GRADE 4 QUARTER 1 (part 1)

SUGGESTED PACING

SCIENCE INQUIRY AND APPLICATION

Content Statements: During the years of PreK-4, all students must become proficient in the use of the following scientific processes, with appropriate laboratory safety techniques, to construct their knowledge and understanding in all science content areas:

- Observe and ask questions about the natural environment
- Plan and conduct simple investigations
- Employ simple equipment and tools to gather data and extend the senses
- Use appropriate mathematics with data to construct reasonable explanations
- Communicate about observations, investigations and explanations
- Review and ask questions about the observations and explanations of others

STRAND: EARTH AND SPACE SCIENCE (ESS)

Topic: Earth's Surface

This topic focuses on the variety of processes that shape and reshape Earth's surface.

Content Statements:

- Earth's surface has specific characteristics and landforms that can be identified.
- About 70 percent of the Earth's surface is covered with water and most of that is the ocean. Only a small portion of the Earth's water is freshwater, which is found in rivers, lakes and ground water.
- Earth's surface can change due to erosion and deposition of soil, rock or sediment. Catastrophic events such as flooding, volcanoes and earthquakes can create landforms.

PRINT RESOURCES

ScienceFusion

- Unit 1, TE pages 1A-1M; 1-66
- Unit 3, All Lessons
- Unit 3, TE pages 109A-160
- Unit 3, Inquiry Flip Chart page 17-21
- Science and Engineering Leveled Readers:
  - On -Level/Below Level: *Earth's Changing Surface and Natural Resources*
  - Above Level: *Conserving Earth's Resources*

DIGITAL RESOURCES

ScienceFusion

- Unit 1, Digital Lessons
- Unit 3, Lesson 1 Digital Lesson
- Unit 3, Lesson 2 Digital Lesson
- Unit 3, Lesson 3 Digital Lesson
- Unit 3, Lesson 4 Digital Lesson with Virtual Lab

SCIENCE AND ACADEMIC VOCABULARY

Unit 1: Computer Model, Data, Empirical Evidence, Evidence, Hypothesis, Inference, Investigation, Microscope, Model, Observation, Pan Balance, Science, Scientist, Spring Scale, Three Dimensional Model, Triple Beam Balance, Two-Dimensional Model

Unit 3: Atmosphere, Condensation, Deposition, Erosion, Evaporation, Flood Plain, Groundwater, Landform, Precipitation, Runoff, Sediment, Volcano, Water Cycle, Weathering

DIFFERENTIATION

Basic (Extra Support)

- Unit 3 Response to Intervention - TE page 107I
- Unit 3 TE pages 111, 113, 116, 127, 129, 133, 141-142, 146, 148, 151

Advanced (Enrichment)

- Unit 3 TE pages 111, 113, 116, 127, 129, 133, 141-142, 146, 148, 151
- Unit 3 STEM - Flipchart page 20, TE pages 107G, 155-156B

English Language Learners

- Unit 3 TE pages 107J-107K, 110, 115, 126, 130, 140, 144, 150

FIELD EXPERIENCE CONNECTIONS

Greater Cleveland Aquarium's N.E.M.O: Nurturing the Environment by Maintaining Ohio Program.

Program details: Aquatic animal adaptation investigation. Use STEM design to build a model fish to live in a specific habitat, Predict how environmental changes may affect fish. To prepare in advance-attend two professional development sessions to receive Classroom Aquarium and a flash drive with year-long curriculum connections.

For information contact: Ray Patacca & Erin Bauer 216-862-8803 x7703 or education@greaterclevelandaquarium.com

INQUIRY SKILLS

- Communicate
- Compare
- Draw Conclusions
- Formulate or Use Models
- Gather and Record Data
- Infer
- Measure
- Model
- Observe
- Plan and Conduct a Simple Investigation
- Predict

GRADE 4 QUARTER 1 (part 1)

HANDS-ON INQUIRY AND APPLICATION

- Watching the Water Cycle" (Flipchart page 17, TE pages 107D, 109A)
- "An Icy Observation" (Flipchart page 17, TE pages 107D, 109A)
- "Grooving with Glaciers" (Flipchart page 18, TE pages 107E, 123A)
- "Which Will Weather Faster?" (Flipchart page 18, TE pages 107E, 123A)
- "Model the Flow of a River" (Flipchart page 19, TE pages 107F, 139A)
- "Wandering Landforms" (Flipchart page 19, TE pages 107F, 139A)
- "How Does Water Change Earth's Surface?" (Flipchart page 21, TE pages 107G, 157A-160)

Differentiated Inquiry

- Unit 3, TE page 158A
  - Test Variables Affecting Erosion (Easy)
  - Model How Ice Can Break Rocks (Easy)
  - Model Soil Conservation Techniques (Average)
- Modeling the Dust Bowl (Challenging)

ASSESSMENTS/PROGRESS MONITORING

- Sum it Up
  - Unit 3, Lesson 1 - SE page 118, TE page 118
  - Unit 3, Lesson 2 - SE page 134, TE page 134
  - Unit 3, Lesson 3 - SE page 152, TE page 152
- Brain Check and Apply Concepts
  - Unit 3, Lesson 1 - SE pages 119-122, TE pages 119-122
  - Unit 3, Lesson 2 - SE pages 135-138, TE pages 135-138
  - Unit 3, Lesson 3 - SE pages 153-154, TE pages 153-154
- Unit 3 Review - TE pages 161A-164
- Unit 3 Short Option Performance Assessment - TE page 163

ASSESSMENT GUIDE

- Lesson Quiz
  - Unit 3, Lesson 1 - page AG 25
  - Unit 3, Lesson 2 - page AG 26
  - Unit 3, Lesson 3 - page AG 27
  - Unit 3, Lesson 4 - page AG 28
- Unit 3 Test and Performance Task with Long Option Rubric - pages AG 29-AG 35

ACADEMIC CONNECTIONS TO OTHER DISCIPLINES: ELA

Journeys

- Writing Connection - TE page 112
- Writing Connection - TE page 125
- Writing Connection - TE page 131
- Make Connections - TE page 138A
  - Writing Connection - The Story of Sediment (Challenging)
- Writing Connection - TE page 145
- Writing Connection - TE page 147
- Writing Connection - TE page 159

Journeys Connections:

- Lesson 6, Whole Group - Read Aloud - The Tunguska Event (T13)
- Lesson 11, Whole Group - Anchor Text - Hurricanes: Earth's Mightiest Storms (T27)
- Lesson 11, Whole Group - Newspaper Article - Recovering from Katrina (T39)
- Lesson 11, Small Group - Vocabulary Reader - Tornadoes (T63)
- Lesson 11, Small Group - On Level Reader - Tsunami (T67)
- Lesson 11, Small Group - ELL Reader - The Big, Dangerous Wave (T69)
- Lesson 12, Whole Group - Anchor Text - The Earth Dragon Awakes (T103)
- Lesson 12, Whole Group - Informational Text - Twisters (T113)
- Lesson 24, Small Group - Vocabulary Reader - Dangerous Waves (T293)
- Lesson 28, Whole Group - Photo Essay - Making the Most from Trash (T117)

ACADEMIC CONNECTIONS TO OTHER DISCIPLINES: MATH

Math Expressions

- Math Connection - TE page 114
- Math Expressions Connections:
  - Unit 7 Lesson 8: Relate Fractions and Decimals MX TE pages 653-662
  - Unit 7 Lesson 9: Explore Decimal Numbers MX TE pages 663-672
- Math Connection - TE page 117
- Math Expressions Connections:
  - Unit 2 Lesson 1: Arrays and Area Models MX TE pages 115-122
  - Unit 2 Lesson 2: Connect Place Value and Multiplication MX TE pages 123-128
  - Unit 3 Lesson 3: Mental Math and Multiplication MX TE pages 129-134
  - Unit 3 Lesson 4: Model One-Digit by Two-Digit Multiplication MX TE pages 135-142
  - Unit 3 Lesson 8: Compare Methods of One-Digit by Two-Digit Multiplication MX TE pages 167-172
  - Unit 3 Lesson 10: One-Digit by Three-Digit Multiplication MX TE pages 179-188
  - Unit 3 Lesson 11: Multistep Word Problems MX TE pages 189-198
  - Unit 3 Lesson 12: Two-Digit by Two-Digit Multiplication MX TE pages 199-204
  - Unit 3 Lesson 13: Different Methods for Two-Digit Multiplication MX TE pages 205-214
  - Unit 3 Lesson 15: Practice Multiplication MX TE pages 223-230
  - Unit 3 Lesson 16: Multiply One-Digit and Four-Digit Numbers MX TE pages 231-238
  - Unit 3 Lesson 18: Practice Multiplying MX TE pages 249-254
  - Unit 3 Lesson 19: Focus on Mathematical Practices MX TE pages 255-260
  - Unit 5 Lesson 6: Perimeter and Area of Rectangles MX TE pages 489-496
  - Unit 5 Lesson 7: Solve Measurement Problems MX TE pages 497-502
  - Unit 5 Lesson 8: Focus on Mathematical Practices MX TE pages 503-508

ACADEMIC CONNECTIONS TO OTHER DISCIPLINES: MATH *cont.*

- Make Connections - TE page 122A
- Math Connection - Find Groundwater Travel Time (Easy)
- Math Expressions Connections:
  - Unit 5 Lesson 1: Measuring Length MX TE pages 451-458
  - Unit 5 Lesson 7: Solve Measurement Problems MX TE pages 497-502
  - Unit 5 Lesson 8: Focus on Mathematical Practices MX TE pages 503-508
- Math Connection - TE page 128
- Math Expressions Connections:
  - Unit 5 Lesson 1: Measuring Length MX TE pages 451-458
  - Unit 5 Lesson 4: Customary Measures of Length MX TE pages 475-480
  - Unit 7 Lesson 10: Compare Decimals to Hundredths MX TE pages 673-682
- Math Connection - TE page 132
- Math Expressions Connections:
  - Unit 5 Lesson 1: Measuring Length MX TE pages 451-458
  - Unit 5 Lesson 3: Units of Time MX TE pages 467-474
  - Unit 5 Lesson 4: Customary Measures of Length MX TE pages 475-480
  - Unit 5 Lesson 7: Solve Measurement Problems MX TE pages 497-502
  - Unit 5 Lesson 8: Focus on Mathematical Practices MX TE pages 503-508
- Make Connections - TE page 138A
- Math Connection - Solve a Word Problem (Average)
- Math Expressions Connections:
  - Unit 1 Lesson 7: Add Greater Numbers MX TE pages 55-60
  - Unit 1 Lesson 11: Subtract Greater Numbers MX TE pages 83-90
  - Unit 1 Lesson 12: Practice Addition and Subtraction MX TE pages 91-96
  - Unit 1 Lesson 13: Problem Solving with Greater Numbers MX TE pages 97-104
  - Unit 1 Lesson 14: Focus on Mathematical Practices MX TE pages 105-110
  - Unit 2 Lesson 4: Model One-Digit by Two-Digit Multiplication MX TE pages 139-140
  - Unit 2 Lesson 10: One-Digit by Three-Digit Multiplication MX TE page 186
  - Unit 2 Lesson 11: Multistep Word Problems MX TE pages 189-198
  - Unit 2 Lesson 15: Practice Multiplication MX TE pages 223-230
  - Unit 3 Lesson 3: Discuss 2-Digit and 4-Digit Quotients MX TE pages 285-294
  - Unit 3 Lesson 4: Digit-by-Digit Method MX TE pages 295-302
  - Unit 3 Lesson 6: Divide by Any Method MX TE pages 313-318
  - Unit 3 Lesson 10: Mixed Problem Solving MX TE pages 339-344
  - Unit 3 Lesson 11: Focus on Mathematical Practices MX TE pages 345-350
  - Unit 4 Lesson 8: Solve Multistep Problems MX TE page 414
- Math Connection - TE page 143
- Math Expressions Connections:
  - Unit 1 Lesson 7: Add Greater Numbers MX TE pages 55-60
  - Unit 1 Lesson 11: Subtract Greater Numbers MX TE pages 83-90
  - Unit 1 Lesson 12: Practice Addition and Subtraction MX TE pages 91-96
  - Unit 1 Lesson 13: Problem Solving with Greater Numbers MX TE pages 97-104
  - Unit 1 Lesson 14: Focus on Mathematical Practices MX TE pages 105-110
  - Unit 2 Lesson 4: Model One-Digit by Two-Digit Multiplication MX TE pages 139-140
  - Unit 2 Lesson 10: One-Digit by Three-Digit Multiplication MX TE page 186
  - Unit 2 Lesson 11: Multistep Word Problems MX TE pages 189-198
  - Unit 2 Lesson 15: Practice Multiplication MX TE pages 223-230
  - Unit 3 Lesson 3: Discuss 2-Digit and 4-Digit Quotients MX TE pages 285-294
  - Unit 3 Lesson 4: Digit-by-Digit Method MX TE pages 295-302
  - Unit 3 Lesson 6: Divide by Any Method MX TE pages 313-318
  - Unit 3 Lesson 10: Mixed Problem Solving MX TE pages 339-344
  - Unit 3 Lesson 11: Focus on Mathematical Practices MX TE pages 345-350
  - Unit 4 Lesson 8: Solve Multistep Problems MX TE page 414
  - Unit 5 Lesson 1: Measuring Length MX TE pages 451-458
- Math Connection - TE page 149
- Math Expressions Connections:
  - Unit 5 Lesson 6: Perimeter and Area of Rectangles MX TE pages 489-496
  - Unit 5 Lesson 7: Solve Measurement Problems MX TE pages 497-502
  - Unit 5 Lesson 8: Focus on Mathematical Practices MX TE pages 503-508
- Make Connections - TE page 154A
  - Math Connection - Solve a Word Problem (Average)