

GEOLOGY 12 REVIEW CHAPTER 3 NAME \_\_\_\_\_

Complete the sentences below with the correct terms or phrases.

30. Rocks which crystallize from magmas are called \_\_\_\_\_ rocks.
31. The majority of magmas are formed in the \_\_\_\_\_, at depths between about 50-250 kilometers.
32. If pressure is lessened on rocks at great temperatures, the rocks may begin to \_\_\_\_\_.
33. Dissolved water and various gases found in magmas are called \_\_\_\_\_.
34. The effect of increased volatiles in a magma is to \_\_\_\_\_ the melting temperatures.
35. The melting temperature of a mixture of minerals is always \_\_\_\_\_ than the melting temperatures of the individual minerals.
36. Phase diagrams plot temperature against \_\_\_\_\_.
37. Local sources of heat within the crust or mantle include concentrations of radioactive elements, and \_\_\_\_\_ caused by plate motions.
38. According to Bowen's reaction series, the first mineral to crystallize from a silicate magma will be relatively \_\_\_\_\_ in silica.
39. The continuous reaction series applies to the \_\_\_\_\_ minerals.
40. The discontinuous reaction series applies to the \_\_\_\_\_ minerals.
41. A magma that is rich in magnesium and iron and relatively poor in silica is called a \_\_\_\_\_ magma.
42. In the process of \_\_\_\_\_, early formed crystals may settle out of the magma, thus changing the composition of the remaining melt.
43. The process by which a magma incorporates the rock around it is called \_\_\_\_\_.
44. In magma mixing, \_\_\_\_\_ magmas combine to produce a hybrid melt intermediate in composition.
45. A \_\_\_\_\_ basalt would contain bubbles or holes where gases were trapped as the magma cooled.
46. In a porphyritic rock, a finer groundmass surrounds the larger-sized \_\_\_\_\_.
47. A plutonic rock which consists almost completely of olivine and pyroxene would be described as \_\_\_\_\_.
48. The most common volcanic rock, which makes up the seafloor, is \_\_\_\_\_.
49. ~~Geologists use a \_\_\_\_\_ to examine the minerals in rocks with a special polarized-light microscope.~~
50. Magmas with high \_\_\_\_\_ have great difficulty flowing through narrow cracks or other openings in country rock.
51. If the contacts of a pluton are parallel to the structure of the country rock, the pluton is \_\_\_\_\_.
52. A discordant, tabular plutonic body is known as a \_\_\_\_\_.
53. Chilled margins can be recognized because they will be \_\_\_\_\_ than the interior of the intrusion.
54. In partial melting of rocks in the upper mantle, the first minerals to melt will be the constituents of granite; that is, they will be richer in \_\_\_\_\_.
55. \_\_\_\_\_ of continental crust is an alternative source for the granitic magmas of batholiths.

**Fill-in-the-Chart**

Fill in the chart below to arrange these igneous rock types by depth of crystallization and composition: rhyolite, gabbro, basalt, andesite, granite, and diorite.

	Felsic	Composition Intermediate	Mafic
Plutonic	56	57	58
Volcanic	59	60	61

**Double-Matching**

Match the appropriate descriptive terms from the two columns on the right to the types of intrusive bodies listed on the left. Be sure to choose your first answer from column 1 and your second answer from column 2. The first one is done for you as an example of the procedure.

Types of intrusions	Column 1	Column 2
62. <u>a</u> 63. <u>b</u> sill	a. concordant	a. cylindrical
64. _____ 65. _____ lopolith	b. discordant	b. tabular
66. _____ 67. _____ laccolith		c. equidimensional
68. _____ 69. _____ dike		
70. _____ 71. _____ pipe		
72. _____ 73. _____ batholith		