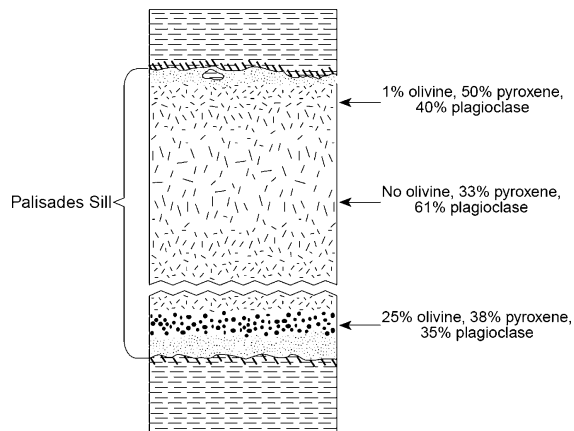


Igneous Rocks

1. Which difference between gabbro bedrock and granite bedrock causes seismic waves to travel faster in gabbro than in granite?
 - A. Gabbro is more dense than granite.
 - B. Gabbro has greater permeability than granite.
 - C. Gabbro has a darker color than granite.
 - D. Gabbro is made of smaller mineral grains than granite.

2. The accompanying geologic cross section shows variations of mineral composition that can be observed in the Palisades Sill in southeastern New York State. The Palisades Sill is an intrusive igneous rock called diabase.



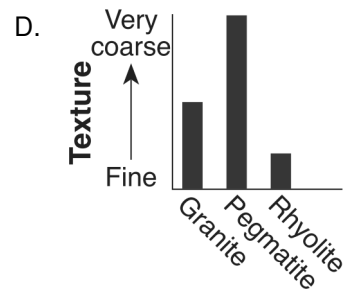
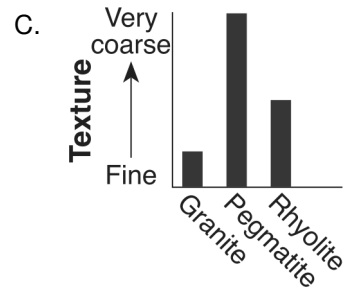
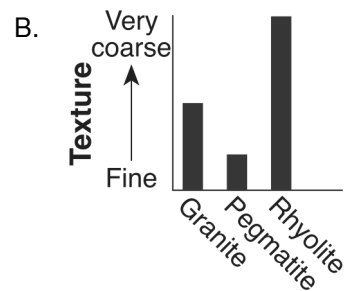
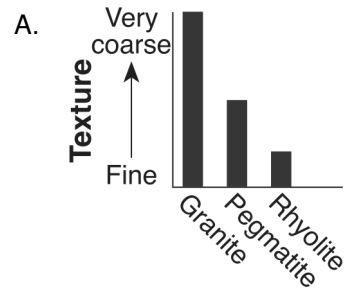
Which other igneous rock is closest to diabase in mineral composition?

- A. andesite
 - B. granite
 - C. rhyolite
 - D. gabbro

3. Which characteristic provides the best evidence that obsidian rock formed in an extrusive environment?
 - A. layers of rounded fragments
 - B. distorted bands of large mineral crystals
 - C. noncrystalline glassy texture
 - D. mineral cement between grains

4. Which igneous rock has a vesicular texture and a felsic composition?
 - A. pumice
 - B. basalt
 - C. granite
 - D. scoria

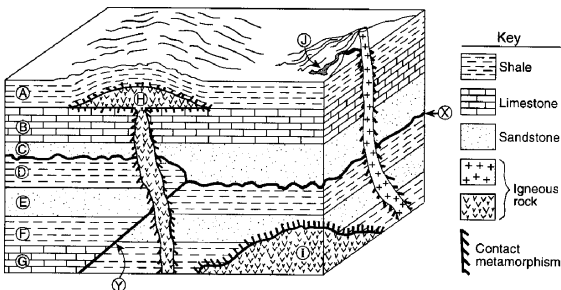
5. Which graph best represents the textures of granite, pegmatite, and rhyolite?



6. Which texture best describes an igneous rock that formed deep underground?

- A. glassy B. vesicular
C. fine grained D. coarse grained

7. Base your answer(s) to the following question(s) on the *Earth Science Reference Tables*, the cross section below, and your knowledge of Earth science. Letters A through J represent rock units. An unconformity is shown at letter X. A fault is shown at letter Y.



Rock I was formed deep underground and is composed of 70% pyroxene, 15% plagioclase, 10% olivine, and 5% amphibole. Rock I is classified as

- A. granite B. gabbro
C. rhyolite D. basalt

8. Which relative concentration of elements is found in a mafic rock?

- A. a high concentration of silicon and a low concentration of iron
B. a high concentration of iron and a low concentration of aluminum
C. a high concentration of aluminum and a low concentration of iron
D. a high concentration of aluminum and a low concentration of magnesium

9.

Rock collected from the side of Kilauea Volcano has the following mineral composition: 5% plagioclase feldspar, 68% pyroxene, 25% olivine, and 2% amphibole. What type of rock is this?

- A. andesite B. scoria
C. rhyolite D. peridotite

10. Which extrusive igneous rock is composed of approximately 40% quartz, 20% potassium feldspar, 20% plagioclase feldspar, 10% biotite mica, and 10% amphibole?

- A. rhyolite B. gabbro
C. granite D. basalt