

Course Planning Guide

Earth Science: Geology, the Environment, and the Universe provides a complete selection of core concepts that are presented in a way to meet the needs of all your students. As the teacher, you are in the best position to design an Earth science course that meets the needs of individual students and classes, sets the pace at which the content is covered, and determines what material should be given the most emphasis. To assist you in planning the course, the following course planning guide is provided.

Earth Science: Geology, the Environment, and the Universe may be used in a full-year, two semesters program that is comprised of 165 periods of approximately 45 minutes each. This type of schedule is represented in the table under the heading of Single-Class Scheduling. This table also outlines a plan under the heading Block Scheduling for schools that use a block scheduling system. With block scheduling, it is assumed that the course will be taught for 90 class periods of approximately 90 minutes each.

Please remember that the planning guide is provided as an aid in planning the best course for your students. Use this guide in relation to your curriculum and the ability levels of the classes you teach.

Course Planning Guide for *Earth Science: Geology, the Environment, and the Universe*

Chapter/Session	Single-Class Scheduling (165 days)	Block Scheduling (90 days)
1 The Nature of Science 1.1 Earth Science 1.2 Methods of Scientists 1.3 Communicating in Science Chapter Assessment	3 1 1/2 1/2 1	1 1/2 1/2 1/4 1/4 1/2
2 Mapping Our World 2.1 Latitude and Longitude 2.2 Types of Maps 2.3 Remote Sensing Chapter Assessment	4 1 1 1 1	2 1/2 1/2 1/2 1/2
GeoDigest Earth Science	1	1/2
3 Matter and Atomic Structure 3.1 What are elements? 3.2 How Atoms Combine 3.3 States of Matter Chapter Assessment	3 1/2 1/2 1 1	1 1/2 1/4 1/4 1/2 1/2
4 Minerals 4.1 What is a mineral? 4.2 Identifying Minerals Chapter Assessment	5 1 3 1	2 1/2 1/2 1 1/2 1/2
5 Igneous Rocks 5.1 What are igneous rocks? 5.2 Classifying Igneous Rocks Chapter Assessment	5 1 1/2 2 1/2 1	3 1 1 1/2 1/2

Course Planning Guide, *continued*

Chapter/Session	Single-Class Scheduling (165 days)	Block Scheduling (90 days)
6 Sedimentary and Metamorphic Rocks 6.1 Formation of Sedimentary Rocks 6.2 Types of Sedimentary Rocks 6.3 Metamorphic Rocks Chapter Assessment	5 1 1/2 1 1 1/2 1	3 1 1/2 1 1/2
GeoDigest Composition of Earth	1	1/2
7 Weathering, Erosion, and Soil 7.1 Weathering 7.2 Erosion and Deposition 7.3 Formation of Soil Chapter Assessment	5 1 1 2 1	3 1/2 1/2 1 1/2 1/2
8 Mass Movements, Wind, and Glaciers 8.1 Mass Movement at Earth's Surface 8.2 Wind 8.3 Glaciers Chapter Assessment	5 2 1 1 1	2 1/2 1 1/2 1/2 1/2
9 Surface Water 9.1 Surface Water Movement 9.2 Stream Development 9.3 Lakes and Freshwater Wetlands Chapter Assessment	6 2 1 1/2 1 1/2 1	3 1/2 1 1 1 1/2
10 Groundwater 10.1 Movement and Storage of Groundwater 10.2 Groundwater Erosion and Deposition 10.3 Groundwater Systems Chapter Assessment	5 2 1 1/2 1/2 1	3 1 1/4 1 1/4 1/2
GeoDigest Surface Processes on Earth	1	1/2
11 Atmosphere 11.1 Atmospheric Basics 11.2 State of the Atmosphere 11.3 Moisture in the Atmosphere Chapter Assessment	4 1 1 1 1	2 1/2 1/2 1/2 1/2
12 Meteorology 12.1 The Causes of Weather 12.2 Weather Systems 12.3 Gathering Weather Data 12.4 Weather Analysis Chapter Assessment	5 1 2 1/2 1/2 1	3 1/2 1 1/2 1/2 1/2
13 The Nature of Storms 13.1 Thunderstorms 13.2 Severe Weather 13.3 Tropical Storms 13.4 Recurring Weather Chapter Assessment	5 1 1 1 1 1	2 1/2 1/2 1/2 1/2 1/2 1/2
14 Climate 14.1 What is Climate? 14.2 Climate Classification 14.3 Climate Changes 14.4 The Human Factor Chapter Assessment	5 1/2 1/2 1 1/2 1 1/2 1	3 1/4 1/4 1 1 1/2

Course Planning Guide, *continued*

Chapter/Session	Single-Class Scheduling (165 days)	Block Scheduling (90 days)
15 Physical Oceanography 15.1 The Oceans 15.2 Seawater 15.3 Ocean Movements Chapter Assessment	6 1 1/2 1 1/2 2 1	3 1/2 1 1 1 1/2
16 The Marine Environment 16.1 Shoreline Features 16.2 The Seafloor Chapter Assessment	4 1 2 1	2 1/2 1/2 1 1/2 1/2
GeoDigest The Atmosphere and the Oceans	1	1/2
17 Plate Tectonics 17.1 Drifting Continents 17.2 Seafloor Spreading 17.3 Theory of Plate Tectonics 17.4 Causes of Plate Motion Chapter Assessment	6 1 1 1/2 1 1/2 1 1	3 1/2 1/2 1 1 1/2 1/2
18 Volcanic Activity 18.1 Magma 18.2 Intrusive Activity 18.3 Volcanoes Chapter Assessment	6 1 1/2 1 1/2 2 1	2 1/2 1/2 1/2 1 1/2
19 Earthquakes 19.1 Forces Within Earth 19.2 Seismic Waves and Earth's Interior 19.3 Measuring and Locating Earthquakes 19.4 Earthquakes and Society Chapter Assessment	6 1 1 1/2 1 1/2 1 1	3 1/2 1/2 1 1 1/2 1/2
20 Mountain Building 20.1 Crust-Mantle Relationships 20.2 Convergent-Boundary Mountains 20.3 Other Types of Mountains Chapter Assessment	6 1 1 3 1	3 1/2 1/2 1 1/2 1/2
GeoDigest The Dynamic Earth	1	1/2
21 Fossils and the Rock Record 21.1 The Geologic Time Scale 21.2 Relative-Age Dating of Rocks 21.3 Absolute-Age Dating of Rocks 21.4 Remains of Organisms in the Rock Record Chapter Assessment	6 2 1/2 1 1/2 1 1	3 1 1/4 3/4 1/2 1/2
22 The Precambrian Earth 22.1 The Early Earth 22.2 Formation of the Crust and Continents 22.3 Formation of the Atmosphere and Oceans 22.4 Early Life on Earth Chapter Assessment	4 1/2 1 1/2 1 1	2 1/4 1/2 1/4 1/2 1/2
23 The Paleozoic Era 23.1 The Early Paleozoic 23.2 The Middle Paleozoic 23.3 The Late Paleozoic Chapter Assessment	5 1 1 2 1	2 1/2 1/2 1/2 1/2

Course Planning Guide, *continued*

Chapter/Session	Single-Class Scheduling (165 days)	Block Scheduling (90 days)
24 The Mesozoic and Cenozoic Eras	5	2 1/2
24.1 Mesozoic Paleogeography	1	1/2
24.2 Mesozoic Life	1	1/2
24.3 Cenozoic Paleogeography	1	1/2
24.4 Cenozoic Life	1	1/2
Chapter Assessment	1	1/2
GeoDigest Geologic Time	1	1/2
25 Earth Resources	6	3 1/2
25.1 What are Resources?	1	1/2
25.2 Land Resources	1 1/2	1
25.3 Air Resources	1 1/2	1
25.4 Water Resources	1	1/2
Chapter Assessment	1	1/2
26 Energy Resources	5	2 1/2
26.1 Conventional Energy Resources	2	1
26.2 Alternative Energy Resources	1	1/2
26.3 Conservation of Energy Resources	1	1/2
Chapter Assessment	1	1/2
27 Human Impact on Earth Resources	5	3
27.1 Populations and the Use of Natural Resources	1	1
27.2 Human Impact on Land Resources	1	1/2
27.3 Human Impact on Air Resources	1	1/2
27.4 Human Impact on Water Resources	1	1/2
Chapter Assessment	1	1/2
GeoDigest Resources and the Environment	1	1/2
28 The Sun-Earth-Moon System	5	3
28.1 Tools of Astronomy	1	1/2
28.2 The Moon	1	1/2
28.3 The Sun-Earth-Moon System	2	1 1/2
Chapter Assessment	1	1/2
29 Our Solar System	6	3 1/2
29.1 Overview of Our Solar System	1 1/2	1
29.2 The Terrestrial Planets	1	1/2
29.3 The Gas Giant Planets	1	1/2
29.4 Formation of Our Solar System	1 1/2	1
Chapter Assessment	1	1/2
30 Stars	6	3 1/2
30.1 The Sun	1	1/2
30.2 Measuring the Stars	2	1 1/2
30.3 Stellar Evolution	2	1
Chapter Assessment	1	1/2
31 Galaxies and the Universe	5	3
31.1 The Milky Way Galaxy	1	1/2
31.2 Other Galaxies in the Universe	1 1/2	1
31.3 Cosmology	1 1/2	1
Chapter Assessment	1	1/2
GeoDigest Beyond Earth	1	1/2
Total sessions	165	90