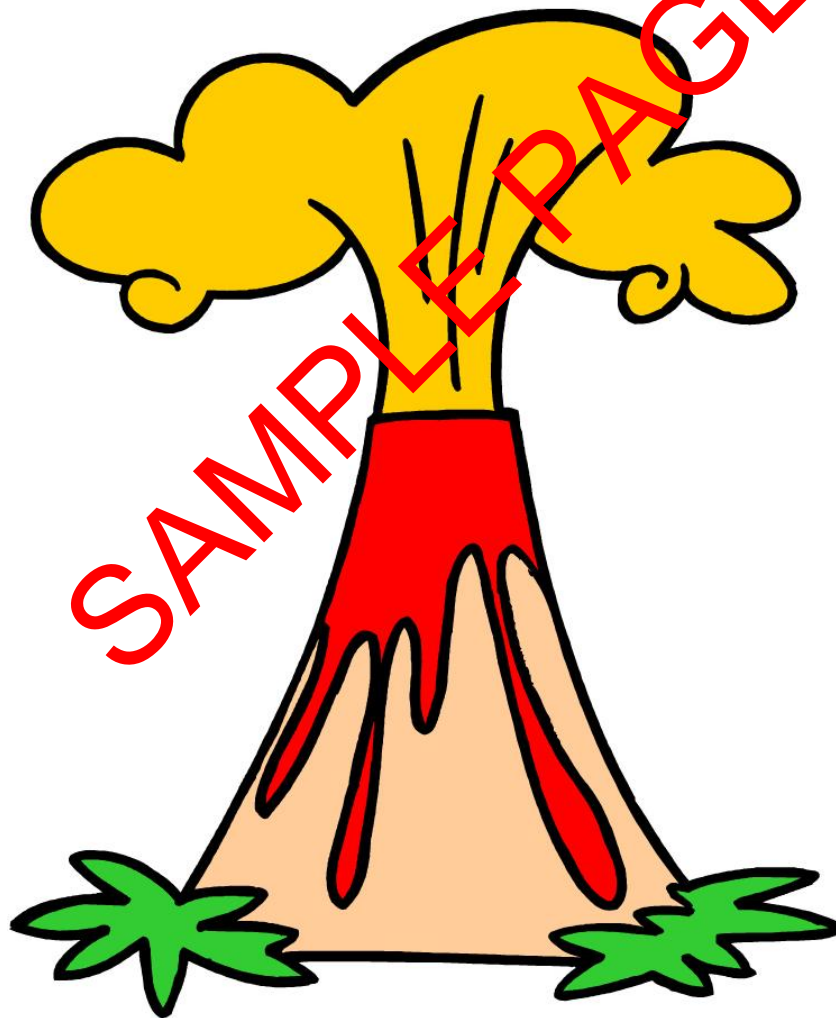




Grades 2-7

Volcanoes

Learning Lapbook with Study Guide



A Journey Through Learning
www.ajourneythroughlearning.com

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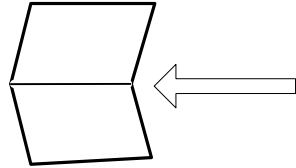
**While you are there, sign up for our email newsletter and
receive a FREE lapbook!
You'll also receive great discount codes, special offers, find out
what's new and what's to come!**

Join us on Facebook!

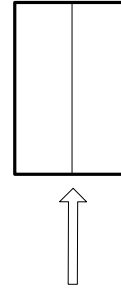
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Keep in mind that children of the same age can have very different academic and motor skills. Some children may have trouble writing in some of the smaller spaces of this lapbook. If this describes your child, we encourage you to let your child dictate the answers and you write for him. A lapbook is to be a fun project, not stressful.

Hamburger Fold-Fold horizontally



Hotdog Fold-Fold vertically



Dotted Lines-These are the cutting lines.

Accordion Fold-This fold is like making a paper fan. Fold on the first line so that title is on top. Turn over and fold on next line so that title is on top again. Turn over again and fold again on the next line so that title is on top. Continue until all folds are done.

Cover Labels-Most of the booklets that are folded look nicer with a label on top instead of just a blank space. They will be referred to as "cover label."

How Long Does it Take to Complete the Lapbook?

Doing a study guide page and mini-booklet a day, a 2-folder lapbook takes 2- 3 weeks to complete. However, you can expand the study portion and make it last as long as you like! That's the beauty of homeschooling! Do it YOUR way!

Lapbook Assembly Choices

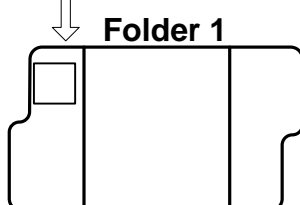
(see photos on how to fold and glue your folders together)

We recommend using Zip Dry Glue or Elmer's Extreme.

Choice #1 -Do not glue your folders together until you have completely finished both folders. It is easier to work with one folder instead of two or three glued together.

Choice #2 -Glue both folders together before beginning. Some children like to see the entire project as they work on it. It helps with keeping up with which folder you are supposed to be working in. The choices are completely up to you and your child!

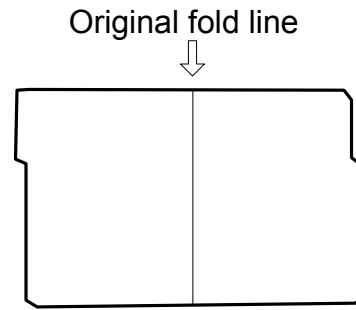
How do I know where to place each template in the folder?



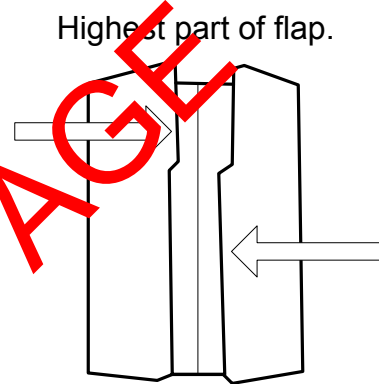
This placement key tells you the template goes in the first folder at the top of the left flap.

Folding a Lapbook Base

Gather the number of folders required for the project. Fold them flat as seen here.



For each folder, fold the left and right sides inward toward the original line to create two flaps. Crease so that the highest part of each flap is touching the original line. It is important not to let the two flaps overlap. *You may want to take a ruler and run it down each crease to make it sharper.*



Glue your folders together by putting glue (or you may staple) on the inside of the flaps. Then press the newly glued flaps together with your hands until they get a good strong hold to each other. Follow this step to add as many folders as you need for your project. Most of our lapbooks have either 2 or 3 folders.

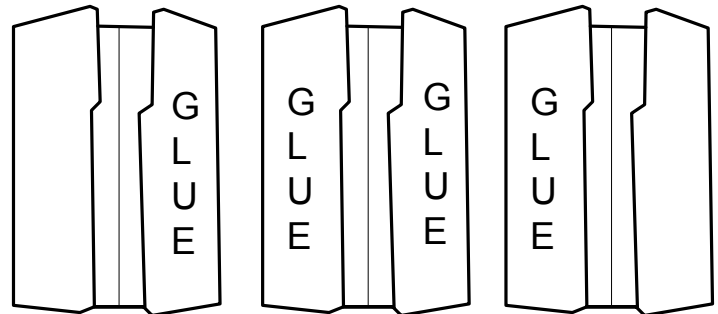
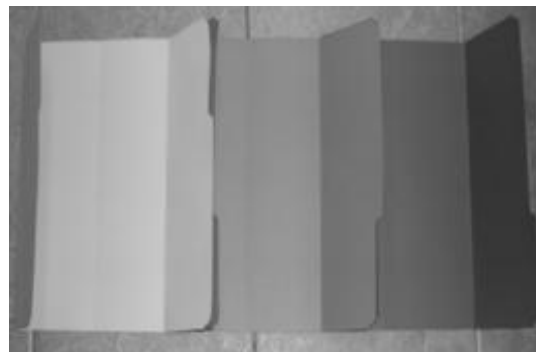
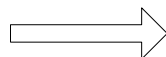


Photo of a completed lapbook base



Tips and tricks to go the extra mile!

Supplies Need:

½ inch three-ring binder

5 tabs (if you are using our copywork and/or notebooking pages, you will need to have 7 tabs. Label with copywork and notebooking)

Quart size baggies

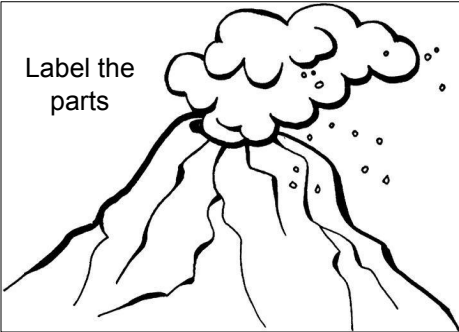
Duct tape

Your study guide and mini-booklets pages

Office supplies-glue, scissors, brads, stapler, pencils, crayons, and ribbon (if needed)

1. Label your tabs: Study Guide, Book Log, NICK Biography Reports, Outlines (Copywork and Notebooking, if using these).
2. Make copies of NICK notes and outline forms and put them behind the tabs. Your child can use either the NICK notes form (easier) or the outline form (a bit harder) after any of the study guides. These serve as a good review of the material in the study guide.
3. Hole punch your study guide and mini-booklets sheets and place behind the Study Guide tab. You will need a page of a study guide. Behind the study guide are all of the booklets that go with that study guide.
4. Keeping your office supplies handy-Measure the bottom of a quart size zip-lock bag. Then measure out a strip of duct tape that length. Lay the zip-lock bag on the lower edge of the tape. Fold the other end of the tape down on the zip-lock bag. Your duct tape should be sticking out from the bag. Now, you can hole punch the duct tape strip. **DO NOT HOLE PUNCH INTO THE BAG!** Then put it into your 3-ring binder. Use this bag to store items you will be using for your lapbook. Glue, scissors, hole puncher, stapler and extra staples, crayons, pencils, brads, ribbon, and any unfinished work. Doing this one step keeps you from having to constantly gather supplies every time you want to work on your lapbook!

Folder 1

<p>Puzzle Piece Earth</p>	<p>Label the parts</p> 	<p>Cinder Cones</p>
<p>Dead, Alive, or Just Sleeping</p>	<p>Types of Eruptions.</p>	<p>Shield</p>
		<p>Composite</p>

Folder 2

<p>Volcanology</p>	<p>Ring of Fire</p>	<p>Tambora</p>
	<p>Vesuvius</p>	<p>Mt. St. Helen</p>
		<p>Krakatoa</p>
		<p>Cool Facts</p>

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Dead, Alive, or Just Sleeping

Types of Eruptions

Types of Volcanoes

Volcanology

The Ring of Fire

Famous Eruptions: Vesuvius

Famous Eruptions: Mount St. Helens

Famous Eruptions: Tambora

Famous Eruptions: Krakatoa

Cut out the page on the dotted lines. Glue to the front of your closed lapbook. Draw a volcano.
Add details like lava flowing!

Volcanoes

SAMPLE PAGE

Anatomy of a volcano

While there are several different types of volcanoes, they are all structured similarly. A volcano is a mountain situated over a large column of magma, which comes close to the surface of the earth and occasionally escapes. Sometimes smaller volcanoes and cracks appear near the main vent, but all volcanoes have one larger central crater, situated over the magma chamber.

Magma is the substance which forms under the surface of the world's crust. Because of the intense heat and pressure, part of the rocks melt. These rocks bubble towards the surface of the earth, gathering in great reservoirs called magma chambers. The melting rocks also create gas bubbles, which build pressure in the chamber until the hard rocks of the crust are forced to crack or split open.

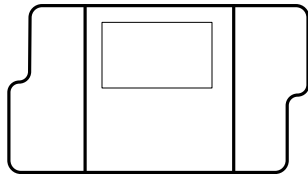
After magma is released from the chamber through volcanic eruptions, it is called lava. The color and behavior of lava depends on its temperature. The thickness of the lava is also determined by its composition, or what it is made out of. The hottest lava is bright orange and runny, similar to warm honey. As it cools the color deepens to red, and then gradually becomes gray. The lava at this stage is still extremely hot, but it is very thick and flows slowly. Lava normally turns black after it is completely hardened, but continues to be hot for awhile. The faster the lava cools, the fewer mineral crystals will form.

Sometimes the lava can take on interesting shapes, depending on the type and location of the volcano. Underwater, lava commonly forms what is called pillows, where the lava comes out in bubble-shaped formations. These almost instantly cool on the outside, from the contact with the water, preserving their strange shapes. When partially melted lava is thrown high into the atmosphere, it can form odd shapes. Flying through the air so quickly can cause the lava to form teardrop shaped rocks, which then harden into that shape. Sometimes, liquid magma is going so fast that it stretches into long, thin strands, called "Pele's hair". Often, the ash from the volcano builds up to be several feet deep, falling from high in the atmosphere.

Volcanoes sometimes produce large mudflows. This is not the same as a mud slide, which is over-soaked earth giving way and sliding down a steep hill. A volcanic mudflow is caused by water mixing with volcanic ash, forming a wet mixture similar in texture to wet concrete. This mixture can be hot or cold, and it can flow very quickly. Often, a mudflow is caused by heavy rains during or after a volcano, melting of ice and snow, or sometimes by an eruption of a crater lake. Volcanic mudflows can be very deadly.

Another very deadly result of a volcanic eruption is the pyroclastic flow. This is a cloud-like billowing mass of gases mixed with ash and rock. The flow is heavier than air, and so it flows like liquid over the ground. The particles of ash and smaller pieces of rock are suspended in the gas, and can move with terrifying speed. The gases in the flow can be very hot, around 2000 degrees, and pyroclastic flows can carry large rocks and even small boulders. These are one of the most dangerous and unpredictable elements of a volcano. Speeding along at up to 450 miles an hour, they bowl over and burn everything in their path.

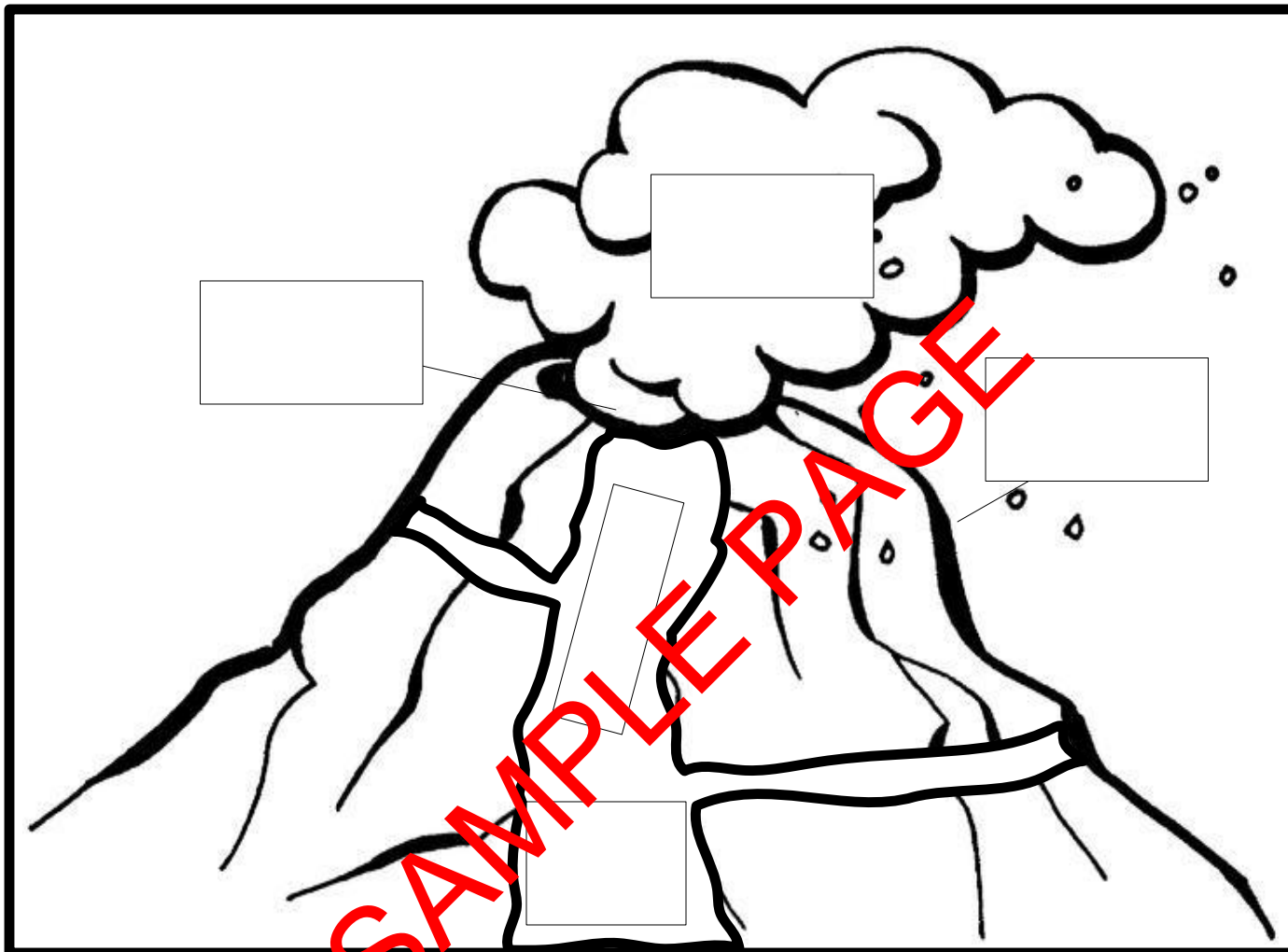
Folder 1



Read Anatomy of a volcano.

Cut out booklet. Glue into lapbook. Cut out labels.

Directions: Label the parts of the volcano.



Magma chamber

Magma

Lave flow

Ash cloud

Main Vent

Dead, Alive, or Just Sleeping

Many people use the words “active” and “dormant” to describe volcanoes, but not everyone knows what these terms mean. Even geologists and volcanologists sometimes use the words to mean different things.

Volcanoes are considered active if they are likely to erupt again relatively soon. However, “soon” can be a long time in geological time periods! Many volcanologists consider a volcano to be active if it has erupted within the last 5,000 years or so, or sometime in recorded history. Other volcanologists consider a volcano active if it has erupted in the last 10,000 years, which is considered to be the time period since the last ice age. Although these are terms scientists use, the general public often uses the term “active” to mean a volcano that is an imminent threat, or has erupted within the last few years.

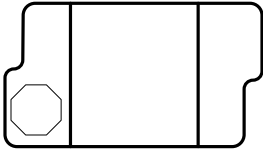
Some volcanoes, such as Mount Etna in Italy, and several Hawaiian volcanoes, are very active, erupting as often as every few years or even months. Others, while still considered active, have not erupted in thousands of years. On the other hand, some volcanoes erupt once, building a mountain over a period of a few months or years, and then never erupt again. These volcanoes may be considered extinct after only a few years.

Other signs of activity in the volcano, such as earthquakes, steam vents, geysers, and bulging sides can sometimes cause a volcano to be classified as “active”, even if it has been longer than 10,000 years since an eruption. One example of this is the Yellowstone caldera. (A caldera is an old volcanic mountain that has partially collapsed, leaving a ring- or crescent-shaped valley.) Geologists don't know how long it has been since this huge volcano erupted, but many now consider it active because it is located on such an active thermal (heated by the earth) hot-spot. Many scientists believe that this volcano will definitely erupt again, sometime. Geologists have even measured huge bulges in the area, as pressure builds under the valley, and it is now one of only a few constantly monitored volcanoes in the United States.

A dormant volcano is one that has not erupted in thousands of years, but may at some point. This is different from an active volcano that geologists say almost certainly will erupt again. A dormant volcano is one that may erupt again, but may instead be going extinct. Some dormant volcanoes have not erupted in recent history, and they can be very deadly. This is in part because of the massive pressure that can build after thousands of years between eruptions, but also because people often forget that they are indeed volcanoes and not just ordinary mountains.

An extinct volcano is one which will most likely never erupt again. Many of these are cinder cones that will only erupt once, and then become extinct. Some are simply very old volcanoes which no longer have magma chambers feeding them. Although many people call dormant volcanoes “extinct”, volcanologists only use the term for a volcano that they believe will never erupt again.

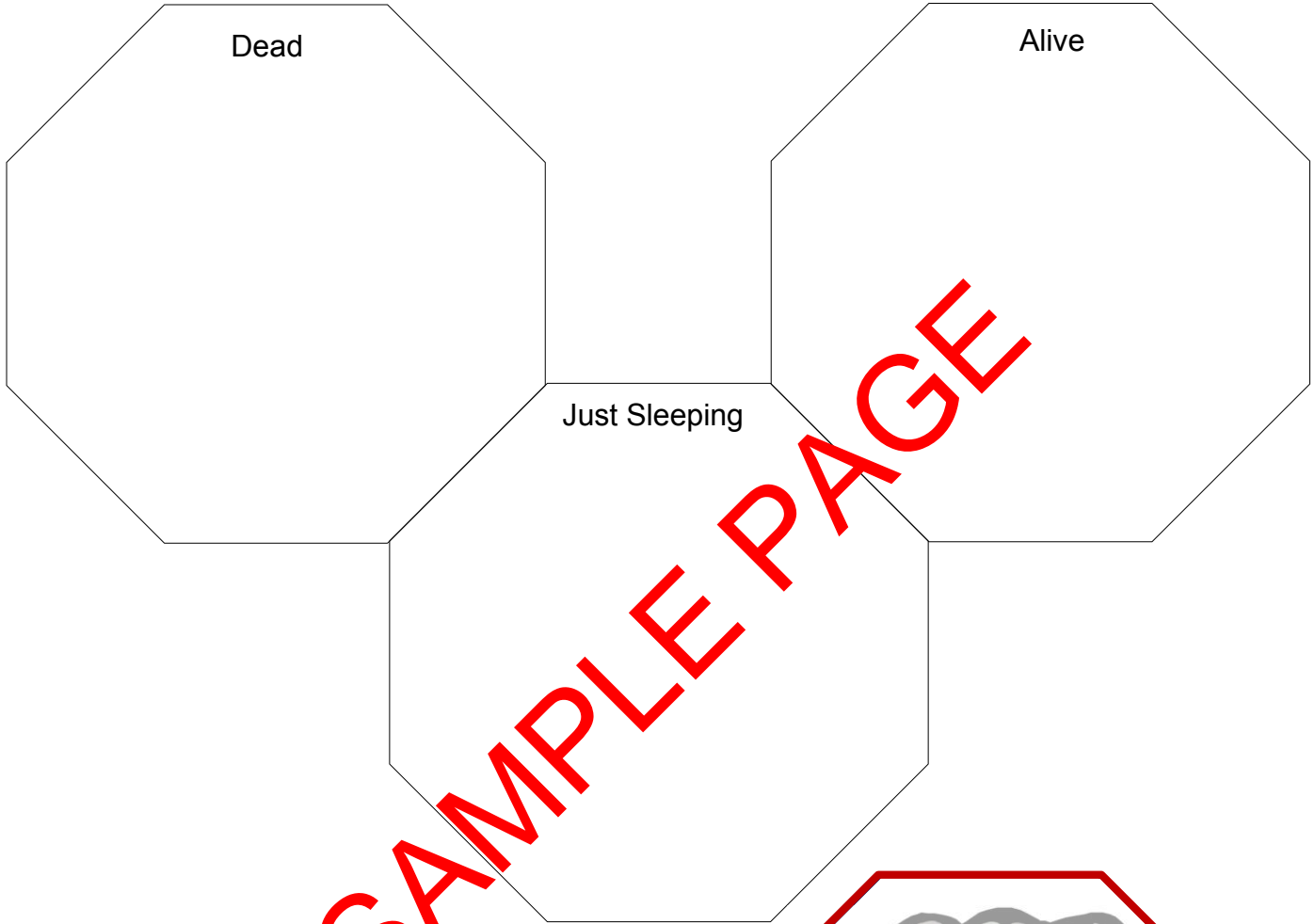
Folder 1



Read Dead, Alive, or Just Sleeping.

Cut out the large shape as one booklet. Fold the left flap over the center flap. Next fold the right flap over the center. Cut out the cover label and glue on to front. Glue into lapbook.

Directions: On each flap, write what you have learned.



SAMPLE PAGE

