

Name \_\_\_\_\_

## Dancing Plates and Rock Transformations: The Intricate Relationship Between Plate Tectonics and the Rock Cycle

### Short Answer Key

1. Divergent boundaries contribute to the rock cycle by creating new igneous rocks as magma rises to the surface. Over time, these igneous rocks weather and erode, adding sediments to the cycle.
2. At convergent boundaries, plates collide. When oceanic plates subduct beneath continental plates, it leads to metamorphism, transforming rocks into new forms. These metamorphic rocks can later undergo erosion and become sedimentary rocks.
3. Transform boundaries fracture rocks as plates slide past each other, sometimes allowing molten rock to rise and form new igneous rocks. These igneous rocks can later weather and erode, contributing to the sedimentary rocks in the cycle.
4. The rock cycle continuously transforms rocks from one type to another, shaping the Earth's surface and landscapes over time. It is responsible for the diversity of landforms and rock types we see today.
5. Divergent boundaries involve plates moving away from each other, creating space for magma to rise and form igneous rocks. Convergent boundaries feature plates colliding, leading to metamorphism and the creation of metamorphic rocks. Transform boundaries involve horizontal sliding, which can fracture rocks, leading to new igneous rocks. Each boundary type has unique interactions and outcomes in the rock cycle.

