

INSTRUCTOR: Dr. Janie Ryland  
Room 206  
Assistance Time: Tuesday – 10:30 – 11:00  
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Course Objective: The course will provide an interactive approach to scientific discovery through the use of blended tools for self-discovery and inquiry.

Textbook: Download to student laptop is required

## 8<sup>TH</sup> GRADE INTERACTIVE SCIENCE SYLLABUS

### Quarter 1

- ❖ Chapter 1      Using Scientific Inquiry
  - How Scientist Work
  - The Characteristics of Scientific Knowledge
  - Designing an Experiment
  - Modifying Scientific Theories
  - Understanding Science & Inquiry
  - Scientific Literacy
  
- ❖ Chapter 2      Mathematics and Models in Science
  - Scientific Measurement
  - Mathematics and Scientific Thinking
  - Using Graphs in Science
  - Models and Systems
  - Safety in the Science Laboratory
  
- ❖ Chapter 14     Earth's Forces
  - Forces and Motion
  - Gravity and Motion
  - Earth's Magnetic Field
  
- ❖ Chapter 4      Introducing Earth
  - The Earth System
  - Earth's Interior
  - Convection and the Mantle\
  
- ❖ Chapter 5      Plate Tectonics
  - Drifting Continents
  - Sea Floor Spreading
  - The Theory of Plate Tectonics
  - Forces in Earth's Crust

- Volcanoes and Plate Tectonics
- Volcanic Eruptions

## Quarter 2

- ❖ Chapter 6 Minerals and Rocks
  - Properties of Minerals
  - Classifying Rocks
  - The Rock Cycle
- ❖ Chapter 9 Weathering and Soil
  - Rocks and Weathering
  - How Soil Forms
  - Soil Conservation
- ❖ Chapter 11 Earth: The Water Planet
  - Water on Earth
  - Exploring the Ocean
  - Currents and Climate
- ❖ Chapter 13 Weather
  - Water in the Atmosphere
  - Clouds
  - Precipitation
  - Air Masses
  - Storms
  - Predicting the Weather

## Quarter 3

- ❖ Chapter 7 A Trip Through Geologic Time
  - Fossils
  - The Relative Age of Rocks
  - Radioactive Dating
  - The Geologic Time Scale
  - Early Earth
  - Eras of Earth's History
- ❖ Chapter 10 Genetics: The Science of Heredity
  - Mass Movement
  - Water Erosion
  - Glacial Erosion
  - Wave Erosion
  - Wind Erosion
  - Human Activity and Erosion
- ❖ Chapter 15 Earth, Moon, and Sun
  - Earth in Space

- Phases and Eclipses
- Tides

#### Quarter 4

- ❖ Chapter 3 Atoms and Bonding
  - Atoms, Bonding, and the Periodic Table
  - Ionic Bonding
  - Covalent Bonding
- ❖ Chapter 17 The Solar System
  - Models of the Solar System
  - Introducing the Solar System
  - The Inner Planets
  - The Outer Planets
- ❖ Chapter 18 Pollution and Solutions
  - Protecting the land and Soil
  - Water Pollution and Solutions
  - What Causes Climate
  - Human Activities and Climate Change