Name _____

How Earth's Rotation Creates Time Zones

Earth spins on its axis once every 24 hours. Because of this, sunlight reaches different parts of the planet at different times. This rotation is the main reason we need time zones. In this activity, you will connect causes (what happens because of Earth's movement) with their effects (the results humans experience).

Directions: Below are **cause-and-effect chains** with missing pieces. Fill in the blanks to show the sequence of how Earth's rotation leads to differences in local time around the world.

Chain 1

Cause: Earth rotates from west to east →
Effect 1: The Sun appears to rise in the _____ and set in the _____ →
Effect 2: Different places experience daylight at different _____.

Chain 2

Cause: Earth completes one full rotation every _____ hours →
Effect 1: The globe is divided into _____ main time zones →
Effect 2: Each zone is about _____ degrees of longitude wide.

Chain 3

Cause: Local times differ by longitude →
Effect 1: Noon occurs at different clock times in different cities →
Effect 2: To avoid confusion, nations agreed on a system of _____ _____.

Chain 4

Cause: The Prime Meridian was chosen in Greenwich, England →
Effect 1: This became the "zero" point for measuring _____ →
Effect 2: The global standard time reference based on this line is called _____.

Reflection: Why would life be much more confusing if time zones did not exist?