

# GEOLOGY

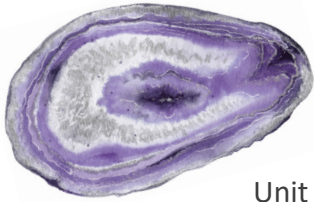
3-8 Science Unit Study





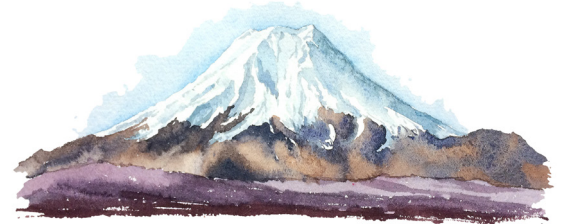
# Geology

Created by The Good and the Beautiful Team



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# Unit Information

## Science Journal



All The Good and the Beautiful science units include activities in a student journal. Each student should have his or her own student journal, and the parent or teacher will direct the student regarding when to complete the activities as directed in the lessons. Science journals can be purchased by going to [goodandbeautiful.com/science](http://goodandbeautiful.com/science) and clicking on the *Geology* unit link.

## Science Wall



All The Good and the Beautiful science units include vocabulary words to be placed on your science wall, which is a wall or tri-fold presentation board in your learning area to which you can attach the vocabulary words and other images. **Cut out the vocabulary word cards at the beginning of the unit.** The course will indicate when to place them on the wall.

## Lesson Preparation

All The Good and the Beautiful science units include easy-to-follow lesson preparation directions at the beginning of each lesson.

## Activities and Experiments



Many of The Good and the Beautiful science lessons involve hands-on activities and experiments. An adult should always closely supervise children as they participate in the activities and experiments to ensure they are following all necessary safety procedures.



## Experiment Videos



Go to [goodandbeautiful.com/sciencevideos](http://goodandbeautiful.com/sciencevideos) and click on the *Geology* link or use the Good and Beautiful Homeschool app to see videos of experiments used in this unit. This is a convenient way to watch experiments that may be more complicated. Children often learn best through hands-on experience; therefore, this unit includes a

supply list and instructions for all experiments, and you may choose to do as many as you wish.

## Unit Videos



Some lessons include videos that were created by The Good and the Beautiful. Have a device available that is capable of playing the videos from [goodandbeautiful.com/sciencevideos](http://goodandbeautiful.com/sciencevideos) or from the Good and Beautiful Homeschool app.

## Content for Older Children



Some lessons include extra content that is more applicable for older children (grades 7–8). Parents or teachers may choose to skip this content if instructing only younger children.

## Content for Younger Children



Some lessons include extra content that is more applicable for younger children (grades 3–6). Parents or teachers may choose to skip this content if instructing only older children.

## Versions

New discoveries in geology are being made on an ongoing basis. This course is reviewed and revised periodically to keep the information as up-to-date as possible. This version is the second edition of this unit.

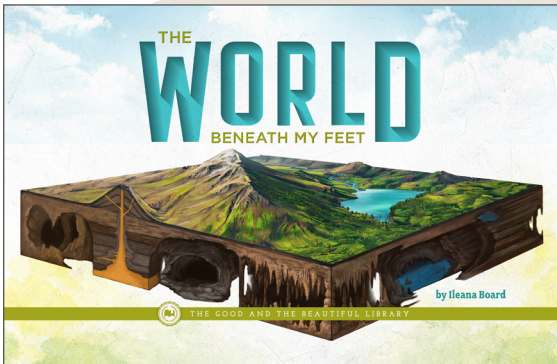
## Rocks and Minerals Kit

This unit incorporates *The Good and the Beautiful Rocks and Minerals Kit*. Using the testing tools, six minerals, and three rocks included in the kit, lessons will prompt children to observe and test different materials, providing hands-on experiences with geology. This kit is available at [goodandbeautiful.com](http://goodandbeautiful.com).

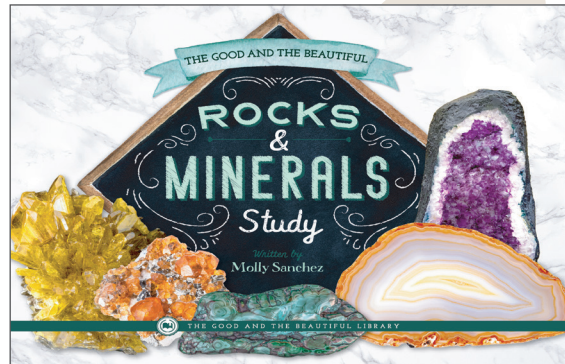


# Read-Aloud Book Pack

The two books below are optional read-aloud books that complement this unit. These books can be purchased as a book pack by going to [goodandbeautiful.com/science](http://goodandbeautiful.com/science) and clicking on the *Geology* link.



*The World Beneath My Feet*  
by Ileana Board



*The Good and the Beautiful Rocks and Minerals Study*  
by Molly Sanchez

## CORRELATED BOOKS

The Good and the Beautiful Library has several books that correlate well with the *Geology* unit. It can be a wonderful experience for children to read books at their levels that are related to the subjects they are learning in science. The library includes both fiction and nonfiction books organized according to reading level. Find the correlated books by going to [goodandbeautiful.com/science](http://goodandbeautiful.com/science) and clicking on the *Geology* science unit product page.



# Lesson Extensions

## How the Extensions Work

Each lesson has an optional lesson extension for children in grades 7–8. Complete the lesson with all the children, and then have the older children complete the self-directed lesson extension. These extensions are located in the *Grades 7–8 Student Journal*.

## Answer Key

The answer key for the lesson extensions can be found on the free Good and Beautiful Homeschool app in the science section. Visit [goodandbeautiful.com/apps](http://goodandbeautiful.com/apps) for information on accessing the app. The app can be accessed from a computer, phone, or tablet.

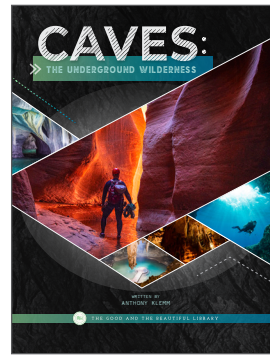
## Flexibility

The amount of time it will take to complete each lesson extension will vary for each child. The average time is about 10–15 minutes per extension. You and the children may choose to omit parts of the extension lesson if desired. Encourage the children to stretch their capabilities, but also reduce work if needed.

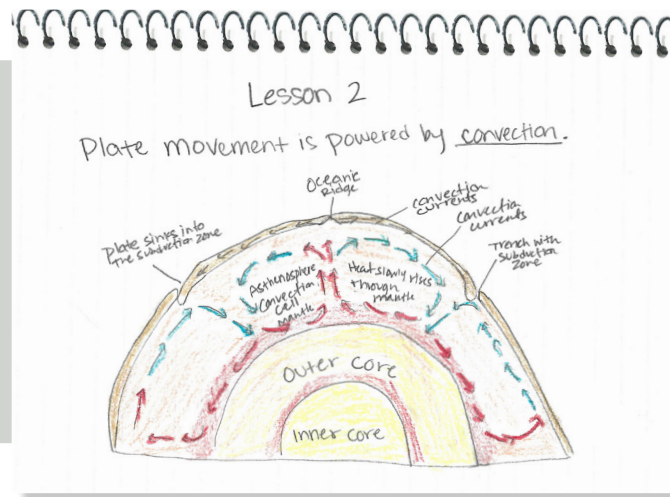
## Taking Notes

Some of the Grades 7–8 Lesson Extensions have the children summarize the material read. Teach the children to look for key information, summarizing the most important points. Students can also add notes with their thoughts and the facts that are most interesting to them.

## Optional Grades 7–8 Reading Book



We recommend the book *Caves: The Underground Wilderness* by Anthony Klemm as extra reading for students in grades 7–8. This book can be purchased at [goodandbeautiful.com](http://goodandbeautiful.com) on the *Geology* science unit product page or at [goodandbeautiful.com/library](http://goodandbeautiful.com/library).





# Supplies Needed

This section is divided into supplies needed for **activities** and supplies needed for **experiments**. If you would prefer to watch the experiments instead of perform them, you can watch all the experiments at [goodandbeautiful.com/sciencevideos](http://goodandbeautiful.com/sciencevideos). The activities, however, are not filmed.

## Lesson 1

- *The Good and the Beautiful Rocks and Minerals Kit* (or a rock of any kind)
- Hard-boiled egg
- Butter knife
- Bible (optional)

## Lesson 2

- Orange
- Bowl of water

*The following items are needed for each child (although it is possible to use only one set of supplies for the parent to demonstrate with):*

- 1 cup of frosting
- Butter knife
- 3 fruit leather pieces (at least 3x2 in)
- 5 graham cracker pieces
- 10-inch piece of tinfoil or parchment paper

## Lesson 3

- Brick or large stone (not too heavy for child to hold)
- Hammer
- One stick (per child), thin enough that a child can break it easily
- 2 sanding sponges (or other similar items that will grip when rubbed together, like tennis shoes)
- One rubber band (per child)

## Lesson 4

- Cup of water
- Towel
- Red marker, crayon, or colored pencil (per child)

## Lesson 5

- Optional: Visit [goodandbeautiful.com/volcanoes](http://goodandbeautiful.com/volcanoes) to find detailed instructions and supply lists for a volcano experiment that best suits your family or school group.

## Lesson 6

- 1 Tbsp salt
- 1 Tbsp salt mixed with dirt
- 3 sets of LEGO® bricks that each include 3 bricks that are the same shape, color, and size, but each set is different bricks
- *The Good and the Beautiful Rocks and Minerals Kit*: See the front of this unit for more information if needed.

## Lesson 7

- A few pieces of scrap paper
- Optional: Geode kit (or small\* geode, hammer, protective eyewear, cloth, flathead screwdriver or chisel) \**Larger geodes may require power tools.*  
*Note: Some geodes are faulty and may not contain crystals.*
- 1 cup water (per child)
- 3 cups sugar, plus some extra for coating (per child)
- Clothespin (per child)
- Stick (skewer or craft stick; for each child)
- Clear glass jar or cup (for each child)
- Funnel (optional)
- Food coloring (optional)
- 1 tsp liquid flavoring extract (optional)
- Pot
- Stove

## Lesson 8

- An empty egg carton or compartment box OR a rock kit or collection of rocks
- Optional: Paint and paintbrushes or markers for decorating cartons or kits

## Lesson 9

- Candle and candleholder (it needs to be straight or tapered so the wax can drip down the side) OR use a birthday candle held in nonflammable clay
- Lighter or match
- Dominoes or wooden blocks (15–30 pieces)
- 2 small containers or boxes (big enough to hold the dominoes or blocks)
- *The Good and the Beautiful Rocks and Minerals Kit*





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## Lesson 10

- Empty, clean plastic or glass container with a lid, like a pickle jar
- Water
- *The Good and the Beautiful Rocks and Minerals Kit*
- Ruler
- Two handfuls of soil and any or all of other various sediments: small pebbles or other rock fragments, sand, salt (rock or ice-cream salt, fine table salt, pink salt, and/or coarse salt), and baby powder

## Lesson 11

- Sediment jar from last lesson
- Ruler
- 3 STARBURST™ candies of different colors (per child)
- Rolling pin or kitchen mallet
- Aluminum foil
- Hair dryer
- *The Good and the Beautiful Rocks and Minerals Kit*
- Optional: Each child's rock collection box (from Lesson 8)

## Lesson 12

- Brick of milk or dark chocolate (or a HERSHEY'S™ chocolate bar)
- Brick of white chocolate
- Cheese grater
- Aluminum foil
- Access to a freezer (or an ice pack)
- Microwave
- 2 microwave-safe bowls
- 2 spoons
- 2 plates
- Hair dryer
- Rolling pin

## Lesson 13

- 11"x15" baking pan
- Bricks, blocks, or something else to raise one side of the pan
- Sand
- 3–4 ice cubes
- Pitcher of water
- Straw (per child)
- Optional: towel or pan to catch any overflow of water or sand

## Lesson 14

- Watercolor cakes or paint
- A sheet of blank or watercolor paper (per child)
- Paintbrush (per child)
- Water
- Pencil (per child)
- Palette or plate