



Earth science

**GRADE LEVEL:**  
Elementary level

# Scope and Sequence

## **COURSE OVERVIEW:**

In this new Investigate the Possibilities series for 3rd-6th grades, elementary Earth science is made easy and fun! This remarkable full-color book is filled with experiments and hands-on activities helping students learn about the fascinating world of geology. With explanations of how our Earth was shaped, this elementary science curriculum gives evidence to the Genesis Flood, accompanying earthquakes, volcanic eruptions, and other powerful processes. Students will explore 20 investigations through experiments and a very specific learning progression.

Students will examine natural occurrences such as mountains, volcanoes, rocks, minerals, crystals, water, and dirt (just to name a few). By using household items such as hard boiled eggs, oranges, measuring cups, maps, clay and markers, these scientific truths will come to life.

This title contains a full circle view of geology, creation, and history. All three of these topics are combined to create the big picture for your student and develop a stronger root in their faith.

## **FEATURES:**

This title is an integral part of the Investigate the Possibilities Series. Each book includes instructions for 20 hands-on science experiments using simple household items, with additional guidance provided through the teacher's guides. All four titles are available in a discounted package, with subjects covering physical science, chemistry, physics, and earth science.

## **CONTENT FOCUS:**

### **Chapter 1:** Orange you going to map the Earth?

*Concepts for discussion:*

- What do the lines on the map tell us?

### **Chapter 2:** Composition of the Earth

*Concepts for discussion:*

- What is inside of the Earth?

### **Chapter 3:** Why is everything moving?

*Concepts for discussion:*

- What is the evidence that the continents may have been connected in the past?

### **Chapter 4:** Earthquake

*Concepts for discussion:*

- What causes an earthquake?

### **Chapter 5:** Living with earthquakes

*Concepts for discussion:*

- Where are the most earthquake-prone parts of the Earth?

### **Chapter 6:** Volcanoes

*Concepts for discussion:*

- What causes a volcanic eruption?

### **Chapter 7:** Mountains (folding and faulting)

*Concepts for discussion:*

- What causes rocks to be folded?

### **Chapter 8:** Pardon the intrusion

*Concepts for discussion:*

- How can I make a model of intrusive and extrusive rocks?

### **Chapter 9:** Mapping a mountain

*Concepts for discussion:*

- What is a topographic map?

### **Chapter 10:** Growing crystals

*Concepts for discussion:*

- Do different kinds of chemicals produce crystals with different shapes?

### **Chapter 11:** Minerals

*Concepts for discussion:*

- What are some tests that are used to identify minerals?

### **Chapter 12:** Rocks that fizz

*Concepts for discussion:*

- What is an easy way to identify limestone rocks?

### **Chapter 13:** Rocks have an ID

*Concepts for discussion:*

- What kind of tests can be used to identify rocks?



Master  
Books®  
A Division of New Leaf Publishing Group

[www.masterbooks.com](http://www.masterbooks.com)

800.999.3777

[nlp@newleafpress.com](mailto:nlp@newleafpress.com)

### **Chapter 14:** How little, tiny things settle out of water to become rocks

*Concepts for discussion:*

- What are the different settling rates of various sizes and types of material?

### **Chapter 15:** How rocks and dirt catch a ride

*Concepts for discussion:*

- What are the effects of rain on dirt?

### **Chapter 16:** Physical and chemical weathering

*Concepts for discussion:*

- How do rocks get worn down?

### **Chapter 17:** Holes in rocks

*Concepts for discussion:*

- How can the porosity of rocks and sedimentary layers be measured?

### **Chapter 18:** Caves, sinkholes, and geysers

*Concepts for discussion:*

- What causes caves and sinkholes to form?

### **Chapter 19:** Glaciers

*Concepts for discussion:*

- How do glaciers transport rocks and other materials?

### **Chapter 20:** Toiling in the soil

*Concepts for discussion:*

- What's in the soil we walk on every day?

## **HOW TO USE THIS SERIES:**

The learning progression recommended for this book is: engage, investigate, explain, apply, expand, and assess. In each lesson, students will be introduced to something that is interesting, they will do an investigation, they will find a scientific explanation for what happened, they will be able to apply this knowledge to other situations and ideas, they will have opportunities to expand what they learned, and there will be multiple assessments.

**Think about This** (Engage) — Students should make a note of what they know or have experienced about the topic. If this is a new topic, they could write some questions about what they would like to learn.

**The Investigative Problem(s)** — Students should be sure to read this so they will know what to be looking for during the investigation.

**Gather These Things** — Having everything ready before starting the investigation will help students be more organized and ready to begin.

**Procedures and Observations** (Investigate) — Students should first follow the instructions given and make observations of what happens. There will usually be opportunities for students to be more creative later.

**The Science Stuff** (Explain) — This section will help students understand the science behind what they observed in the investigation. The explanations will make more sense if they do the investigation first.

**Making Connections** (Apply) — Knowledge becomes more permanent and meaningful when it is related to other situations and ideas.

**Dig Deeper** (Expand) — This is an opportunity for students to expand what they have learned. Since different students will have different interests, having choices in topics and learning styles is very motivating. All students should aim to complete one “Dig Deeper” project each week, but the teacher may want older students to do more. Generally, students will do at least one project from each lesson, but this is not essential. It is all right for students to do more than one project from one lesson and none from another.

**What Did You Learn?** (Assessment) — The questions, the investigations, and the projects are all different types of assessments. For “What Did You Learn?” questions, students should first look for answers on their own, but they should be sure to correct answers that might not be accurate.

