

Classifying Igneous Rock samples

1) Use the Chart in your data booklet titled “Percentage of minerals in Igneous Rocks” to answer a – f.

- a. According to the “Colour Index” at the top, are Silicic (Felsic) dark or light in colour? _____
- b. The numbers 0, 15, 45, 85, 100 under the Colour Index indicate the percentage of **Dark Ferromagnesian minerals** (minerals that contain abundant Fe, Mg, and Ca).

Give the upper and lower limits (percentage) of dark ferromagnesian mineral content for Felsic, Intermediate, Mafic, and Ultramafic rocks:

- i. Felsic _____
- ii. Intermediate _____
- iii. Mafic _____
- iv. Ultramafic _____

- c. According to the chart, which mineral is only found in Silicic (Felsic) igneous rocks?
- d. Examine the names of the rocks at the bottom of the chart (Granite, Diorite, Gabbro, Peridotite, Rhyolite, Andesite, and Basalt). According to how they are written, what is the difference between the names of the Intrusive and Extrusive rocks?
- e. Peridotite is an ultramafic rock made almost entirely of Olivine. Is it a Volcanic or Plutonic rock?
- f. What mineral is most abundant in the felsic range? _____

2) Name the four rock samples (below) using your “*Percentage of Minerals in Igneous Rocks*” from the data book.

- See the colour index to help position of the rock samples – “*Dark Ferromagnesian Minerals*”

Mineral and Composition	Rock W	Rock X	Rock Y	Rock Z
Quartz	40 %	16 %	0 %	2 %
Pink potassium feldspar (K)	53 %	20 %	0 %	2 %
Plagioclase Feldspar (Na or Ca)	6 %	42 %	5 %	64 %
Dark Ferromagnesian	7 %	22 %	95 %	32 %
All other minerals	4 %	0 %	0 %	0 %

Sample

Rock Name

Rock W (Intrusive)

Rock X (Extrusive)

Rock Y (Intrusive)

Rock Z (Intrusive)
