Rock Cycle and Plate Tectonics

Choose one answer per question. Circle A, B, C, or D.

1. Molten rock at the surface cools until it becomes solid. What kind of rock forms?
   A. Igneous rock
   B. Metamorphic rock
   C. Sedimentary rock
   D. A fossil of the magma

2. Sand grains accumulate, then become pressed together and cemented into sandstone. Which major rock group does sandstone belong to?
   A. Metamorphic
   B. Igneous
   C. Sedimentary
   D. Molten

3. A buried rock changes minerals in response to heat and pressure while remaining solid. What kind of rock results?
   A. Fresh lava
   B. Metamorphic rock
   C. A sediment deposit
   D. An unaltered igneous rock

4. Water freezes in a crack and helps break a stone into two pieces at the same site. Which process does this show?
   A. Subduction
   B. Sediment deposition
   C. Cementation
   D. Physical weathering

5. What do we call a boundary where two tectonic plates move away from each other?
   A. A convergent boundary
   B. A divergent boundary
   C. A transform boundary
   D. A plate’s interior

6. After grit breaks off a cliff, a stream carries it into a valley. Which word describes the stream carrying the grit?

A. Erosion
B. Weathering
C. Metamorphism
D. Crystallization

7. Magma cools slowly deep underground and produces crystals large enough to see. Which description fits the resulting rock?

A. Unconsolidated sediment
B. Extrusive igneous
C. Clastic sedimentary
D. Intrusive igneous

8. At an ocean trench, one plate bends and descends beneath another. What is this process called?

A. Surface erosion
B. Deposition
C. Subduction
D. Seafloor spreading

9. Two plates move horizontally past each other along a fault. What kind of boundary is described?

A. Transform
B. Convergent with subduction
C. Divergent
D. A mid-ocean spreading center

10. Limestone heated and compressed underground recrystallizes into marble. Which change is represented?

A. Sediment stays loose on the surface
B. Igneous rock becomes sediment
C. Metamorphic rock melts into magma
D. Sedimentary rock becomes metamorphic rock

11. Which process at a mid-ocean ridge adds new solid oceanic crust as plates separate?

A. Wind deposits sand until it becomes oceanic crust
B. Older crust from both sides sinks at the ridge
C. Molten material rises and cools
D. The plates stop moving when magma reaches them

12. Granite exposed on a hillside eventually contributes grains to a new sandstone bed. Which sequence could produce that result?

A. Melting, cooling, then freezing of water around the granite
B. Weathering, transport, deposition, then compaction and cementation
C. Burial, recrystallization, then formation of magma
D. Compaction, melting, then transport as liquid lava

13. Samples of ocean crust on both sides of a ridge are youngest at the ridge. They get older with distance from it. Which model explains this pattern?

A. The same crust stays at the ridge and is never replaced
B. The oldest crust is made at the ridge and migrates inward
C. All ocean crust forms only at beaches
D. New crust forms at the ridge and moves away on both sides

14. Two continents converge and their rocks fold and thicken. Which long-term result can that produce?

A. An uplifted mountain belt
B. An open ocean basin between the continents at the collision
C. A line where both plates simply slide past without shortening
D. A surface layer made entirely of recent lava

15. A metamorphic rock formed far below the surface is exposed in a mountain outcrop. Which combination can explain its exposure?

A. The rock remains buried as magma forever
B. Deposition adds sediment above the rock until the rock is visible
C. Uplift raises the rocks and erosion removes material above them
D. Rain causes the deep rock to appear without moving or removing material