

## Station 1

1. Give the name of each specimen.
2. Identify the type of each sample (i.e. rock type, mineral class)
3. What is an important economic use of sample 1B?

## Station 2

1. Give the name of each specimen.
2. Identify the type of each sample (i.e. rock type, mineral class)
3. Samples A and B have a very similar appearance. What key characteristic regarding their cleavage differentiates the two?

## Station 3

1. Give the name of each specimen.
2. For each sample, identify whether its composition is mafic, felsic, or intermediate. If not igneous, then what is the rock type?
3. What causes the difference in color between mafic, felsic, and intermediate rocks?
4. Each specimen is formed within a specific volcanic setting – either above or beneath Earth's surface. In what way does the formation of each sample differ?

## Station 4

1. Give the name of each specimen.
2. Identify the type of each sample (i.e. rock type, mineral class)
3. Sample 4A is often mistaken for gold; however, several characteristics differentiate the two. Compare their specific gravity, hardness, and streak.
4. Aside from their similar appearance, give another reason as to why Sample 4A might be mistaken for gold.
5. Is there any relationship between Samples B and C. If so, what is it?

## Station 5

1. Give the name of each specimen.
2. Identify the type of each sample (i.e. rock type, mineral class)
3. Sample 5A has a distinctive crystal structure. What is the name of this structure?
4. Describe the formation of this crystal structure.
5. What is an economic use of Sample 5B?

## Station 6

Provide the correct term for each given definition.

1. Having a relatively small number of clearly distinguishable crystals in a finer-grained groundmass
2. An alignment of platy or prismatic minerals along linear directions or along planes of lamellar flowage, sometimes producing a wavy pattern
2. Formed by the rapid solidification of gas bubbles in surface or near-surface lava flows
3. Occurs when water and other volatile components are added to hot solid rock, lowering the melting temperature
5. Alternating layers, with somewhat different minerals and texture, produced by continued flowing of magma or lava during solidification

## Station 7

1. Give the name of each specimen.
2. Identify the type of each sample (i.e. rock type, mineral class)
3. Sample 7B and 7C are typical volcanic rocks. What type of volcano is associated with these rocks?

## Station 8

1. Give the name of each specimen.
2. Identify the type of each sample (i.e. rock type, mineral class)
3. What are at least two similarities and two differences between Samples A and B?

## Station 9

Provide the definition for the following terms.

1. Cross-bedding
2. Concretions
3. Detrital/clastic rock
4. Hydrogenic

## Station 10

1. Give the name of each specimen.
2. Identify the type of each sample (i.e. rock type, mineral class)
3. Using Moh's hardness scale, what is the hardness of each sample?
4. Describe the formation of Sample B.

## Station 11

1. Give the name of each specimen.
2. Identify the mineral habit of each sample. If not a mineral, indicate as such.
3. What is the streak color of each sample? If not a mineral, indicate as such.
4. List a unique property for Sample 11B and 11C.

## Station 12

1. Give the name of each specimen.
2. Identify the type of each sample (i.e. rock type, mineral class)
3. Describe the angularity and the clast size of each sample. If not a sedimentary rock, then indicate as such.

## Station 13

Provide the correct terminology for each given definition.

1. Change of size and shape of grains without changing minerals
2. Growth of new minerals not in the protolith
3. Differential stress (irregular squeezing) when liquid is present
4. Squeezing or shearing at high temperature and pressure
5. Metamorphism due to proximity to an igneous intrusion

## Station 14

1. Give the name of each specimen.
2. Each of the samples are of the same type: foliated metamorphic rock. List the processes during which foliation takes place.
3. What are the three main types of metamorphism, and in which type does foliation take place?
4. Give the metamorphic grade for each sample.
5. List the samples in order of metamorphism.

## Station 15

1. The silicate group, by a large amount, is Earth's most abundant mineral group. Give an explanation as to why this is.
2. Silicates can be divided based on structure. List the five types of silicates, and give an example of each type.
3. In what ways does the silicate group relate to Bowen's Reaction Series?