

ROCKS

Aim 2: What are igneous rocks?

HW from “Reviewing Earth Science, the Physical Setting”

- Read “Rocks” p37-39
- Do all questions on Part A p39-41

Igneous rocks form from the solidification of molten rocks in two different environments, see RT page 6.

- Extrusive (Volcanic) means that the molten rock has been exposed to the atmosphere (lava) and therefore cooled relatively fast.
In this case crystals are nonexistent such as in Obsidian or relatively small (less than 1 mm) in Basalt.
- Intrusive (Plutonic) means that the molten rock has not been exposed to the atmosphere (magma) and therefore cooled relatively slowly, inside the crust.
In this case crystals are relatively coarse such as in Granite or Pegmatite.

Test your understanding

8/07

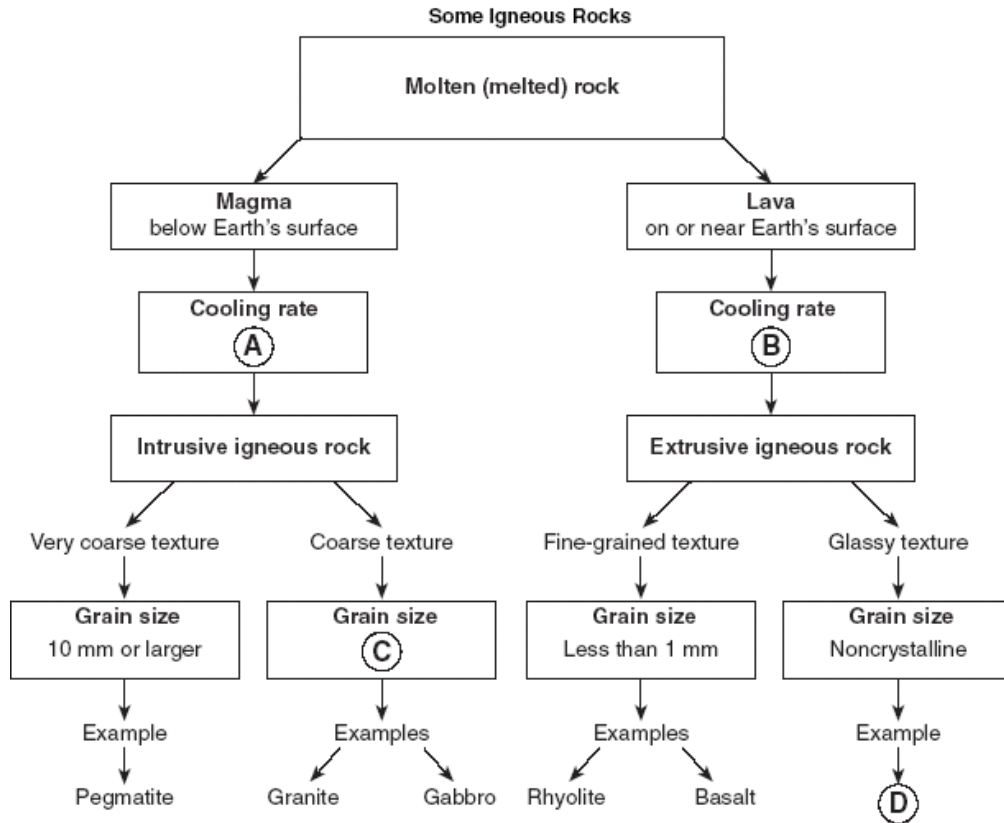
21 Which igneous rock has a vesicular texture and contains the minerals potassium feldspar and quartz?
(1) andesite (3) pumice (2) pegmatite (4) scoria

6/07

18 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

6/06

Base your answers to questions 53 through 55 on the flowchart below and on your knowledge of Earth science. The flowchart shows the formation of some igneous rocks. The circled letters A, B, C, and D indicate parts of the flowchart that have not been labeled.



53 Contrast the rate of cooling at A that forms intrusive igneous rock with the rate of cooling at B that forms extrusive igneous rock.

54 Give the numerical grain-size range that should be placed in the flowchart at C. Units must be included in your answer.

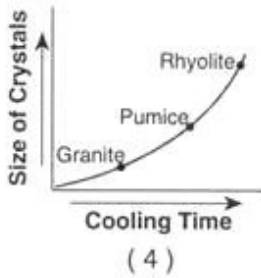
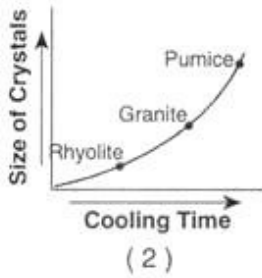
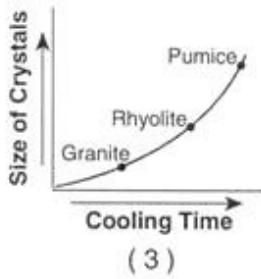
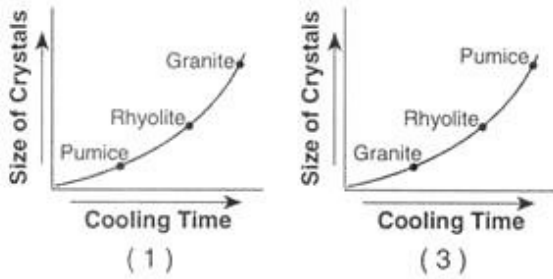
55 State *one* igneous rock that could be placed in the flowchart at D.

2004-6

29 When granite melts and then solidifies, it becomes

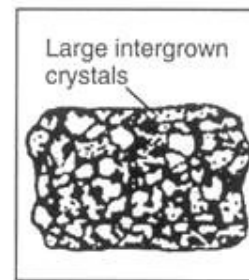
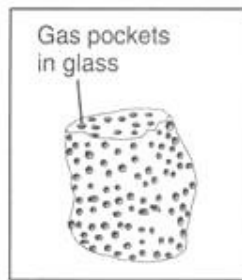
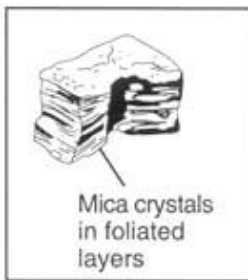
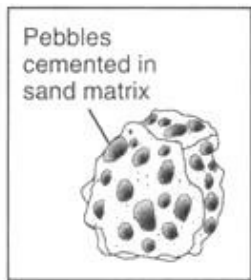
- (1) a sedimentary rock (2) an igneous rock (3) a metamorphic rock (4) sediments

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



2004-1

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



2001-6

23 An extrusive igneous rock with a mineral composition of 35% quartz, 35% potassium feldspar, 15% plagioclase feldspar, 10% biotite, and 5% amphibole is called

- (1) rhyolite (2) granite (3) gabbro (4) basaltic glass