

Materials Needed:

- Playdough (at least 4 colors: e.g., blue/green for crust, red for mantle, orange for outer core, yellow for inner core)
- Plastic knife or rolling pin (optional, for playdough)
- Paper
- Crayons or colored pencils
- A round object to trace (like a small plate or lid)

Journey to the Center of the Earth!

Have you ever wondered what's deep, deep down under your feet? If you could dig a hole to the very center of the Earth, what would you find? It's not just dirt and rocks all the way down! The Earth is made up of different layers, kind of like an onion or a jawbreaker candy. Today, we're going on an imaginary journey to explore these layers, especially the super hot center: the Earth's Core!

Activity 1: Edible Earth (or Playdough Planet!)

Let's build our own Earth! Grab your playdough.

1. **Inner Core:** Make a small ball with your yellow playdough. This is the Inner Core! It's solid metal (mostly iron and nickel) and incredibly hot – hotter than the surface of the sun! Even though it's so hot, the intense pressure keeps it solid.
2. **Outer Core:** Flatten your orange playdough and wrap it around the yellow inner core ball. This is the Outer Core. It's also made of metal (iron and nickel), but it's so hot that the metals are liquid! This liquid layer flows around, creating Earth's magnetic field.
3. **Mantle:** Flatten your red playdough (make this layer pretty thick!) and wrap it around the orange outer core. This is the Mantle. It's the thickest layer, made of hot, dense rock that flows very slowly, like thick taffy.
4. **Crust:** Flatten your blue/green playdough very thinly and wrap it around the red mantle. This is the Crust! It's the thin, rocky outer layer we live on, including the continents and the ocean floor.
5. **Look Inside:** If you carefully cut your playdough Earth in half with a plastic knife (ask for help if needed), you can see all the layers you made!

Understanding the Layers

Let's review what we learned:

- **Crust:** Thin, rocky outer layer (where we live).
- **Mantle:** Thick layer of hot, slowly flowing rock.
- **Outer Core:** Liquid metal layer (iron & nickel). Creates the magnetic field. Super hot!
- **Inner Core:** Solid metal ball (iron & nickel) at the very center. Hottest layer, but solid due to pressure.

The **Core** (both inner and outer together) is like the engine of our planet. It's incredibly hot and dense!

Activity 2: Draw the Earth's Layers

Now, let's draw what we learned!

1. Trace a circle on your paper.
2. Inside the big circle, draw three smaller circles, one inside the other, like a target.
3. Label the very center circle 'Inner Core' and color it yellow.
4. Label the next ring 'Outer Core' and color it orange.
5. Label the next ring 'Mantle' and color it red.
6. Label the thin outermost ring 'Crust' and color it brown or blue/green.
7. Add little drawings on the crust like houses, trees, or oceans!

Fun Facts about the Core!

- The Earth's core is about as hot as the surface of the Sun (around 10,000 degrees Fahrenheit or 5,500 degrees Celsius)!
- The Inner Core is mostly iron and nickel.
- Scientists learn about the core by studying earthquake waves, which travel differently through solid and liquid layers.
- Earth's magnetic field, created by the Outer Core, protects us from harmful solar radiation.

Conclusion

Wow! We took an amazing journey to the center of the Earth today without even leaving home! You learned about the different layers hidden beneath our feet, especially the super hot, metallic Outer and Inner Core. Isn't Earth Science fascinating?

Can you name the four layers of the Earth from the outside in? What's one cool fact you learned about the core?