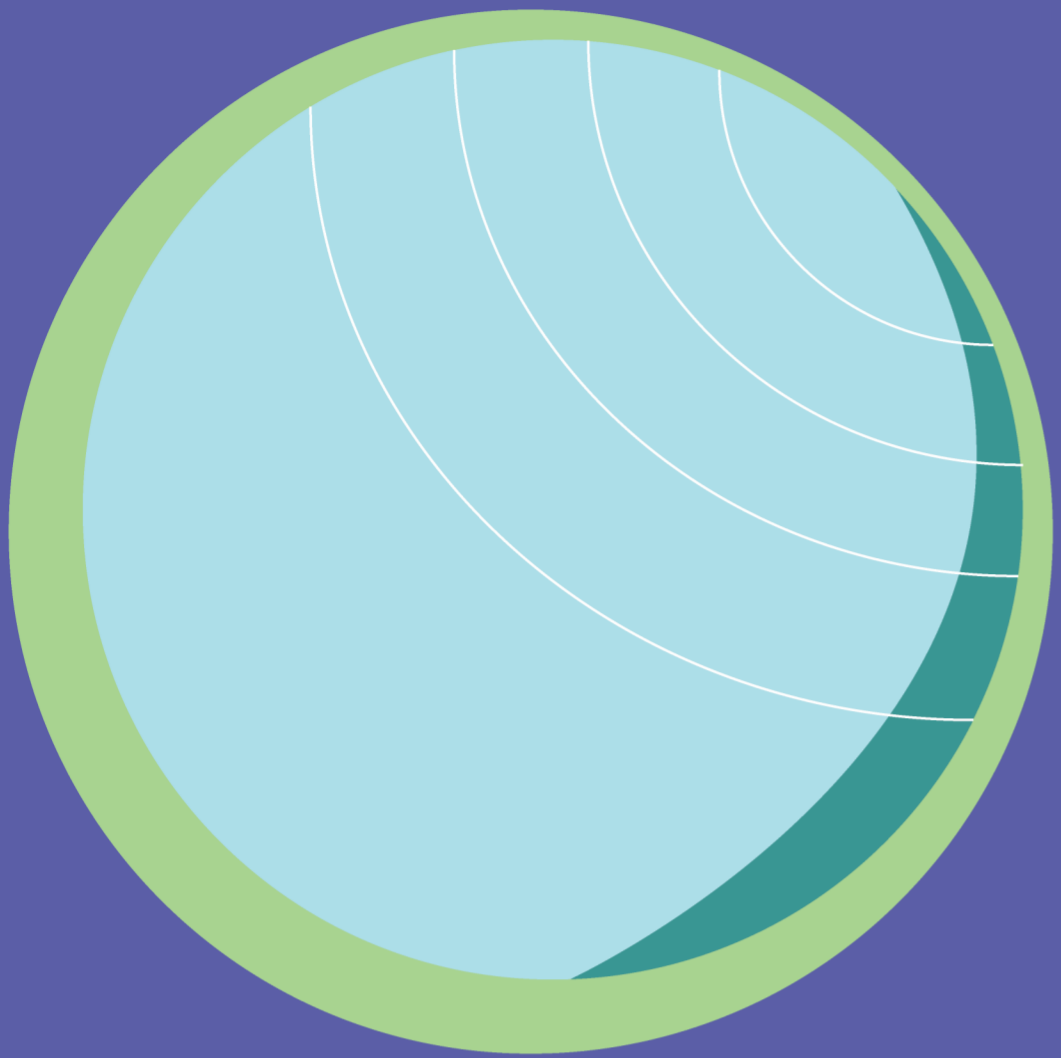


WHAT IS GEODESY?

Simply put, **Geodesy** is the science of **measuring Earth**. Geodesists and other scientists can learn a lot by studying our planet's **size, shape, orientation, and gravity**.

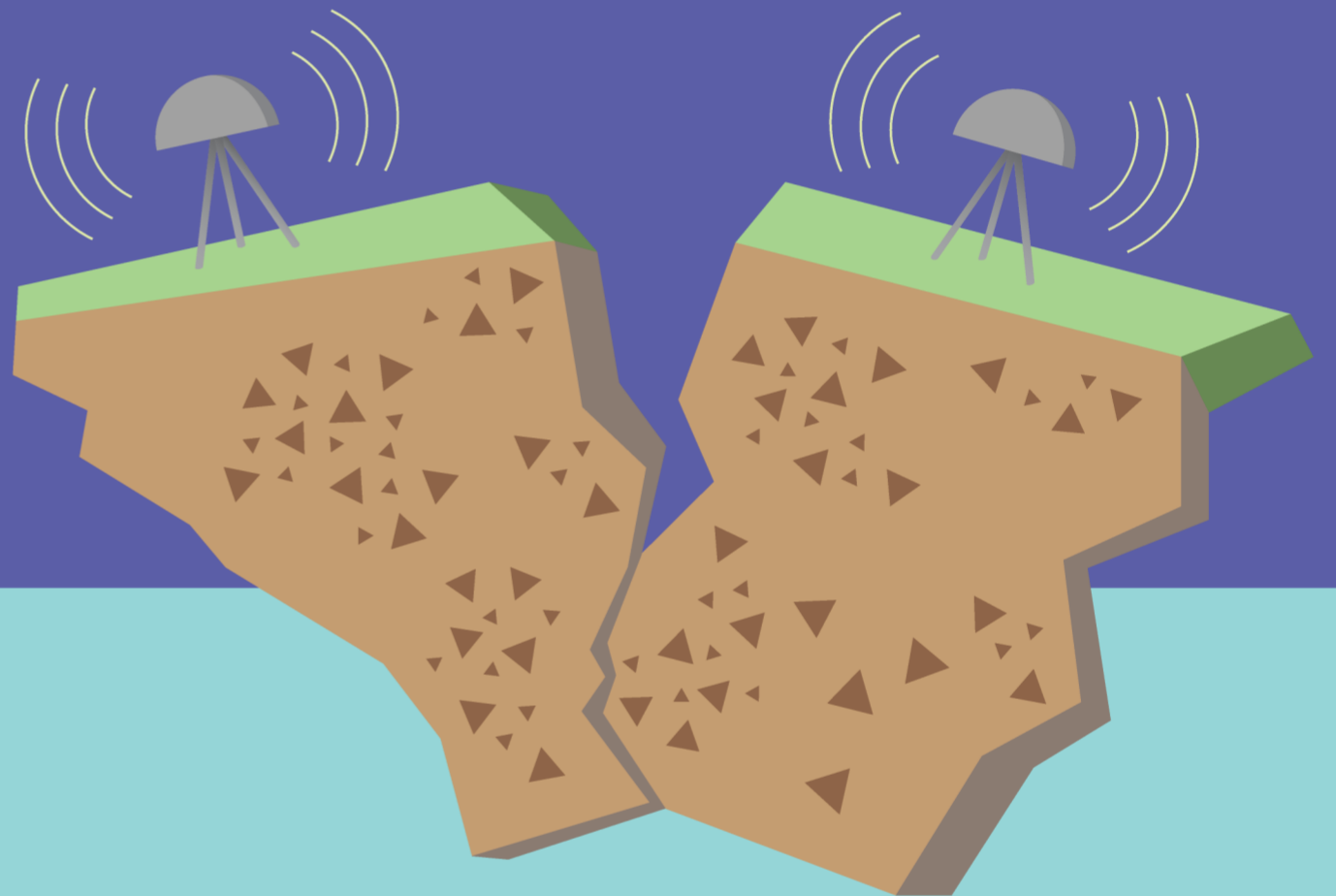


DON'T WE ALREADY KNOW EARTH'S SHAPE AND SIZE?

Actually, our planet is **constantly changing**, even though we may not feel it. Earth is made up of **many moving parts**, and studying how everything moves in relation to each other is important for understanding **processes that affect us all**.

IF WE CAN'T FEEL IT, HOW DO WE KNOW THE EARTH IS CHANGING?

Scientists can use geodetic tools, such as **satellites, GPS, laser scanners**, and even **drones** to see small changes that have big impacts over time.



IS GEODESY A NEW THING?

Geodesy dates back to at least **ancient Greece**, when Eratosthenes used measurements of **shadows** to calculate the circumference of Earth.



HOW DOES GEODESY WORK?

Geodesy is all about **precision**. If scientists know the exact location of their equipment down to the **millimeter**, geologic processes invisible to the eye can be observed by studying how that position changes over time.

WHAT CAN WE DO WITH GEODESY?

Scientists use geodetic measurements to observe polar ice conditions, which affect global climate and sea level.

By measuring sea level changes, floating GPS stations can be used to warn people about tsunamis before they hit coastal communities and cause damage.

Volcanologists can forecast eruptions by using geodetic tools to detect when the ground begins to inflate due to pressure buildup underground.

By using laser scanning tools, scientists can create 3D models of surfaces prone to landslides and detect ground movement.

