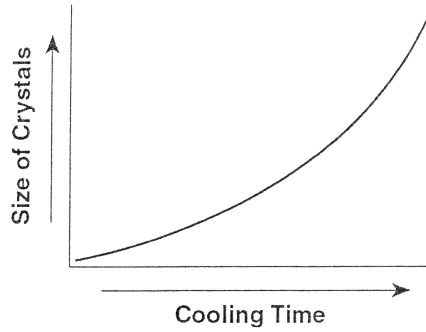


# Igneous Review

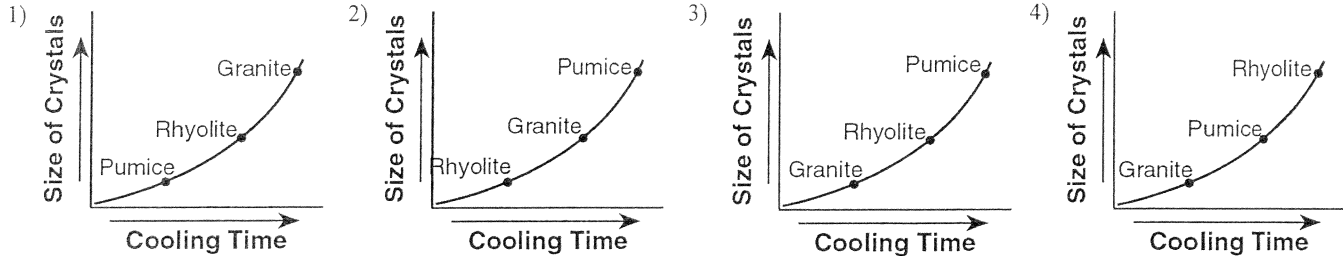
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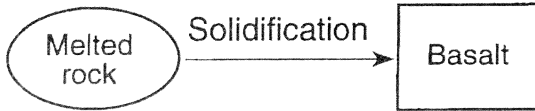
1. The graph below shows the relationship between the cooling time of magma and the size of the crystals produced.



Which graph correctly shows the relative positions of the igneous rocks granite, rhyolite, and pumice?



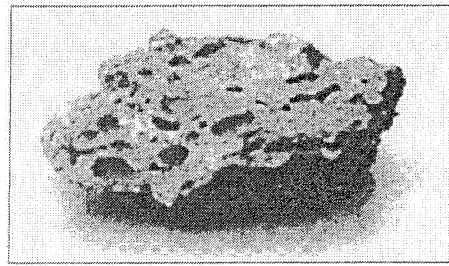
2. The flowchart below illustrates the change from melted rock to basalt.



The solidification of the melted rock occurred

- 1) slowly, resulting in fine-grained minerals
  - 2) slowly, resulting in coarse-grained minerals
  - 3) rapidly, resulting in coarse-grained minerals
  - 4) rapidly, resulting in fine-grained minerals
3. Which igneous rock is dark colored, cooled rapidly on Earth's surface, and is composed mainly of plagioclase feldspar, olivine, and pyroxene?
- 1) obsidian
  - 2) rhyolite
  - 3) gabbro
  - 4) scoria
4. Which igneous rock has a vesicular texture and contains the minerals potassium feldspar and quartz?
- 1) andesite
  - 2) pegmatite
  - 3) pumice
  - 4) scoria
5. What is the origin of fine-grained igneous rock?
- 1) lava that cooled slowly on Earth's surface
  - 2) lava that cooled quickly on Earth's surface
  - 3) silt that settled slowly in ocean water
  - 4) silt that settled quickly in ocean water
6. When granite melts and then solidifies, it becomes
- 1) a sedimentary rock
  - 2) an igneous rock
  - 3) a metamorphic rock
  - 4) sediments

7. The photograph below shows an igneous rock.

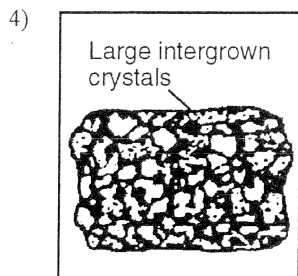
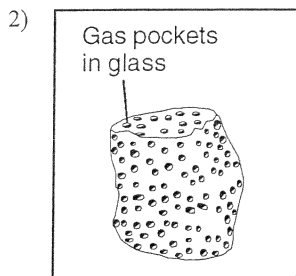
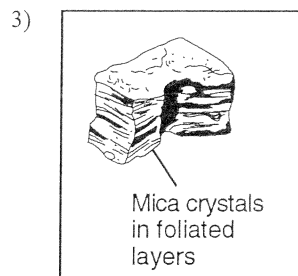
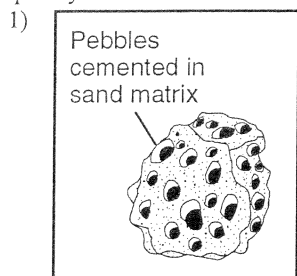


What is the origin and rate of formation of this rock?

- 1) plutonic with slow cooling
  - 2) plutonic with rapid cooling
  - 3) volcanic with slow cooling
  - 4) volcanic with rapid cooling
8. Which intrusive igneous rock could be composed of approximately 60% pyroxene, 25% plagioclase feldspar, 10% olivine, and 5% amphibole?
- 1) granite
  - 2) rhyolite
  - 3) gabbro
  - 4) basalt
9. Biotite mica and muscovite mica have different chemical compositions. Compared to the magma from which biotite mica forms, the magma from which muscovite mica forms is usually
- 1) more mafic and less dense
  - 2) more mafic and more dense
  - 3) more felsic and less dense
  - 4) more felsic and more dense
10. Which igneous rock, when weathered, could produce sediment composed of the minerals potassium feldspar, quartz, and amphibole?
- 1) gabbro
  - 2) granite
  - 3) andesite
  - 4) basalt

## Igneous Review

11. Which rock most probably formed directly from lava cooling quickly at Earth's surface?



12. Compared to felsic igneous rocks, mafic igneous rocks contain greater amounts of

- 1) white quartz                      3) pink feldspar  
2) aluminum                         4) iron

13. Which three minerals are most commonly found in the igneous rock granite?

- 1) amphibole, calcite, and hematite  
2) amphibole, biotite mica, and gypsum  
3) plagioclase feldspar, pyroxene, and olivine  
4) plagioclase feldspar, potassium feldspar, and quartz

14. Which rock is of felsic composition, low in density, light in color, and coarse grained?

- 1) rhyolite                              3) granite  
2) basalt                                4) gabbro

15. Compared to basalt, granite is

- 1) lighter in color  
2) greater in density  
3) more mafic in composition  
4) more fine grained in texture

16. Which is a fine-grained igneous rock made up primarily of pyroxene and plagioclase feldspar?

- 1) gabbro                                3) granite  
2) basalt                                4) rhyolite

17. Which property would be most useful for identifying igneous rocks?

- 1) kind of cement                      3) number of minerals present  
2) mineral composition              4) types of fossils present

18. A coarse-grained rock contains 50% plagioclase, 45% pyroxene, and 5% hornblende. This rock should be identified as

- 1) basalt                                 3) rhyolite  
2) granite                                4) gabbro

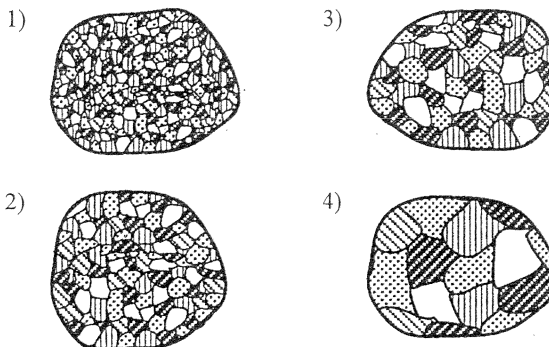
19. Which two processes result in the formation of igneous rocks?

- 1) solidification and evaporation  
2) melting and solidification  
3) crystallization and cementation  
4) compression and precipitation

20. Which minerals are found in the igneous rocks gabbro and basalt?

- 1) olivine and quartz                3) pyroxene and orthoclase  
2) olivine and pyroxene            4) orthoclase and quartz

21. Which granite sample most likely formed from magma that cooled and solidified at the slowest rate?



22. The end product of the weathering of gabbro or basalt rocks is a solution of dissolved material that most likely would contain high amounts of

- 1) iron and magnesium              3) aluminum and iron  
2) magnesium and potassium      4) aluminum and potassium

23. The four igneous rocks below are classified into two groups.

<b>Group A</b>	<b>Group B</b>
Granite	Rhyolite
Gabbro	Basalt

What is the basis for this classification?

- 1) density                                3) crystal grain size  
2) color                                  4) mineral content

24. Rock *X* and rock *Y* are igneous rocks with identical mineral composition. Rock *X* has no visible crystals and rock *Y* has large, visible crystals. What can be inferred about rock *Y*?

- 1) It cooled at the Earth's surface, more slowly than rock *X*.  
2) It cooled beneath the Earth's surface, more slowly than rock *X*.  
3) It cooled at the Earth's surface, more quickly than rock *X*.  
4) It cooled beneath the Earth's surface, more quickly than rock *X*.

25. A mafic igneous rock is most likely to be relatively

- 1) high in density and dark in color  
2) high in density and light in color  
3) low in density and dark in color  
4) low in density and light in color