

Name: \_\_\_\_\_ Laboratory Section: \_\_\_\_\_  
Date: \_\_\_\_\_ Score/Grade: \_\_\_\_\_

**Video**  
Exercise 21  
Pre-Lab Video



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## LAB EXERCISE

# The Rock Cycle and Rock Identification

## Lab Exercise and Activities

### SECTION 1

#### The Rock Cycle

1. Place a check mark in the rock type column that corresponds to the process that could form or alter that rock.

**TABLE 21.1** Rock types and processes

Process	Igneous	Sedimentary	Metamorphic
Crystals left by evaporation of water		X	
Lithification of sediment		X	
Fossils present		X	
Melting of rock	X		
Folding of rock			X
Foliated			X
Heating but not melting			X
Cooling of lava or magma	X		
Cementation of grains		X	
Compaction of sediment		X	

2. Identify a location in the United States where each step of the rock cycle is occurring. Describe what is happening at each location to create that rock type.

*Personal answers*

3. Describe a sequence in which a sedimentary rock forms and is modified to become a metamorphic rock.

*Personal answers*

## SECTION 2

### Rock Identification

1. What characteristics indicate whether a rock is an intrusive or extrusive igneous rock?

*Intrusive igneous rock cools much more slowly than extrusive igneous rock, allowing larger crystals to develop.*

2. What characteristics would indicate whether a rock is a clastic or nonclastic sedimentary rock?

*Visible sediment grains, or clasts, would indicate a clastic sedimentary rock.*

3. Explain how a metamorphic rock could develop a foliated appearance or a nonfoliated appearance.

*As rock is heated and compressed the mineral alignment within the rock changes. With sufficient shear and compression the rock will take on a foliated appearance.*

Use the following rock identification keys; **Figures 21.2, 21.3** and **21.4**, and the images of rock samples in **Figure 21.5** to identify the rock samples that your instructor provides. Fill out **Tables 21.2, 21.3**, and **21.4** as you analyze the rocks.

*Answers will depend upon rock samples provided by the instructor.*