

In-class activity 10

Assemble Your Group

1. Find your assigned group members, and sign in below.

Team member: _____

Team member: _____

Team member: _____

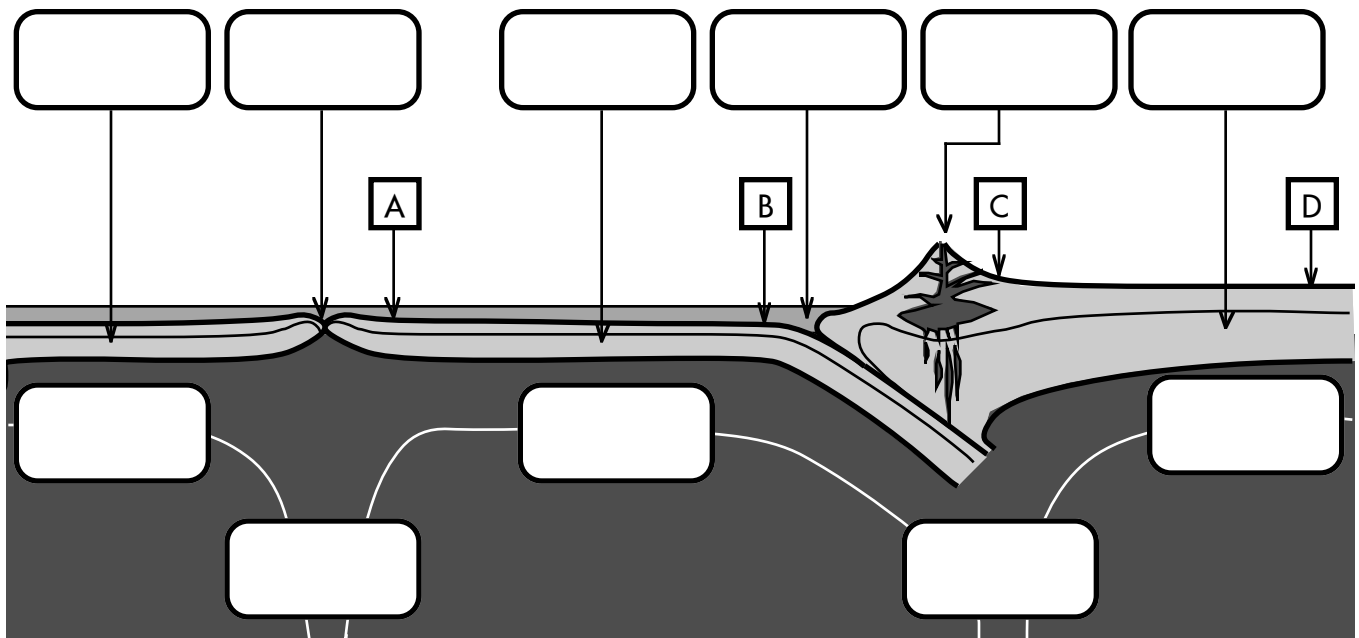
Team member: _____

Tectonic Plate Movement¹

2. (Cf. Seeds and Backman, *ASTRO3*, Brooks/Cole Cengage Learning (2018), p. 114, Fig. 1b.) Fill in the diagram on the next page of a cross-section of Earth's surface. Every one of the 11 rounded corner boxes in this diagram should have an entry from the list below. Some entries from this list might be used more than once, and some entries from this list might not be used at all.

Hot rising mantle ↑
Cold sinking mantle ↓
Mantle convection ←
Mantle convection →
Mid-ocean rise
Plate motion ←
Plate motion →
Subduction zone
Volcano

¹Adapted from Adams, Prather, and Slater, *Lecture-Tutorials for Introductory Astronomy, 1/e*, Addison-Wesley (2005), pp. 57-59.



Radioactive Dating and Solidification Ages

3. Rock samples are taken from the locations A, B, C, and D shown on the diagram above. For each pair of samples being compared, clearly circle the choice that best indicates oldest expected solidification ages, from radioactive dating. (If the relative solidification ages of a pair of samples cannot be inferred from the information contained in this diagram, then circle that choice.)

Sample A should be

older
younger
(relative age cannot be determined)

 than sample B.

Sample C should be

older
younger
(relative age cannot be determined)

 than sample D.

Sample A should be

older
younger
(relative age cannot be determined)

 than sample D.

Sample B should be

older
younger
(relative age cannot be determined)

 than sample D.