Name:_____ **Date:**_____

Grade and Section:_____

🧠 We Seek Knowledge Indeed!

👋 Welcome to this interactive worksheet!

In this activity, you'll take on the role of a young geoscientist as you **simulate the different processes that happen along plate boundaries**—using a fun and delicious tool: **Oreo or Presto Cream Cookies!**

Through this hands-on experience, you'll **observe**, **predict**, and **illustrate** what forms or happens in these dynamic areas of the Earth's crust.

You'll also enhance your understanding by:
✅ Creating simple drawings of each simulation
✅ Answering guide questions
✅ Using your creativity and observation skills

🧰 Materials You Will Need:

- ✨ **2 packs of Oreo Cookies** *(or any cream-filled cookies like Presto)*
- 📝 Paper
- ✏️ Pen or pencil
- 🎨 Coloring materials (optional but encouraged for your drawings!)

Ready to explore the Earth's mighty movements in a tasty and creative way? Let's begin!

Activity 1: Convergent Boundary

Procedure:

1. **Carefully twist and remove** the **top biscuit** of one Oreo cookie. Set it aside—this will become your "tectonic plate."
2. **Break the top biscuit** (the one without the cream) **in half**. These two pieces will represent **Plate A** and **Plate B**.
3. **Place both broken pieces** gently on top of the **bottom cookie layer** (the one with the cream still intact). This creamy part represents the **Earth's asthenosphere**—the soft layer that tectonic plates move over.
4. **Slowly press down** on both biscuit halves, and **gently push them toward each other** at the center.

5. As they meet, you'll notice that **one half slides beneath the other**—just like what happens during **subduction** at a convergent plate boundary!
6. **In the space below, draw what your biscuit model looked like after completing the activity.** Make sure to include **labels** showing the parts. Be as neat and creative as you can! 🎨🖍️

Drawing

Questions:

1. What type of plate is the top part of the biscuit?

_____

2. Describe what happens to Plate A as it collides with Plate B? Why?

_____

_____

3. What do you think may happen to the leading edge of Plate A as it continues to move downward? Why?

_____

_____

4. What do you call this molten material? _____

5. As the plates continue to grind against each other, what other geological events could take place? Explain.

_____

_____

Activity 2: Divergent Boundary

Procedure:

1. Carefully twist and remove the top biscuit of an Oreo cookie. Set it aside for now.
2. Break the top biscuit in half. These two halves will represent **tectonic plates** moving away from each other.
3. Place both broken pieces gently on top of the bottom biscuit with the creamy white center. This creamy layer represents the **asthenosphere** beneath the Earth's crust.
4. Press down gently on each half of the biscuit. Then, **slowly slide them apart**—pushing them **away from each other in opposite directions**.
5. Observe what happens as the plates move apart: The cream may stretch or separate, simulating how **magma rises** from beneath the Earth's surface to form **new crust**, such as **mid-ocean ridges** or **rift valleys**.
6. In the space below, draw what your biscuit model looked like after completing the activity. Make sure to include **labels** showing the parts. Be as neat and creative as you can! 🎨🖍️

Drawing

Questions:

1. What does Plate A represent? _____

2. What happened to the creamy white center of the two broken biscuits as you pressed?

_____

_____

3. What landform is being formed in this kind of plate boundary?

_____

_____

Activity 3: Transform-Fault Boundary

Procedure:

1. Gently twist and remove the top biscuit of an Oreo cookie. Set it aside for the simulation.
2. Break the top biscuit in half. These two halves will represent two **tectonic plates** moving past each other.
3. Place the broken biscuit halves carefully on top of the remaining biscuit with the creamy center. This bottom part represents the **asthenosphere**.
4. While **gently pressing down** on both biscuit halves, **slide one half toward you** and **the other half away from you**. This will cause the biscuits to **grind against each other**, just like what happens along a **transform boundary**.
5. Observe what happens as the plates grind: The edges may break or crumble slightly, simulating the **intense friction** and **stress** that builds up along transform faults—often leading to **earthquakes**.
6. In the space below, draw what your biscuit model looked like after completing the activity. Make sure to include **labels** showing the parts. Be as neat and creative as you can! 🎨🖍️

Drawing

Questions:

1. Provide an example of a location where this type of boundary is found on Earth. (Recall your previous lessons). _____

2. What real geologic event is simulated when the crackers finally move past each other? _____

3. What will happen to the crackers when the pressure is increased? Explain how this is similar to the situation along the San Andreas Fault.

_____

_____