Name _____ Date _____

# Greek Roots bio, geo and graph: Match, Fill and Decode

**Directions:** Learn the Greek roots bio, geo and graph. Then use them to figure out new words. Some questions give the meaning of a second word part. Add it to the root's meaning, and check that the result fits the sentence.

**1.** Match each Greek word part (bio, geo, graph, auto and logy) to its meaning.
Write the letter of the matching answer on each line.

1. _____ bio
2. _____ geo
3. _____ graph
4. _____ auto
5. _____ logy

A. the study of
B. to write or draw
C. light
D. earth
E. self
F. two
G. life

**2.** Choose the bank word that fits each sentence about the museum trip. One word in the bank fits none of the sentences.

**Word bank**

autobiography • geology • biology • biography • geography • autograph

The class trip began in the museum's rock hall. The guide said _____ is the science that studies what rocks are made of and how they form. Then the guide cracked open a stone to show the crystals inside. The pond room was perfect for fans of _____, since every tank held tiny living things. In the map room, students spun a giant globe to practice _____. They found rivers, mountains and countries. The gift shop sold a new _____ of a famous pilot. A reporter wrote it after talking with her family. At the exit, a visiting astronaut signed her _____ on Leo's notebook.

**3.** Read this sentence from a science magazine.

"Young sea turtles cross huge stretches of ocean partly by sensing the *geomagnetic* field."

Whose magnetic field do the turtles sense?

A. Earth's own magnetic field
B. The moon's magnetic field
C. The magnetic field around metal ships
D. The sun's magnetic field

**4.** "Many homes in Iceland are warmed by *geothermal* energy, using hot water pumped up from deep underground."

The Greek root *therm* means heat. Where does geothermal energy come from?

A. Wind blowing across open land
B. Heat from deep inside the earth
C. Wood burned in fireplaces
D. Sunlight that warms the ground

**5.** "The *biosphere* stretches from worms near deep-sea vents to birds on high mountain cliffs."

Using the root *bio*, what is the biosphere?

A. A glass dome where scientists grow plants
B. The solid rock of the planet's crust
C. Every part of the planet where life is found
D. The layer of air around the planet

**6.** During the earthquake, the pen on the *seismograph* swung wildly. It drew tall, jagged lines on the paper.

*Seismo* comes from a Greek word for shaking. What is a seismograph?

A. A shelter that keeps people safe in earthquakes
B. A machine that records how the ground shakes
C. A map that shows where earthquakes have happened
D. A scientist who studies earthquakes

**7.** For many centuries, most sky watchers believed in a *geocentric* model of the universe. Each day, the sun, moon and stars seemed to circle around them.

If *centric* means centered on, what sits at the center of a geocentric model?

A. The moon B. Earth C. The sun D. Jupiter

**8.** *Sym* is a Greek prefix that means together.

"The clownfish and the sea anemone live in *symbiosis*. The fish hides in the anemone's stinging arms. In return, it chases off fish that try to eat the anemone."

What does symbiosis mean?

A. One animal hunting another for food
B. Two animals fighting over the same home
C. Two different living things living closely together
D. A living thing growing all by itself

**9.** On a dark beach, the waves sparkled blue because *bioluminescent* plankton glowed each time the water moved. *Luminescent* means giving off light. What does bioluminescent mean?

A. Reflecting light from the moon
B. Giving off light made by a living thing
C. Glowing because of pollution in the water
D. Needing sunlight to stay alive

**10.** "Mei practiced *calligraphy* for weeks. Now she can letter wedding cards in graceful, curling strokes."

*Calli* comes from the Greek word for beauty. Based on its parts and the sentence, what is calligraphy?

A. A list of guests invited to a party
B. A machine that prints cards quickly
C. The art of beautiful, fancy handwriting
D. A beautiful drawing of a landscape

**11.** Before the spring show, the *choreographer* planned every step, spin and leap the dancers would perform. *Choreo* comes from the Greek word for dance. What is a choreographer's job?

A. Sewing costumes for the dancers
B. Selling tickets at the door
C. Creating and planning dances
D. Writing reviews of dance shows for a newspaper

**12.** *Degrade* means to break down. The school garden's compost bin takes only *biodegradable* waste. Which item belongs in the bin?

A. An aluminum can B. A glass jar C. A ceramic tile D. Apple cores