MiniMe Geology™

ROCK DETECTIVES
SEDIMENTARY SLEUTHING

www.MiniMeGeology.com

Hey there Mini Me Geologists!

Today we are on a Sedimentary Sleuthing mission. To complete your mission, you must follow the clues and complete the activities on this printable disk.

- **First**, read about each of the samples in your kit in our Sedimentary Rock Information section.
- **Then,** print out and follow each of the Identification "ID" Activities.

Rock Information

Identification Activities

Once you know what your samples are, move on to games, puzzles and experiments in any order you wish. Don't forget to take the "What I Learned" quiz at the end and print your Sedimentary Sleuthing geologist's certificate to show everyone what a smart geologist you have become!

Experiments & Fun

Games and Puzzles

Parents Note: The information on this disk is designed to be read on-screen and/or printed using Adobe® Acrobat Reader 9.0 which is a free program available at www.adobe.com.

Sedimentary Rock Textures

The texture of a rock describes the size of the crystals in the sample. Below are the different types of sedimentary rock textures. Look at all the samples in your kit. Can you tell what texture they have?

NO CRYSTALS

The rock does not have any crystals. These rocks are either Organic or Shelly.

ORGANIC: Coal
The rock is made from plants.

SHELLY: Coquina
The rock is made of mostly shell pieces.

FINE-GRAINED

The mineral crystals are so small that you can not see individual crystals without a microscope.

SHALE

MEDIUM-GRAINED

The mineral crystals are large enough to be seen without a microscope but the crystals are not huge.

SANDSTONE

COARSE-GRAINED

The mineral crystals can easily be seen without a microscope and are very large.

BRECCIA

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Identify My Sedimentary Rocks

To identify your new sedimentary rock samples, follow the clues on this page to find the name of each one!

CLUE #1 **TEXTURE** — Sedimentary rocks are known for a wide variety of textures. Place your samples in the correct circles. There are two samples for each circle.

Fine-Grained
You can not see any crystals.

Medium-Grained
The crystals are large enough to be seen with your eye.

Coarse-Grained
Very large crystals.

CLUE #2 **UNIQUE PROPERTIES** — Each rock type has special properties that make it different from every other rock in the world! Use these unique properties to tell the difference in the rocks in each circle above. Place your sample in the correct circle to identify its name.

Coal
Black color.
Smells "woody."

Sandstone
Yellow color.
Grains are all the same size and feel sandy.

Conglomerate
Tan with many colors.
Rounded pebbles in rock.

Shale
Red color.
Appears layered.

Fossiliferous Limestone
Light tan color.
Has fossil chips.

Breccia
Reddish-tan color.
Angular pieces of rock included.

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The Fizz Test for Limestone Rocks

Many rocks can look alike. Sometimes telling the difference between a limestone, shale or sandstone can be difficult. One way geologists test the rocks is by performing the acid or "Fizz" test. Rocks with calcite will fizz in acid.

SAFETY FIRST! Be sure to wear safety goggles during this experiment.

You will need:

- The samples from your kit
- Household acid such as lemon juice or vinegar (lemon juice works best)
- Eye dropper or straw
- Hand magnifier
- Notebook
- Pencil

Step 1: Gather the samples that you want to test.

Step 2: Before you begin, practice focusing your hand magnifier.

Step 3: Drop or pour the acid on one rock sample at a time using a straw or dropper. Look through your hand magnifier right away to see if bubbles appear. The bubbles may be small, so look closely.

Observe & Document: Which samples do you see fizz?

Hint: You should see some bubbles on samples made of calcite, like limestone.

Do you see the bubbles? If so, what do they look like?

Do you have other samples? If so, try the fizz test on them and see if they have any calcite content too!

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Make a Geologists Field Notebook

Geologists use a field notebook to record information about their rocks, minerals, and maps. Create your own notebook with our Field Notebook Pages.

You will need:

- 1 copy of the Notebook Cover
- Several copies of the Notebook Inside Pages
- Hole punch (have an adult help you)
- String
- Markers, crayons or colored pencils

Optional:

- Construction paper and glue
- 3-ring binder

To Make Your Geologists Field Notebook:

- Decorate the cover of your Field Notebook with colors or pictures.
- Write your name on the bottom of the cover (where it says "Property of") so everyone knows that the field notebook belongs to you.
- Stack your cover and inside pages together.
- With an adult's help, punch 2 or 3 holes along the left edge of the pages.
- Tie string through the holes to hold your field notebook together.

Other ideas:

To make your notebook stronger, glue your cover page to a piece of construction paper and put a second piece of construction paper at the back of the notebook.

OR Instead of using string to tie your notebook, you can place the pages in a 3-ring binder.

To Use Your Geologist Field Notebook:

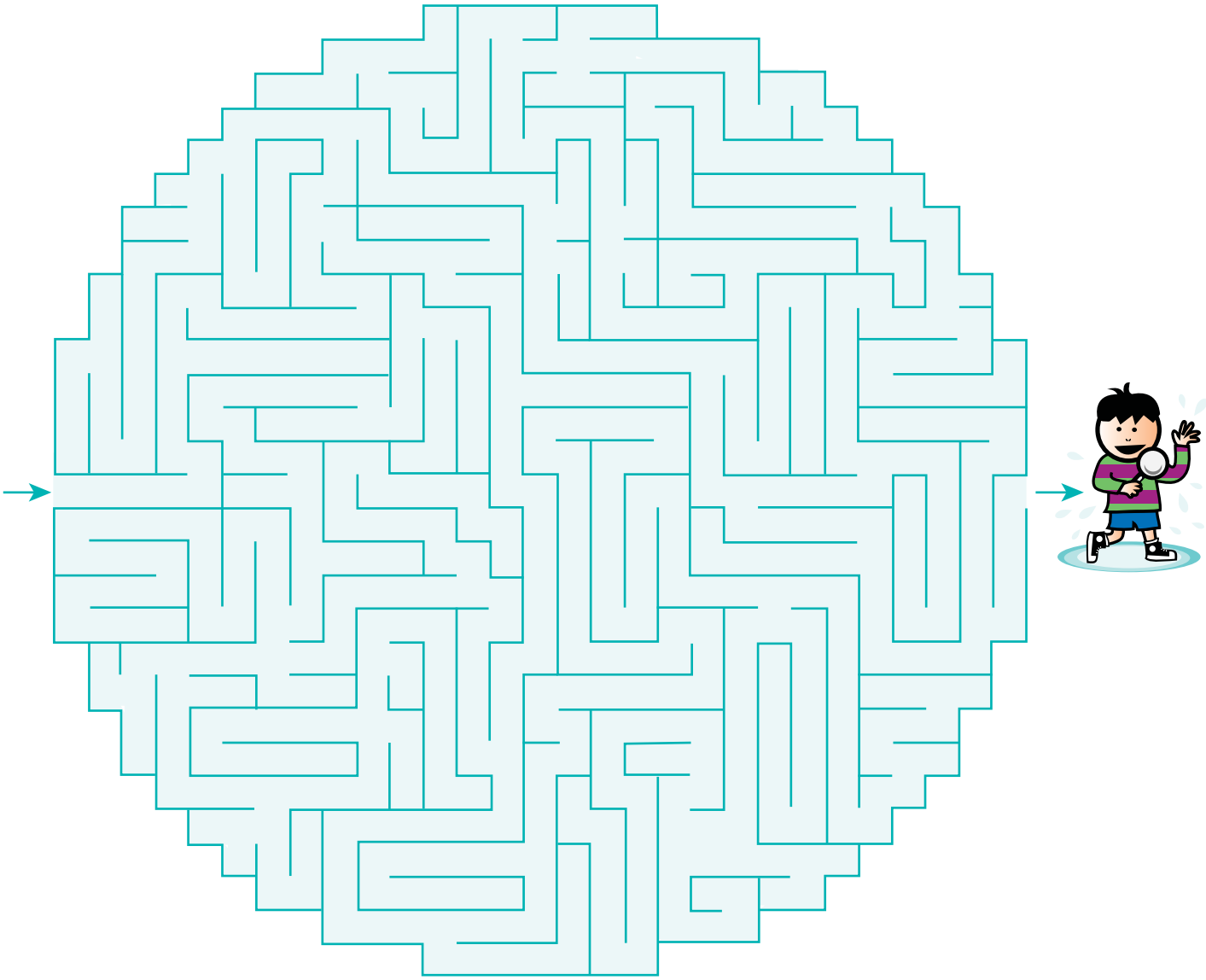
Each time you use your notebook, write the date, page number, and weather on the lines at the top. Give each page a title such as "Salt Growing Experiment," or "Nature Walk." Use the lined area to write notes about your nature walks, samples, or experiments. Use the space at the bottom of each page to draw pictures of your samples, locations and activities.

For safety, always take an adult with you on a nature walk or if you are rock hunting outdoors.

Have fun! The information you record in your book is up to you because you are the geologist!

Lake Maze

Oh, no! Our geologist fell in the lake during a field trip Help him swim out!



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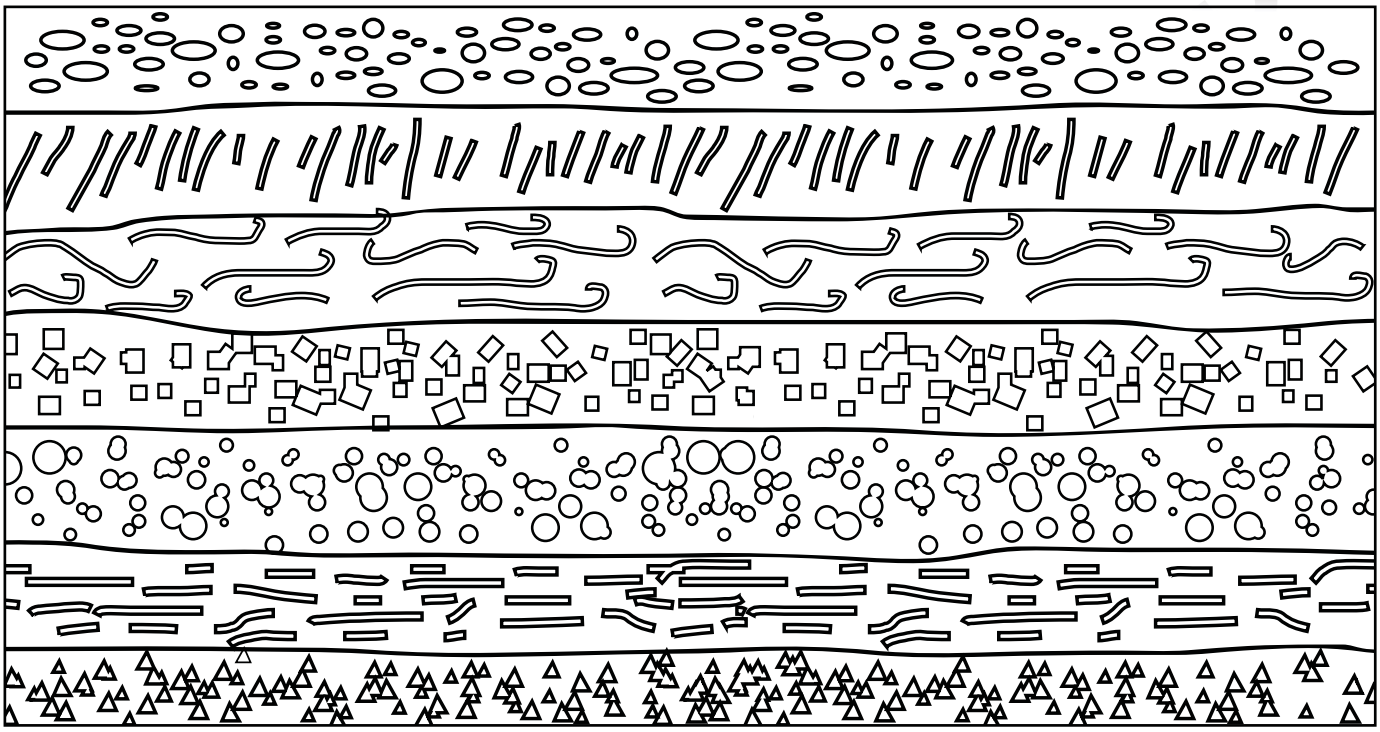
Color Your Rock Layers



Now make your own rock layer below: