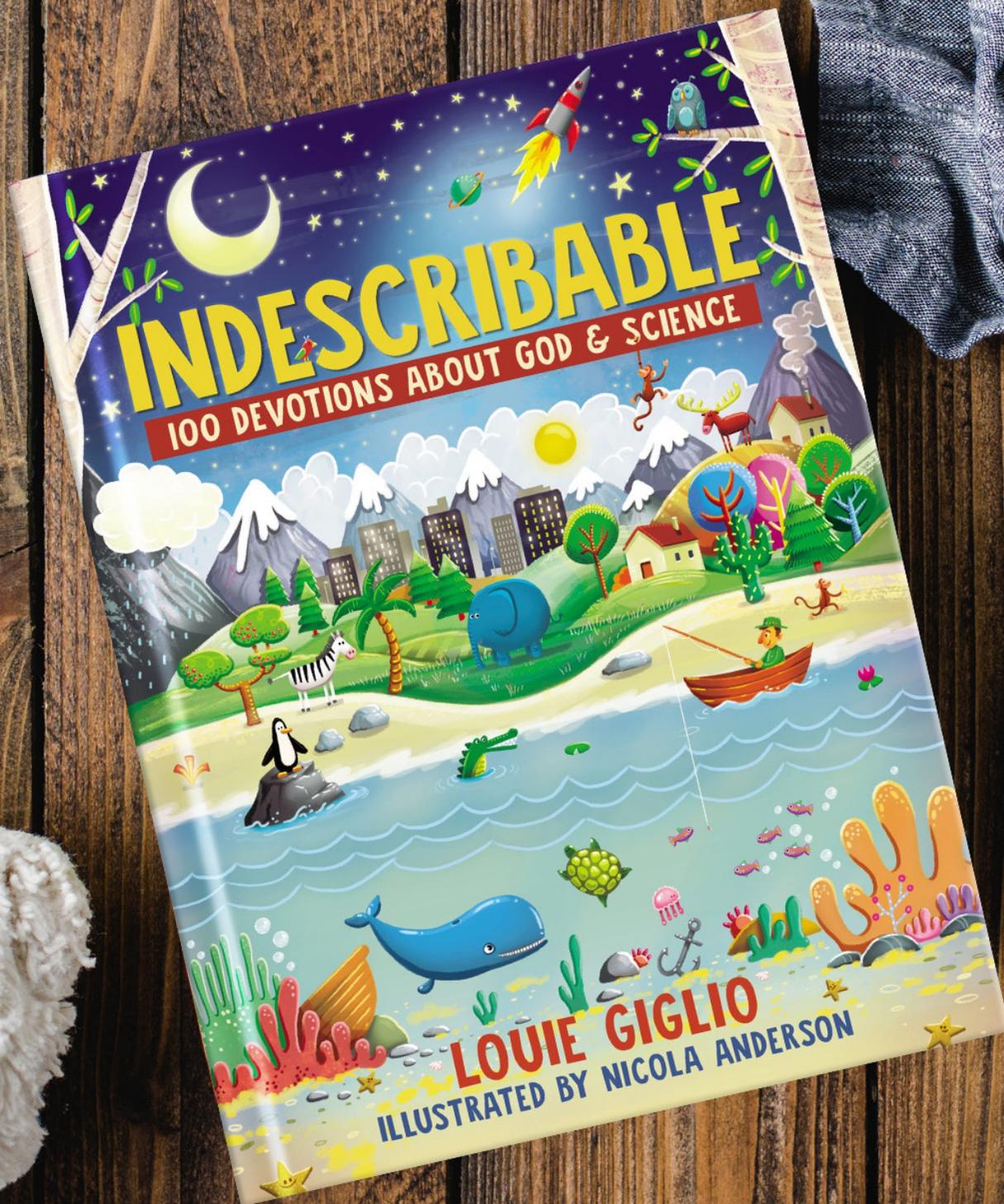


EDUCATOR'S GUIDE



TITLE: INDESCRIBABLE

AUTHOR: LOUIE GIGLIO

(Genre: Non-Fiction) Lexile: 900-1000L

Suggested Grade Level	Shared Reading: 3rd grade Independent Reading: 5th grade
Major Topics	<ul style="list-style-type: none">• Space• Earth• Animals• People
Enduring Understanding	Looking closely at our universe will tell us more about God and allow us to know him better.
Essential Questions	<ol style="list-style-type: none">1. Who created the entire awesome universe and everything in it?2. Why is it important to spend time exploring and learning about everything God has made?3. How can looking at real-life pictures and illustrations and learning about scientific facts help us to know our Creator better?

TASK 1

Standard Strand	Reading Literature
Standard Category	Key Ideas and Details
Task 1 Objectives	<ul style="list-style-type: none">• Students will identify the main idea of a text.• Students will provide a statement summarizing the important information.
Task 1	<p>Devotional Journal</p> <p>A great way to track your learning is by journaling what you have discovered. Journaling allows time to think about what you've read and how you can apply it to your life.</p> <p>This devotional journal follows the same four divisions as the book. Use this source to guide your learning as you read through it. If you want to read it cover to cover, just switch your journal to the appropriate page for that day. It is designed for you to print it off in its entirety and use it to guide your learning as you read through it.</p> <p>Outline:</p> <ol style="list-style-type: none">1. Page number<ol style="list-style-type: none">a. Identify the current day's page number.2. Scripture<ol style="list-style-type: none">a. Write down the Scripture located at the beginning of each devotional.3. Facts about God's creation<ol style="list-style-type: none">a. This is where you write down the overall scientific idea for the day.b. Here you could make lists of facts, write sentences, or draw pictures.4. How is God revealed through science?<ol style="list-style-type: none">a. Write down how God shows himself through science.5. How can I apply this to my life?<ol style="list-style-type: none">a. Write down how you plan to use this knowledge about God in your life.b. Here you could write prayers, thoughts, wonderings, and ideas you may have.



Page Number

Scripture

Facts about God's creation

How is God revealed through science?

How can I apply this to my life?



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ANIMALS





Page Number

Scripture

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TASK 2

Standard Strand	Writing
Standard Category	Research to Build and Present Knowledge
Task 2 Objectives	<ul style="list-style-type: none">• Identify topics to conduct short research projects that build general knowledge.• Gather information from print and digital sources.
Task 2	<p>Our God is limitless, and this devotional touches on numerous scientific topics, some of which you may not have known about. This activity using a K-W-L graphic organizer will allow you to keep track of the topics you are interested in knowing more about.</p> <p>Outline:</p> <ol style="list-style-type: none">1. Topic<ol style="list-style-type: none">a. Identify the topics you're interested in learning more about.2. What do I already know?<ol style="list-style-type: none">a. Write down what information you already know about the topic.3. What do I want to learn?<ol style="list-style-type: none">a. Write down any specifics you want to learn about.4. What did I learn?<ol style="list-style-type: none">a. Write down some of the information you learned after researching the topic.

SPACE



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SPACE

Topic	What do I already know?	What do I want to learn?	What did I learn?



EARTH



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EARTH



Topic

What do I already know?

What do I want to learn?

What did I learn?

Topic	What do I already know?	What do I want to learn?	What did I learn?



ANIMALS

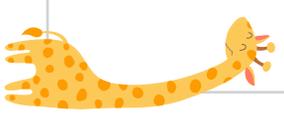


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ANIMALS

Topic	What do I already know?	What do I want to learn?	What did I learn?



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PEOPLE

Topic	What do I already know?	What do I want to learn?	What did I learn?



TASK 3

Students who demonstrate understanding can:

MS-ESS2-3 - Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.

<p>Science and Engineering Practices</p>	<p>Analyzing and Interpreting Data</p> <p>Analyzing data in 6-8 builds on K-5 experiences and progresses to extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis.</p> <ul style="list-style-type: none"> Analyze and interpret data to provide evidence for phenomena. <hr/> <p>Connections to Nature of Science</p> <p>Scientific Knowledge is Open to Revision in Light of New Evidence</p> <ul style="list-style-type: none"> Science findings are frequently revised and/or reinterpreted based on new evidence.
<p>Disciplinary Core Ideas</p>	<p>ESS1.C: The History of Planet Earth</p> <ul style="list-style-type: none"> Tectonic processes continually generate new ocean sea floor at ridges, and destroy old sea floor at trenches. (<i>HS.ESS1.C GBE</i>), (<i>secondary</i>) <p>ESS2.B: Plate Tectonics and Large-Scale System Interactions</p> <ul style="list-style-type: none"> Maps of ancient land and water patterns, based on investigations of rocks and fossils, make clear how Earth's plates have moved great distances, collided, and spread apart.
<p>Crosscutting Concepts</p>	<p>Patterns</p> <ul style="list-style-type: none"> Patterns in rates of change and other numerical relationships can provide information about natural systems.

TASK 3

PLATE TECTONICS

Accompanies devotion #27, "I Feel the Earth Move Under My Feet"

The devotion begins to describe how tectonic plates move and shift over time. In this experiment you will learn more about the three types of tectonic plate boundaries.

MATERIALS

- 1 cup of Cool Whip or whipped cream
- 1 plate
- 2 graham crackers
- Red food coloring
- Orange food coloring
- 1 small bowl or cup of water
- Information sheet
- Scientific observation sheet

DIRECTIONS FOR ACTIVITY

1. Using the plate, mix the whipped cream and 3 drops of the red food coloring. Add 3 drops of the orange food coloring and mix well. The color should be a fiery red that resembles the earth's hot mantle core.
2. Using the information and observation graphic organizer, follow the directions that apply for each boundary and zone.

PLATE TECTONICS

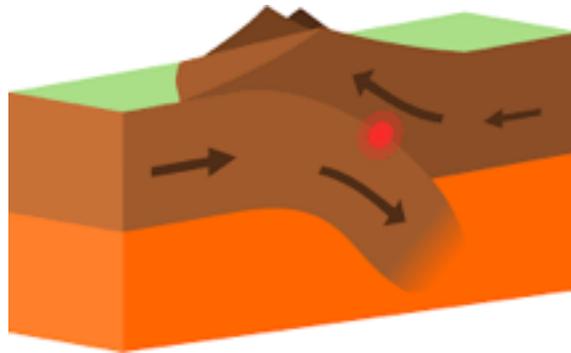
INFORMATION SHEET

Plate Tectonics:

Scientists believe heat from the earth's mantle is the main source driving plate tectonics. Plate tectonics is considered a theory of geology, and it helps to explain the earth's movement from a larger scale.

Convergent Boundaries:

A convergent boundary is where two or more tectonic plates collide with each other, causing massive earth movements. Because of the pressure, friction, and plate material melting in the mantle, earthquakes and volcanoes are common near convergent boundaries. The Himalayan Mountains are an example of this type of collision.



Divergent Boundaries:

A divergent boundary is formed when two or more plates are forced apart from each other because of plate tectonics. When these plates are forced apart, water or magma fills the empty space. If the space is filled with magma, when it cools new land is formed.

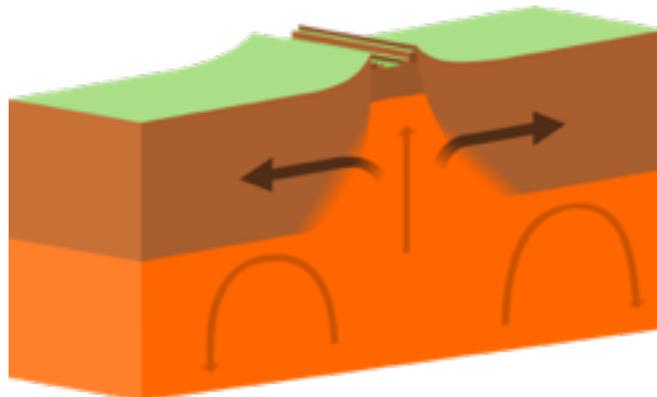
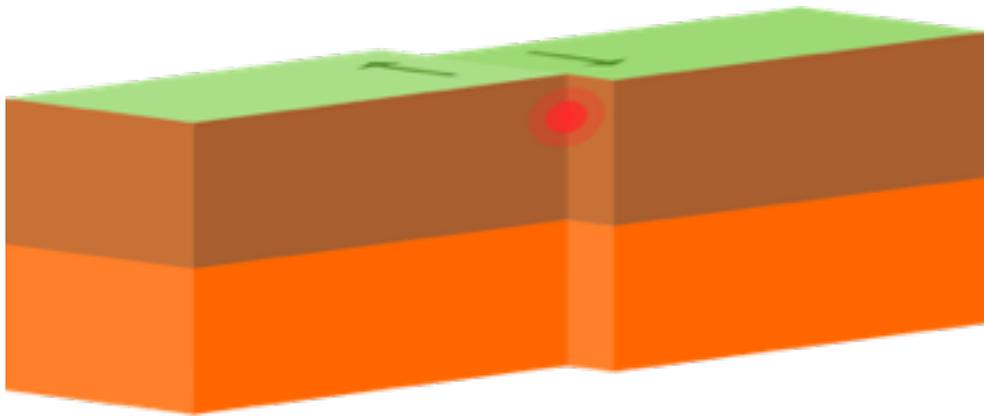


PLATE TECTONICS

INFORMATION SHEET

Transform Boundaries:

A transform boundary occurs when two plates grind past each other; this is called a fault. A fault is caused when shear stress on a rock overcomes the forces that held it together. A transform boundary is a fault in which the relative motion is horizontal. The San Andreas Fault is a famous example of this type of boundary.



Name: _____

EXPERIMENT I: TRANSFORM BOUNDARIES

Directions for Transform boundary:

1. Take a graham cracker and break it in half to form two squares.
2. Place each graham cracker onto the plate with the whipped cream towards the center of the plate side by side.
3. Gently push the graham crackers together, then slowly slide one up and the other one down.
4. Repeat up and down motion 2-3 times.
5. Leave graham crackers on the plate.
6. Fill in the boxes on the observation sheet.

What do you know about a transform boundary?

What did you observe about how a transform boundary looks?

What did you observe about how a transform boundary feels?

What did this activity teach you about how transform boundaries were created?

Name: _____

EXPERIMENT 2: DIVERGENT BOUNDARIES

Directions for divergent boundary:

1. Use the same graham cracker pieces.
2. All in one motion, gently press down and then apart towards the outside of the plate.
3. Leave graham crackers on the plate.
4. Fill in the boxes on the observation sheet.

What do you know about a divergent boundary?

What did you observe about how a divergent boundary looks?

What did you observe about how a divergent boundary feels?

What did this activity teach you about how divergent boundaries were created?

Name: _____

EXPERIMENT 3: CONVERGENT BOUNDARIES

Directions for convergent boundary:

1. Pick up both of the graham crackers from the plate.
 - a. Notice: if your current graham crackers are very soggy please use the other graham cracker you have available.
 - b. If you use a new graham cracker please make sure you break it in the same manner as the first.
2. Quickly dip and hold one half of each graham cracker in the small bowl or cup of water for 3-5 seconds.
3. After dipping, place each graham cracker with the soggy sides barely touching each other back on the plate.
4. To model when two continental plates collide to form mountains, gently push the soggy sides together and watch them fold.
5. Fill in the boxes on the observation sheet.

What do you know about a convergent boundary?

What did you observe about how a convergent boundary looks?

What did you observe about how a convergent boundary feels?

What did this activity teach you about how convergent boundaries were created?