

Name:  
Earth Science

Date:  
Period:

# **Earth Science Regents Review Workbook**

## **Part 9: Lab Practical**

## Part 9: Lab Practical

Overview: For the Earth Science Regents, you will perform three laboratory tests as described below. The standard time allowed for completing the tasks at each of the three stations is 9 minutes.

### Station 1: Minerals & Rocks Identification

- You will determine physical properties of a mineral and identify the mineral using a flow chart.
- You will classify two different rock samples as igneous, sedimentary, or metamorphic, and state a reason for each observation

### Station 2: Locating an Epicenter

- You will determine the epicenter of an earthquake using seismic data recorded at 3 seismic stations. You must know how to read times on a seismograph, use ESRT page 11, and use a T-compass to draw circles.

### Station 3: Constructing and Analyzing an Elliptical Orbit

- You will construct an elliptical orbit using a board, 2 push pins, string and a pencil. You will calculate the eccentricity of the ellipse you drew and compare its eccentricity to planets in our solar system.

The following pages will help you practice these laboratory skills.

Station 1: Minerals and Rocks Identification

Part 1: Minerals

Review: Define the following terms.

1. Luster: \_\_\_\_\_
2. Metallic: \_\_\_\_\_
3. Non-metallic: \_\_\_\_\_
4. Streak: \_\_\_\_\_
5. Hardness: \_\_\_\_\_
6. Scratch test: \_\_\_\_\_
7. Cleavage: \_\_\_\_\_
8. Fracture: \_\_\_\_\_

Directions: The physical properties of an unknown mineral have been recorded below. Using these properties and the flow chart on the next page, determine the letter that represents each mineral.

1. Cleavage, colorless streak, does not scratch glass, non-metallic: \_\_\_\_\_
2. Fracture, white streak, scratches glass, non-metallic: \_\_\_\_\_
3. Cleavage, colorless streak, scratches glass, non-metallic: \_\_\_\_\_
4. Fracture, black streak, scratches glass, metallic: \_\_\_\_\_

| Cleavage               | Streak        | Hardness               | Luster       | Mineral |
|------------------------|---------------|------------------------|--------------|---------|
| Does not show cleavage | Colored       | Scratches glass        | Non-metallic | A       |
|                        |               |                        | Metallic     | B       |
|                        |               | Does not scratch glass | Non-metallic | C       |
|                        |               |                        | Metallic     | D       |
|                        | None or white | Scratches glass        | Non-metallic | E       |
|                        |               |                        | Metallic     | F       |
|                        |               | Does not scratch glass | Non-metallic | G       |
|                        |               |                        | Metallic     | H       |
| Shows cleavage         | Colored       | Scratches glass        | Non-metallic | I       |
|                        |               |                        | Metallic     | J       |
|                        |               | Does not scratch glass | Non-metallic | K       |
|                        |               |                        | Metallic     | L       |
|                        | None or white | Scratches glass        | Non-metallic | M       |
|                        |               |                        | Metallic     | N       |
|                        |               | Does not scratch glass | Non-metallic | O       |
|                        |               |                        | Metallic     | P       |

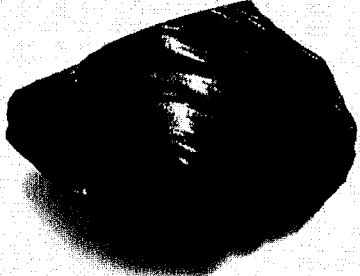

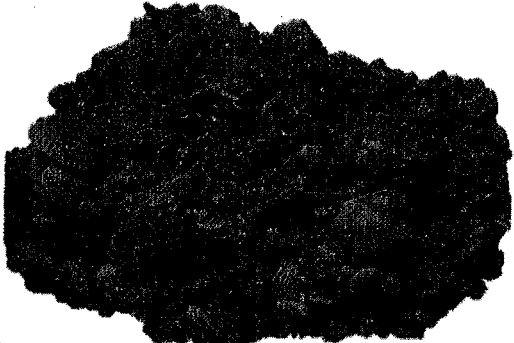
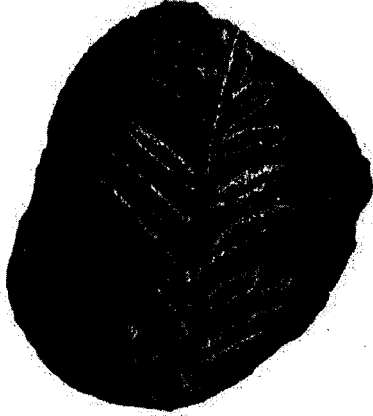
Part 2 Rocks: You will identify unknown rock types based upon the key features. (See laminated color chart)

Review:

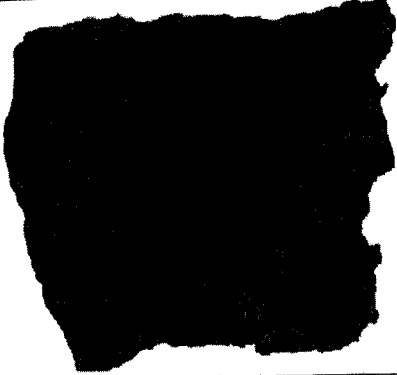
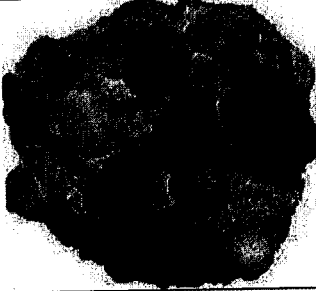

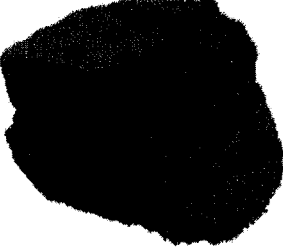
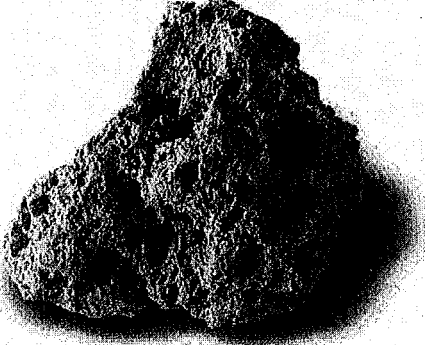
1. What are the three characteristics of an igneous rock?
2. What are the three characteristics of a sedimentary rock?
3. What is the one characteristic of a metamorphic rock?

Part 9: Lab Practical

Directions: Determine the type of rock based on the picture provided. Describe the key feature that helped you identify the rock type.

| Picture   | Rock Type | Key Feature |
|---|-----------|-------------|
|    |           |             |
|    |           |             |
|   |           |             |
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Part 9: Lab Practical

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