and stepwise manner that is understandable by all students. The modules are written to increase student interaction by providing a readable, engaging, and informative instructional curriculum that is ready for use in the classroom.

Earth and Space

Earth and Space Science offers a series of units that describe and explain the chemical and physical interactions of the environment, Earth, and the universe that occur over time. Earth and Space Science includes modules that address specific factors such as natural forces, cycles, and the transfer of energy. The students will gain a comprehensive understanding of how the forces that have affected the Earth over geologic time have contributed to existing Earth phenomena and have impacted life forms.

Formative assessments are included with each module as a valuable instructional strategy. Summative assessments are included with each unit as a confirmation of student success.

A. Earth History

This unit contains modules that address the changes in the Earth that have occurred over time. Each module explains the processes that have combined to create the internal and external structure of present-day Earth including specific factors such as weathering, erosion, and the rock cycle. The unit will provide students with an understanding of how the geology of Earth is consistent with past geological events, the continuing process of Earth degradation and build-up, and the impact on living organisms over time.

1. Law of Superposition
2. Sedimentary Rocks and Fossil Formation
3. Fossils and Evolution
4. Mechanical Weathering
5. Chemical Weathering
6. Erosion
7. Soil
8. Sedimentary Rock
9. Igneous Rock
10. Metamorphic Rock
11. Rock Cycle
12. Geologic Time

B. Plate Tectonics

This unit contains modules that explain how the dynamic, natural forces have changed the Earth over time. Each module describes the processes that have combined to create the internal and external structure of present-day Earth including specific factors such as crustal plate movement and ocean rifts. The students will learn how the Earth's internal convection currents cause the crustal plates to move, the results of these movements, and why spectacular earth phenomenon occur.

1. Structure of the Earth
2. Continental Drift
3. Continuity of Geologic Features
4. Continuity of Fossil Features
5. Sea Floor Spreading
6. Volcanoes
7. Ring of Fire
8. Earthquakes

C. Astronomy

This unit explains the interrelationships that exist between the objects in our solar system. The modules define our solar system, explain the movement of objects, and describe the phenomena of the Earth-sun-moon interaction. After completion of this unit, the students will know the identifiable units of their solar system, the predictable movement of the solar objects, and how Earth phenomena are caused by the interaction of these movements.

1. Our Solar System
2. Inner Planets
3. Outer Planets
4. Galaxy
5. Milky Way
6. Celestial Movement
7. Revolution, Solar Year, Distance from the Sun
8. Rotation, Solar Day
9. Movement of the Sun, Moon and Earth
10. Moon Phases
11. Gravitational Effects
12. Tides
13. Seasons

D. Weather and Climate

This unit addresses the changes in the Earth that are caused by the interaction of the atmosphere and land masses. The modules identify specific factors such as weather systems and how they combine to create weather and climate. The students will learn how the weather, climate, and biomes are determined by understandable scientific factors that create unique conditions on the Earth.

1. Earth's Orbit and Differential Heating of the Earth
2. Hydrosphere and Atmosphere
3. High and Low Pressure Systems
4. Frontal Systems
5. Hurricanes
6. Tornadoes
7. Thunderstorms
8. Barometer, Thermometer, Anemometer
9. Earth Factors that Affect Temperature and Precipitation
10. El Nino
11. El Nina
12. Climate
13. Biomes