# Earth's Surface

	Standards and Benchmarks Introducing Earth Science	x xii
	Unifying Principles of Earth Science	xiii
	The Nature of Science	xxii
@oEdition	The Nature of Technology	xxvi
<u>eEdition</u>	Using McDougal Littell Science	xxviii
	Unit Features	
SCIENTIFIC AMERICAN	FRONTIERS IN SCIENCE Remote Sensing	2
	TIMELINES IN SCIENCE History of the Earth System	108
	Views of Earth Today	6
the <b>BIG</b> idea	Technology is used to explore the Earth system.	9
Modern technology has changed the way we view	Maps and globes are models of Earth.  MATH IN SCIENCE Using Proportions	15 23
and map Earth.	Topographic maps show the shape of the land.  CHAPTER INVESTIGATION Investigate Topographic Maps	24 28
	Technology is used to map Earth.  THINK SCIENCE Which Site Is Best for an Olympic Stadium?	30 35
	Minerals	40
Minerals are basic building blocks of Earth.	Minerals are all around us.  MATH IN SCIENCE Writing Fractions as Percents	43 49
	A mineral is identified by its properties.  CHAPTER INVESTIGATION Mineral Identification	50 58
	Minerals are valuable resources.  SCIENCE ON THE JOB Geometry for Gems	60 67

Why can gold be separated from other minerals and rocks in a river? page 40

		Rocks	72
Rocks change into other	33)	The rock cycle shows how rocks change EXTREME SCIENCE Rocks from Space	e. 75 81
	3.2	Igneous rocks form from molten rock.  MATH IN SCIENCE Estimating Area	82 88
	3.3	Sedimentary rocks form from earlier ro	<b>cks.</b> 89
	334	Metamorphic rocks form as existing ro CHAPTER INVESTIGATION Rock Classific	_
	K	Weathering and Soil For	nation 112
the BIG idea  Natural forces break rocks	43	Mechanical and chemical forces break of MATH IN SCIENCE Surface Area of a Pris	
. 16 11 11 -	Weathering and organic processes for CHAPTER INVESTIGATION Testing Soil	n <b>soil.</b> 122	
	<b>4</b> 3	Human activities affect soil.  SCIENCE ON THE JOB Soil, Water, and A	rchitecture 132
		Erosion and Deposition	142
the <b>BIG</b> idea	<u></u>	Forces wear down and build up Earth's	surface. 145
	Moving water shapes land. CHAPTER INVESTIGATION Creating Street	150 am Features 156	
	533	Waves and wind shape land. CONNECTING SCIENCES Life on Dunes	158 164
	5.4	Glaciers carve land and move sediment MATH IN SCIENCE Creating a Line Graph	
		Handbooks and Resource	<b>2S</b> R1
		Scientific Thinking Appen	dix R52
		Handbook R2 Glossa	-
		Lab Handbook R10 Index Math Handbook R36 Acknow	R66 <b>vledgments</b>
		Note-Taking Handbook R45	wieugineiris R/2

Features		<b>Visual Highlights</b>	
MATH IN SCIENCE		Mineral Formation	63
Using Proportions	23	The Rock Cycle	79
Writing Fractions as Percents	49	Mechanical Weathering	117
Estimating Area	88	World Soil Types	125
Surface Area of a Prism	121	Organisms and Soil Formation	127
Creating a Line Graph	171	Types of Glaciers and Movement	167
THINK SCIENCE			
Interpreting Data	35		
CONNECTING SCIENCES			
Earth Science and Life Science	164		
SCIENCE ON THE JOB			
Geometry for Gems	67		
Soil, Water, and Architecture	137		
EXTREME SCIENCE			
Rocks from Space	81		
FRONTIERS IN SCIENCE			
Remote Sensing	2		
TIMELINES IN SCIENCE			
History of the Earth System	108		

### **Internet Resources @ ClassZone.com**

<b>SIMULATIONS</b> <i>Topographic Maps and Surface Features Rock Cycle</i>	27 73	Soil Mudflows Rivers and Erosion Glaciers	129 148 152 166
VISUALIZATIONS  Latitude and Longitude  Crystal Growth  Igneous Crystal Formation  Soil Formation  Chemical Weathering  Wind Erosion  Cave Formation	18 46 84 113 118 143 154	CAREER CENTER  Mineralogy  NSTA SCI LINKS  Earth's Spheres Identifying Minerals The Rock Cycle Soil Conservation	5 7 41 73 113
RESOURCE CENTERS  Satellite Mapping  Map Projections  GIS  Precious Metals  Minerals  Gemstones  Meteorites and Impacts	7 22 33 41 48 61 81	Wind Erosion  MATH TUTORIALS  Solving Proportions  Percents and Fractions  Estimating Area  Surface Area of Rectangular Prisms  Making a Line Graph	143 23 49 88 121 171
Igneous Rocks Sedimentary Rocks Metamorphic Rocks Earth System Research Weathering	86 90 99 111 116	CONTENT REVIEW 8, 36, 42, 68, 74, 104, 114, 138, TEST PRACTICE 39, 71, 107,	

## INVESTIGATIONS AND ACTIVITIES

#### **EXPLORE THE BIG IDEA**

#### Chapter Opening Inquiry 1. Earth's Changing Surface; Using Modern Maps; Internet Activity: Mapping 7 2. How Do You Turn Water into a Mineral? What Makes Up Rocks? Internet Activity: Minerals 41 3. How Can Rocks Disappear? What Causes Rocks to Change? Internet Activity: Rocks 73 4. Ice Power; Getting the Dirt on Soil; Internet Activity: Soil Formation 113 5. Where Has Water Been? How Do Waves Shape Land? Internet Activity: Wind Erosion 143

#### **CHAPTER INVESTIGATION**

**FYPIORF** 

Full-Period Labs	
1. Investigate Topographic Maps	28
2. Mineral Identification	58
3. Rock Classification	102
4. Testing Soil	130
5. Creating Stream Features	156

		INVESTIGATE		
	Skill Labs			
15	Geosphere's Layers	Modeling	13	
24	Map Projections	Modeling	20	
43	Satellite Imaging	Modeling	32	
60	Crystal Shape	Observing	46	
75	Hardness of Minerals	Classifying	56	
89	Mining	Drawing Conclusions	65	
115	Classification of Rocks	Classifying	77	
122	Crystal Size	Analyzing	85	
150	Rock Layers	Modeling	94	
165	Metamorphic Changes	Modeling	98	
	Chemical Weathering	Identifying Variables	118	
	Soil Conservation	Making Models	135	
	Erosion	Design Your Own	146	
	Longshore Drift	Observing	160	
	24 43 60 75 89 115 122	Skill Labs  15 Geosphere's Layers 24 Map Projections 43 Satellite Imaging 60 Crystal Shape 75 Hardness of Minerals 89 Mining 115 Classification of Rocks 122 Crystal Size 150 Rock Layers 165 Metamorphic Changes Chemical Weathering Soil Conservation Erosion	Skill Labs  15 Geosphere's Layers Modeling 24 Map Projections Modeling 43 Satellite Imaging Modeling 60 Crystal Shape Observing 75 Hardness of Minerals Classifying 89 Mining Drawing Conclusions 115 Classification of Rocks Classifying 122 Crystal Size Analyzing 150 Rock Layers Modeling 165 Metamorphic Changes Modeling 165 Chemical Weathering Identifying Variables 166 Soil Conservation Making Models 167 Erosion Design Your Own	

**INVESTIGATE** 

Kettle Lake Formation

169

Design Your Own