Foldables!

This document has instructions and printouts for 5 different foldables:

Rock Cycle

Rock Types

Mass Extinctions

Layers of Earth

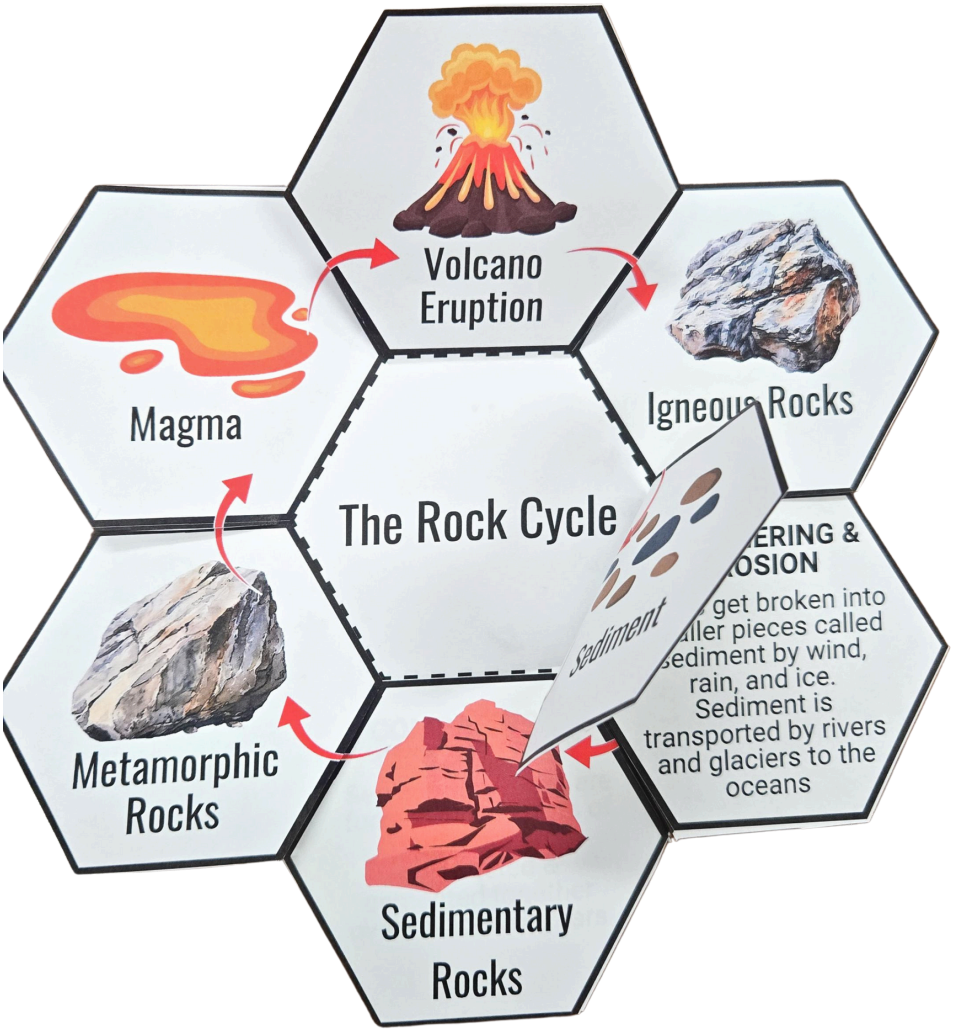
Volcanoes

Each foldable is related to a specific earth science standard, as specified in the directions. Enjoy!

Rock Cycle Foldable

Use this foldable as a teaching device or as a lesson wrap-up / review

ESS.6.2.2: Construct an explanation to illustrate how the movement of lithospheric plates can create geologic landforms and cause major geologic events such as earthquakes and volcanic eruption
ESS.6.2.3: Use models to explain the rock cycle and its relationship to the formation of soil



Instructions:

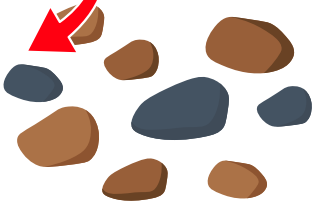
1. Cut out around the outsides of entire images (both the color graphic and the wordy graphic) on the next pages
2. Cut in between the hexagons, along the solid lines (not dashed lines)
3. Place the blank hexagons cutout (or the filled out hexagons cutout) beneath the graphic hexagon sheet
4. Glue **only** 'The Rock Cycle' middle hexagon to the blank middle hexagon beneath it. Do not glue the outside six hexagons to the hexagons beneath it.
5. Crease or fold the six hexagons along the cut lines to form the foldable as shown in the image above
6. If using for a lesson, use the already filled out hexagon underneath; if using as a lesson wrap-up, use the blank hexagon sheet underneath and allow the students to write their own explanations

The Rock Cycle

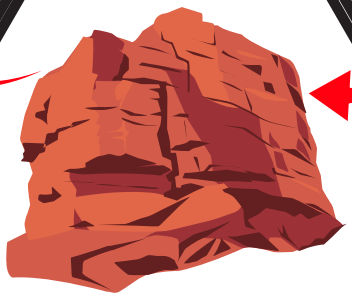
Volcano Eruption

Igneous Rocks

Magma



Sediment



Sedimentary Rocks

Metamorphic Rocks

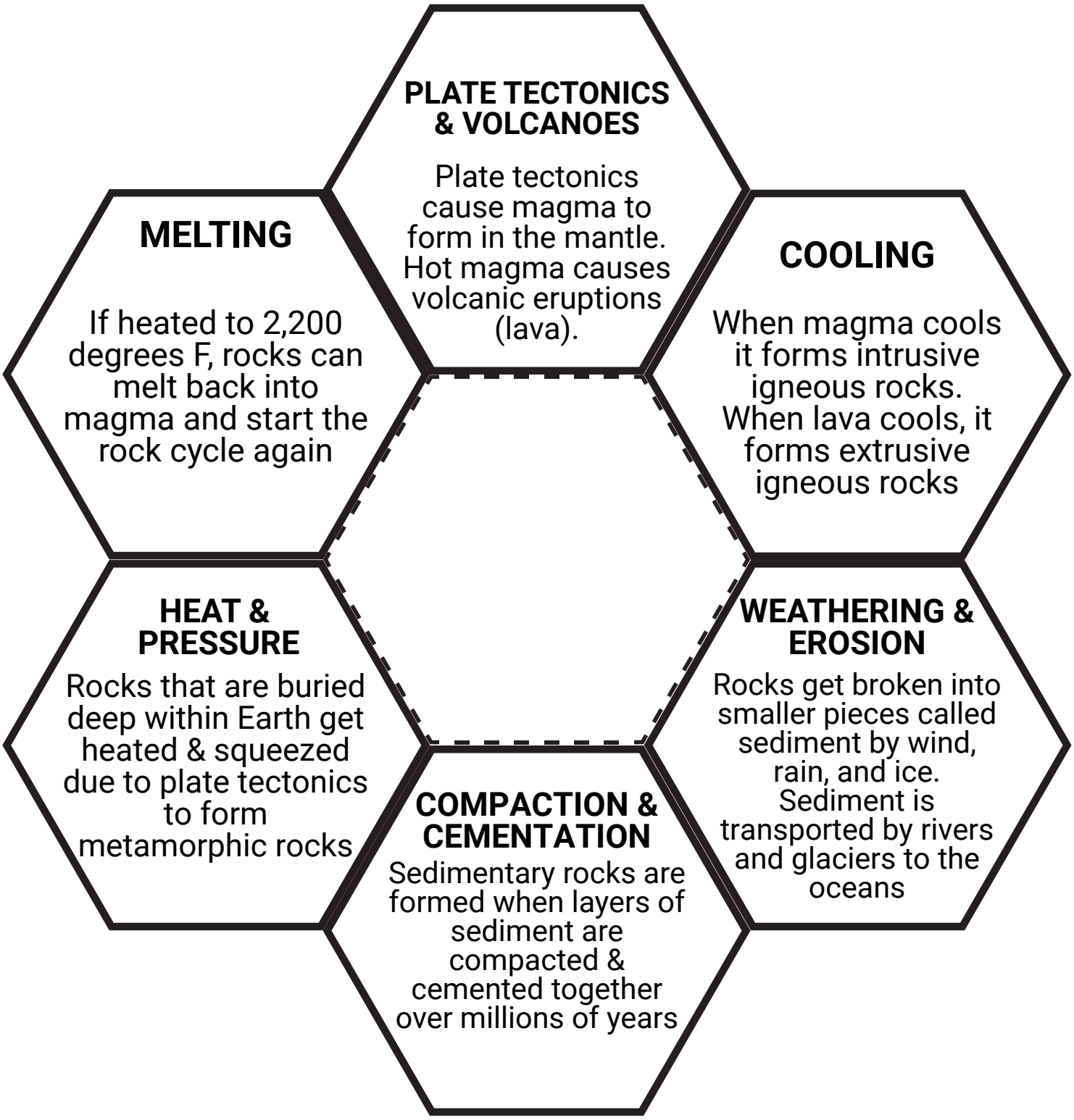


PLATE TECTONICS & VOLCANOES
Plate tectonics cause magma to form in the mantle. Hot magma causes volcanic eruptions (lava).
COOLING
When magma cools it forms intrusive igneous rocks. When lava cools, it forms extrusive igneous rocks
WEATHERING & EROSION
Rocks get broken into smaller pieces called sediment by wind, rain, and ice. Sediment is transported by rivers and glaciers to the oceans
COMPACTION & CEMENTATION
Sedimentary rocks are formed when layers of sediment are compacted & cemented together over millions of years
HEAT & PRESSURE
Rocks that are buried deep within Earth get heated & squeezed due to plate tectonics to form metamorphic rocks
MELTING
If heated to 2,200 degrees F, rocks can melt back into magma and start the rock cycle again

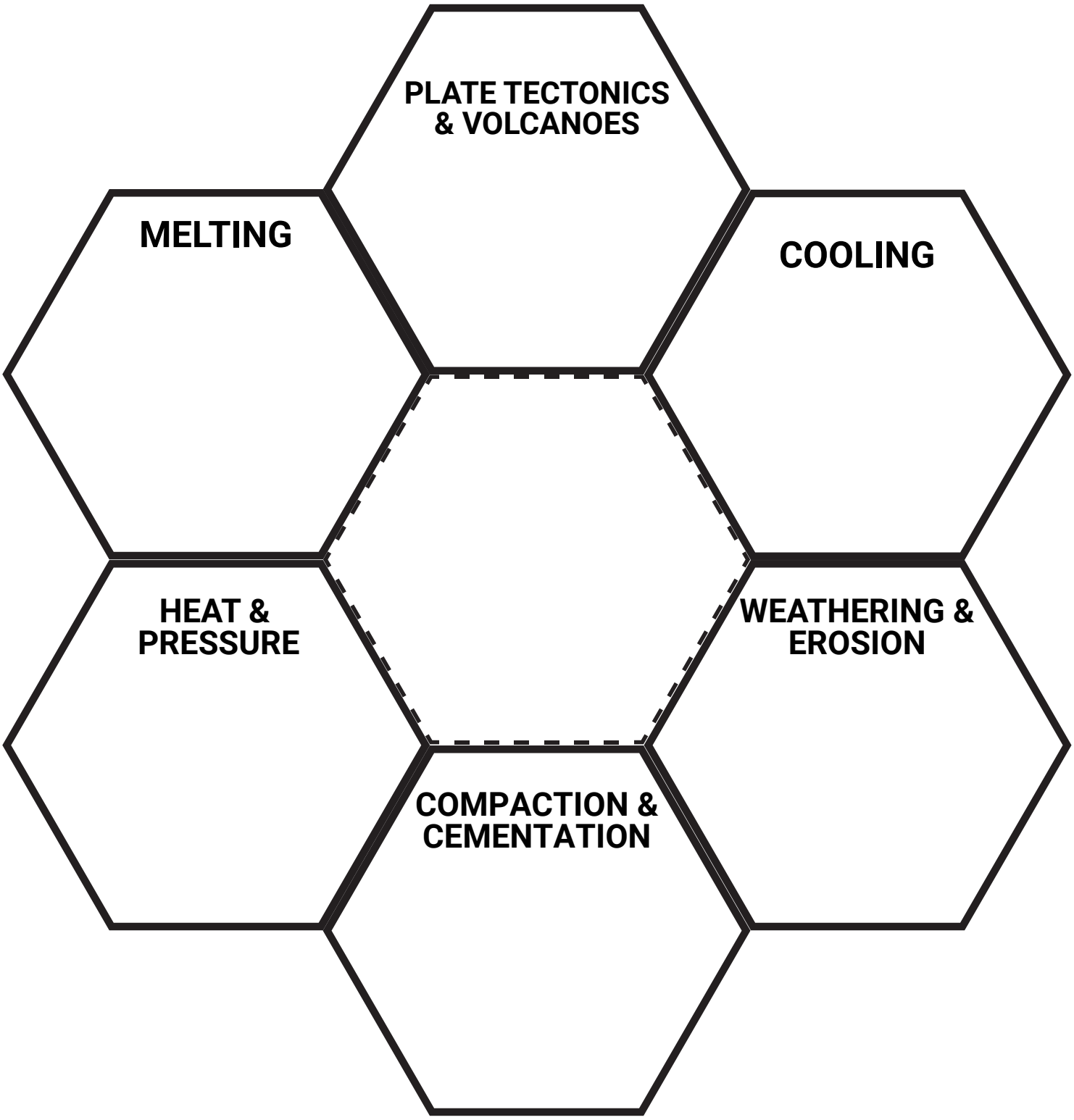
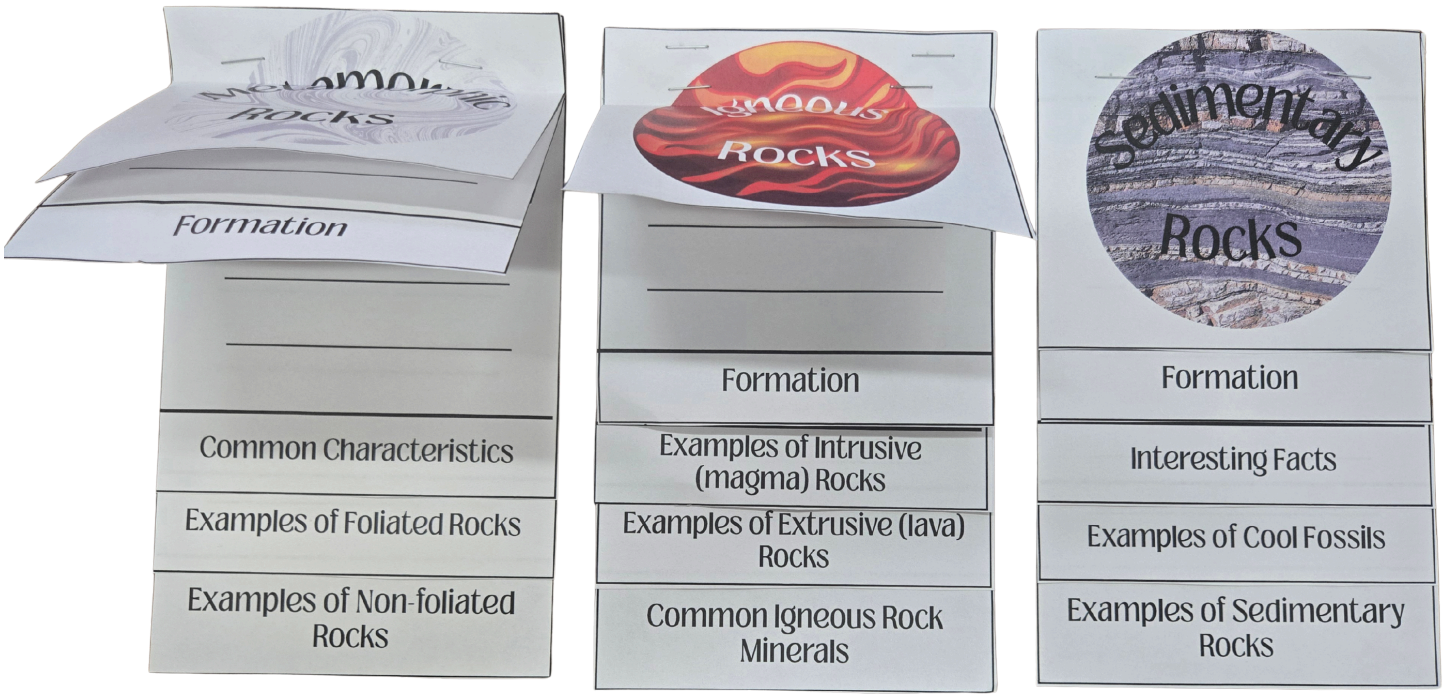


PLATE TECTONICS & VOLCANOES
MELTING
COOLING
HEAT & PRESSURE
WEATHERING & EROSION
COMPACTION & CEMENTATION

Rock Types Foldables

Use these foldables as a teaching device or as a lesson wrap-up / review

ESS.4.2.2: Carry out investigations to classify rocks as metamorphic, sedimentary, or igneous based on their composition, how they are formed, and the processes that create them



Instructions:

1. Each of the three rock types (igneous, sedimentary, metamorphic) has 4 pages per foldable
2. Cut the square image for each rock foldable
3. Cut each subsequent rectangle, starting with Formation. You should end up with one square with a rock type image on it and four rectangles for each foldable, each rectangle being longer than the one before it
4. Glue (or staple) the shapes together where it says 'Glue' so that you get overlapping sheets as seen in the photo above.
5. Students will fill out each page of the foldable as they learn about the three rock types

GLUE

Formation

GLUE

Examples of Extrusive (lava) Rocks

GLUE

Examples of Intrusive (magma) Rocks

GLUE

Common Igneous Rock Minerals

GLUE

Formation

GLUE

Common Characteristics

GLUE

Examples of Foliated Rocks

GLUE

Examples of Non-foliated Rocks

GLUE

_____

_____

_____

Formation

GLUE

Interesting Facts

GLUE

Examples of Cool Fossils

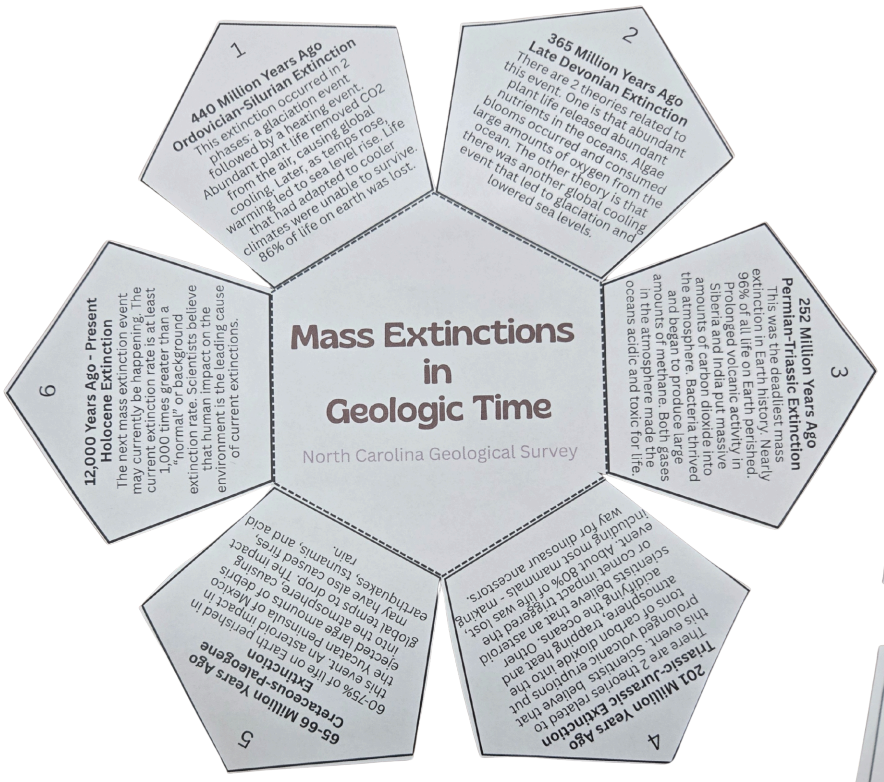
GLUE

Examples of Sedimentary Rocks

Mass Extinctions Foldable

Use this foldable as a teaching device or as a lesson wrap-up / review

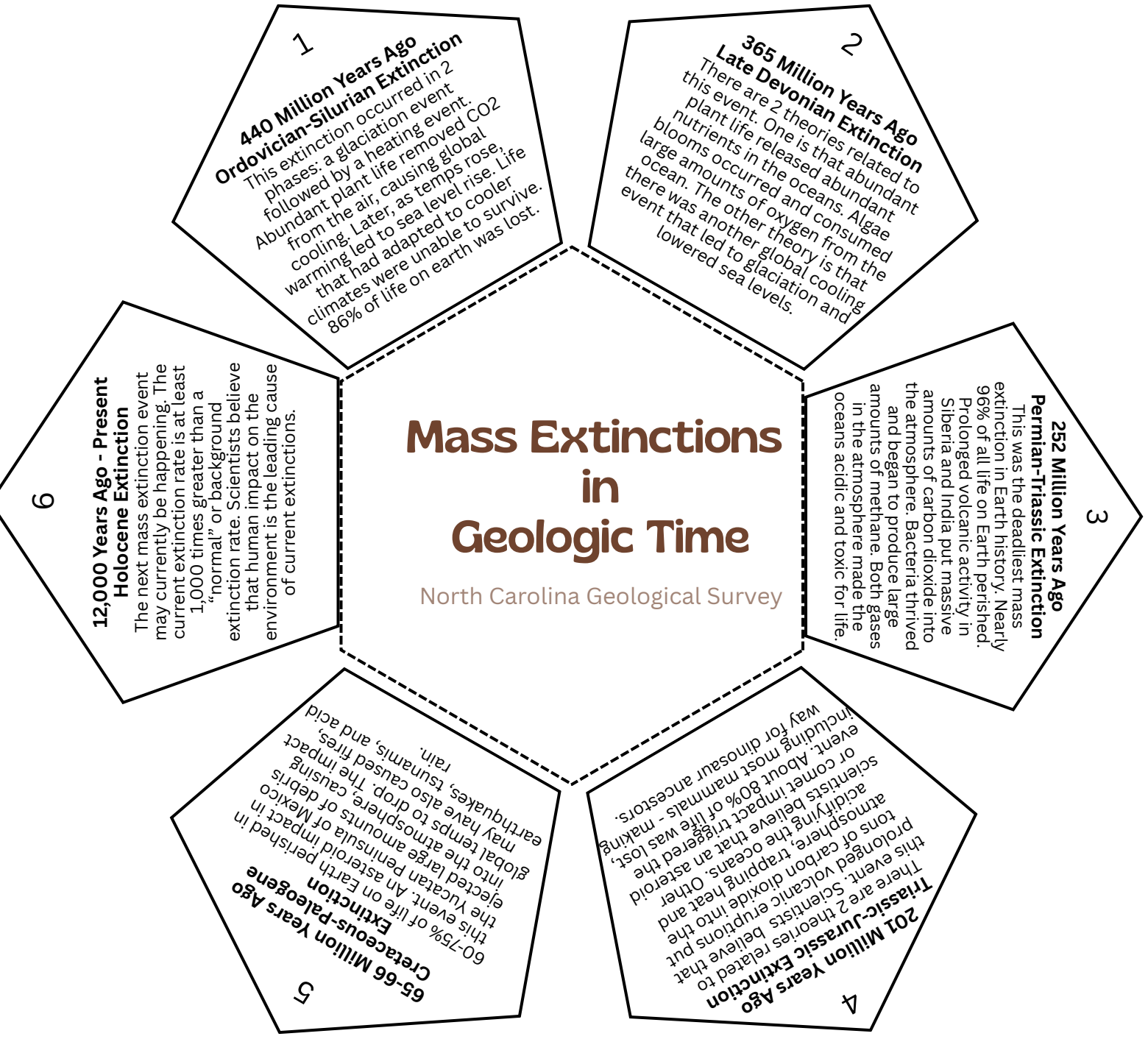
ESS.8.1: Understand the history of Earth and its life forms based on evidence of change recorded in fossil records and landforms.



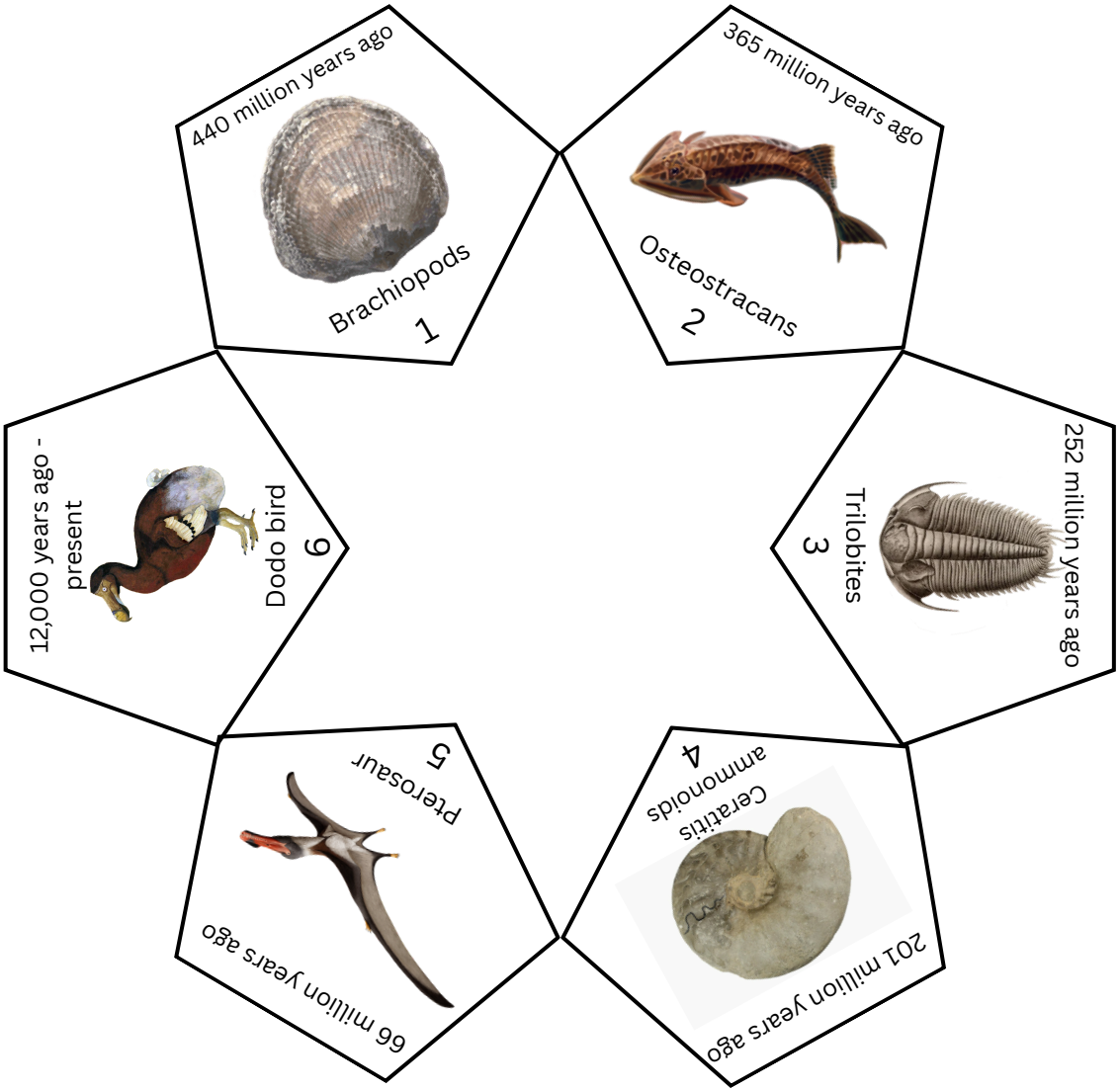
Instructions:

1. There is only 1 graphic for this foldable (the one with the mass extinction info). The other graphic with the pictures is an example of what the students can draw, attach, glue, or sketch on the opposite sides of the flaps
2. Cut out around the outsides of entire images (both the graphic and the one with images) on the next pages
3. Cut in between the pentagons, along the solid lines (not dashed lines)
4. The pentagons can be folded inside or outside along the dotted lines - just like a flower

Inside of flaps



Outside of flaps
Examples



Layers of Earth Foldable

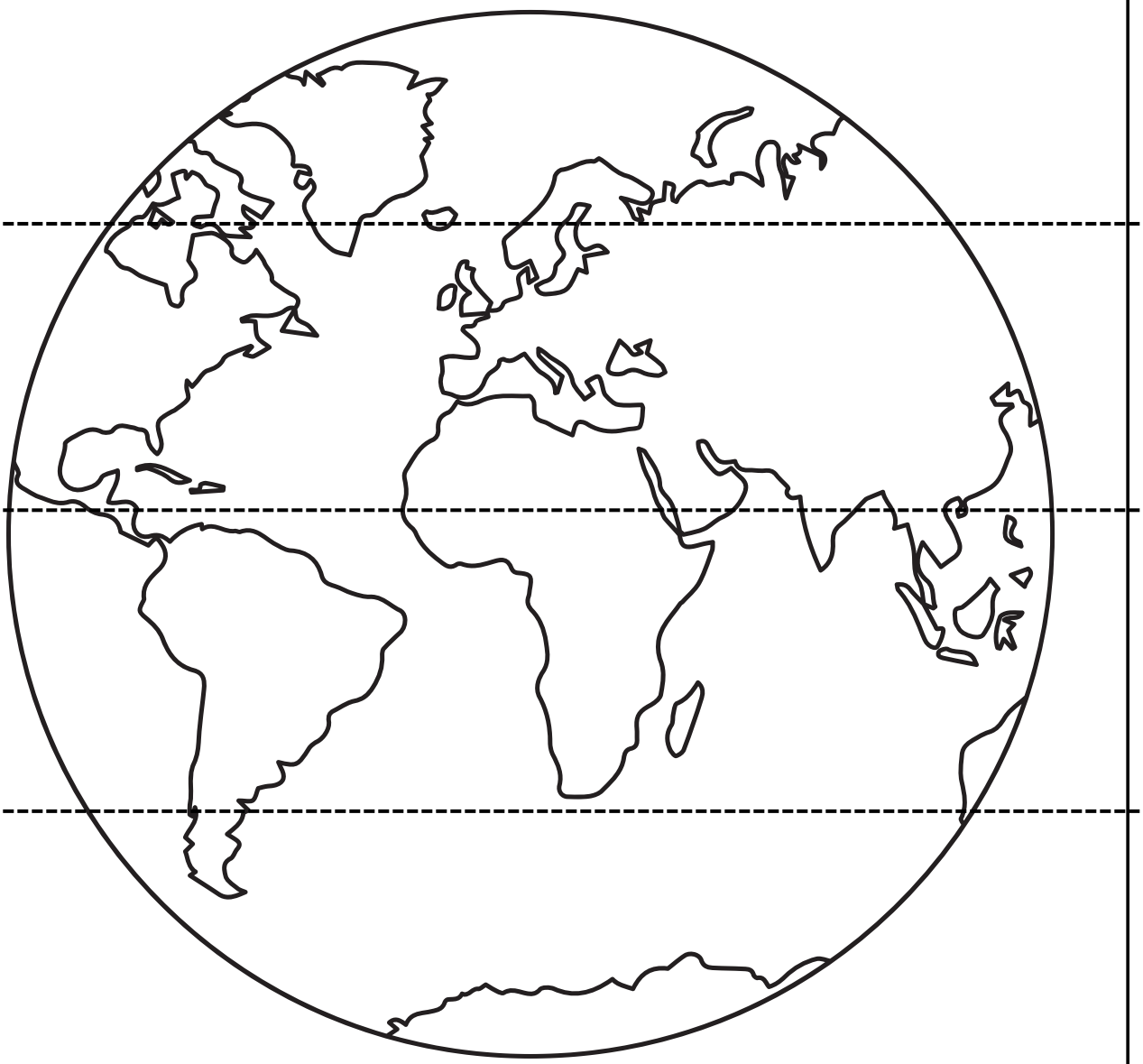
Use this foldable as a teaching device or as a lesson wrap-up / review

ESS.6.2.1: Use models to summarize the structure of the earth, including the layers, the mantle and core based on the relative position, composition, and density

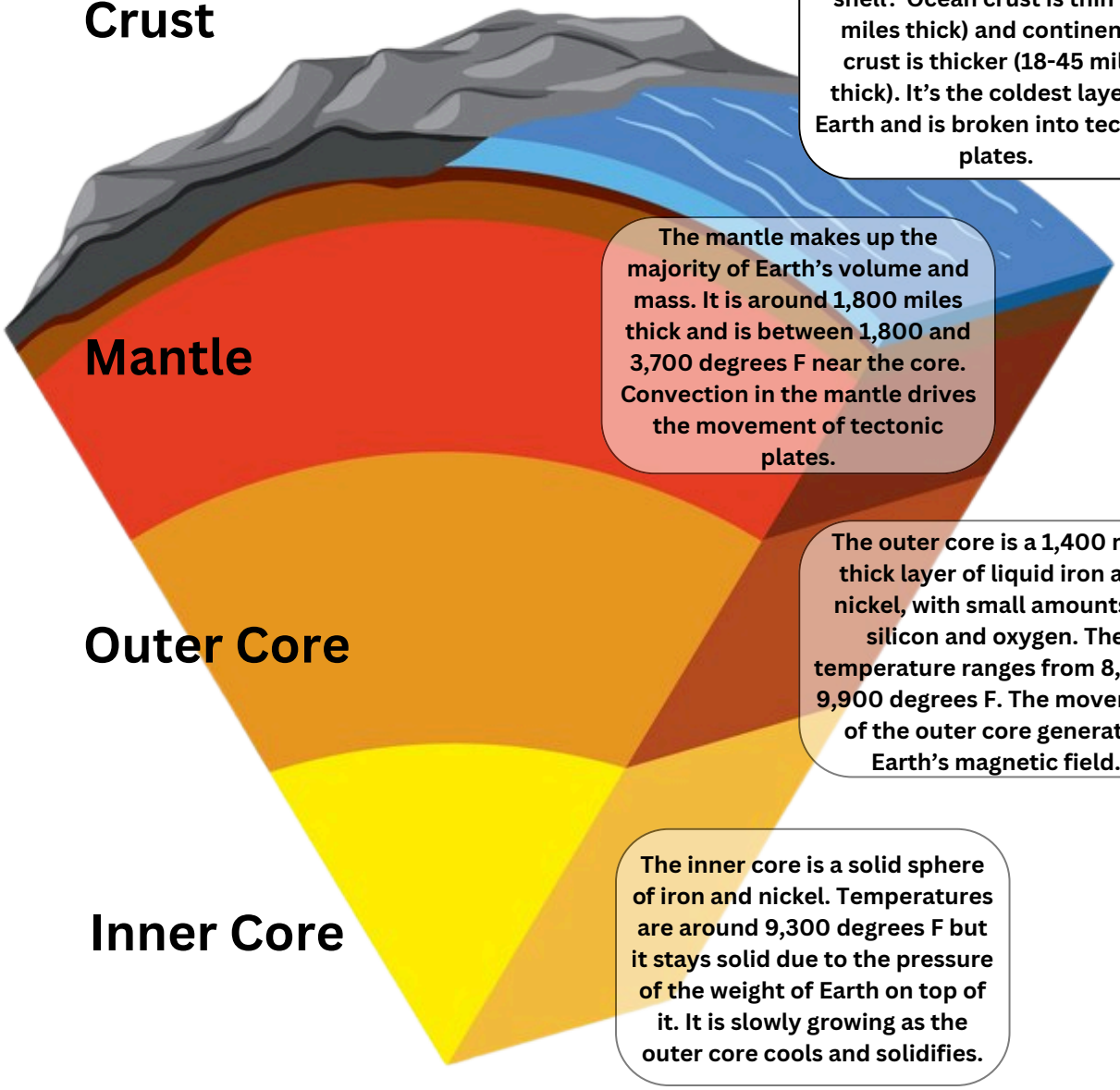
Instructions:

1. Cut out the 3 graphics in the pages below, only along the outside square of each
2. On the first graphic ONLY (the graphic with 'Layers of Earth' and the globe), cut along the dashed lines to create 4 flaps as shown above
3. Glue the left side of the filled out, color graphic beneath the first (flapped) layer or you can glue the blank, color graphic beneath and have the students fill out the information about Earth's layers
4. Fold the flaps to reveal information about the layers of Earth

Layers of Earth



North Carolina Geological Survey



The crust is Earth's outmost 'shell'. Ocean crust is thin (3-6 miles thick) and continental crust is thicker (18-45 miles thick). It's the coldest layer of Earth and is broken into tectonic plates.

The mantle makes up the majority of Earth's volume and mass. It is around 1,800 miles thick and is between 1,800 and 3,700 degrees F near the core. Convection in the mantle drives the movement of tectonic plates.

The outer core is a 1,400 mile thick layer of liquid iron and nickel, with small amounts of silicon and oxygen. The temperature ranges from 8,000-9,900 degrees F. The movement of the outer core generates Earth's magnetic field.

The inner core is a solid sphere of iron and nickel. Temperatures are around 9,300 degrees F but it stays solid due to the pressure of the weight of Earth on top of it. It is slowly growing as the outer core cools and solidifies.