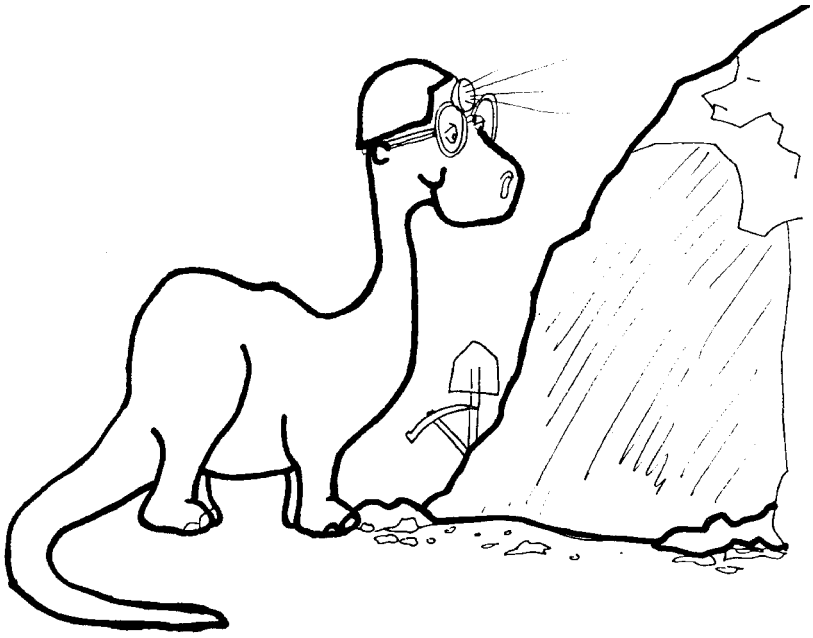
# Rock Cycle

## Understanding the Earth's Crust

# SECOND GRADE

# WORKBOOK



students _____

**ROCK CYCLE CHEMISTRY (2)**
**LAB**

**PROBLEM:** How can you tell the difference between elements?

**PREDICTION:**_____

| ELEMENT | ATOMIC SYMBOL NUMBER | DESCRIBE |
|---|---|---|
| COPPER | | |
| NICKEL | | |
| ZINC | | |
| SILICON | | |
| CARBON | | |
| SULFUR | | |
| IRON | | |
| ALUMINUM | | |
| LEAD | | |
| TIN | | |

**CONCLUSIONS:** Can you tell what the element might be used for by looking at it's characteristics? _____

**ROCK CYCLE - CHEMISTRY (2)**
**POST LAB**
**PERIODIC TABLE**

NUMBER OF GASES _____

NUMBER OF LIQUIDS _____

NUMBER OF SOLIDS _____

WRITE THE SYMBOLS OF THE SYNTHETIC ELEMENTS, 61,93-109.

61 _____

93 _____

94 _____

95 _____

96 _____

97 _____

98 _____

99 _____

100 _____

101 _____

102 _____

103 _____

104 _____

105 _____

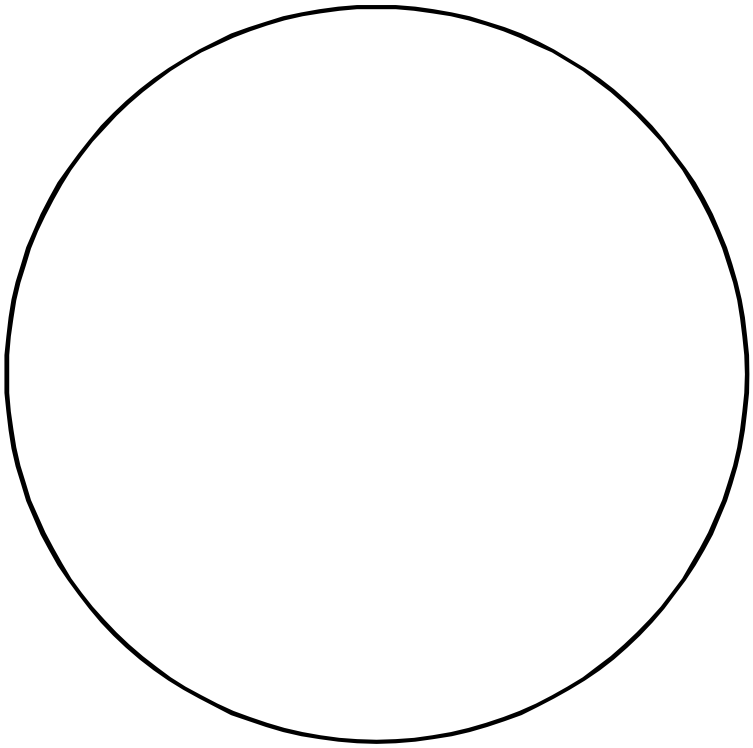
106 _____

107 _____

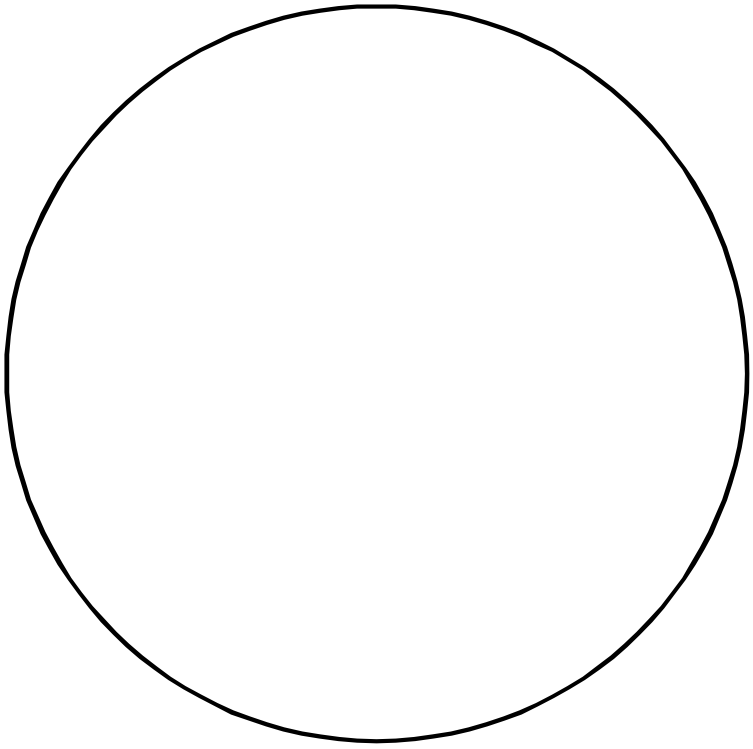
108 _____

109 _____

Front of penny



Back of penny



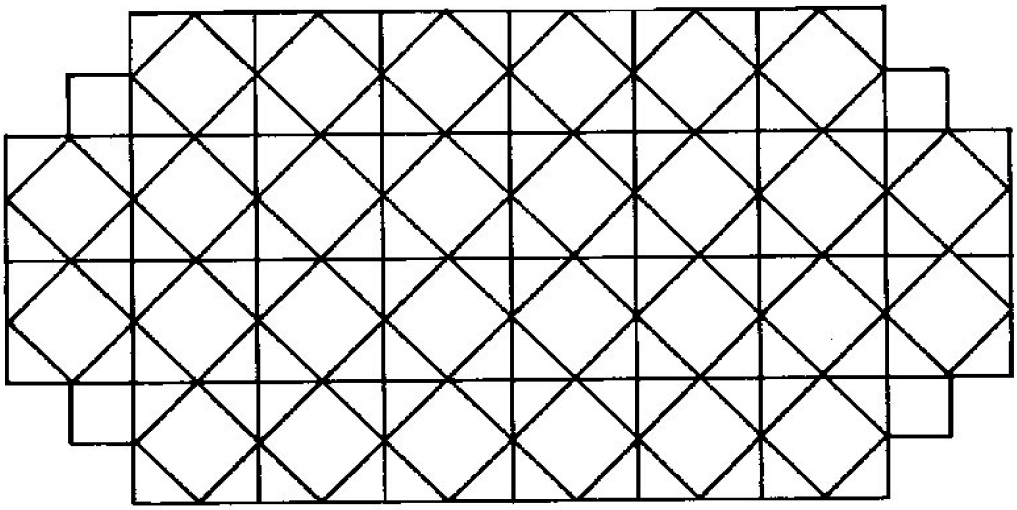
| MINERAL | CIRCLE THE CORRECT ANSWER |
|---|---|
| QUARTZ | 1. crystal or non- crystalline<br>2. clear or white<br>3. glassy or metal<br>4. scratched by fingernail or not scratched |
| GYPSUM | 1. crystal or non-crystalline<br>2. shiny or dull<br>3. white or gray<br>4. scratched by fingernail |
| MICA | 1. crystal or non-crystalline<br>2. yellow or black<br>3. bends or doesn't bend<br>4. dull or shiny |
| CALCITE | 1. cube or diamond shaped<br>2. clear or white<br>3. double image or single image<br>4. glassy or dull |
| ULEXITE | 1. crystal or non-crystalline<br>2. clear image or nothing<br>3. white or clear<br>4. dull or glassy |
| PYRITE | 1. crystal or non-crystalline<br>2. yellow or gold<br>3. glassy or metal<br>4. scratched by fingernail or not scratched |

**ROCK CYCLE - MINERALS (2B)**

**PRE LAB**

UNIT CELLS AND PATTERNS

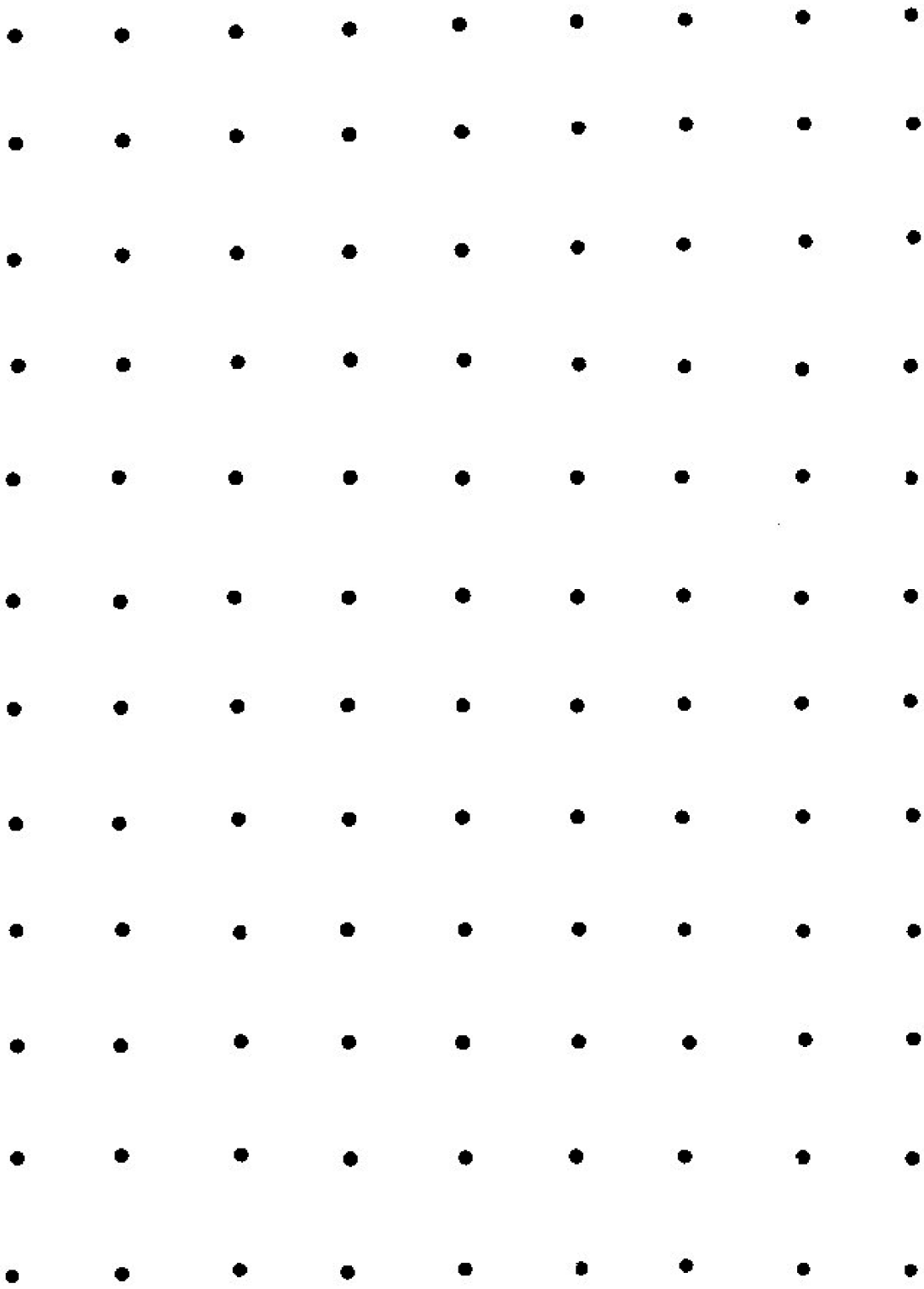
1. Name the individual design that is repeated. This is called a "unit cell."



2. Use the GOOGOLPLEX shapes and connectors and make two different patterns. Draw the pattern in space provided below.

FIRST SECOND

GEOBOARD



**ROCK CYCLE - MINERALS (2B)**
**LAB**

**PROBLEM:** How do crystals grow?

**PREDICTION:**

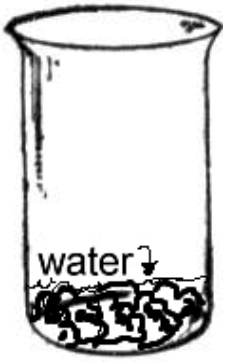
_____

**MATERIALS:** salt, laundry bluing, ammonia, water, baby food jars

**PROCEDURE:**

**Step 1.** Take one clean baby food jar. Take a piece of masking tape and write your name on it with a crayon. Tape it to the lower side of your jar.

**Step 2.** Add rocks to your jar until it is 1/3 full. Add 5 ml salt. Add 5 ml of water. Add 4-6 drops of food coloring. You get to choose which color you want!




**Step 3**. Now have your teacher add 5 ml each of ammonia and laundry bluing. Carefully carry your crystal garden to the place your teacher has selected. Over the next week or so you will be able to see your garden grow! Keep a record of what you see by drawing a picture of your garden every day.

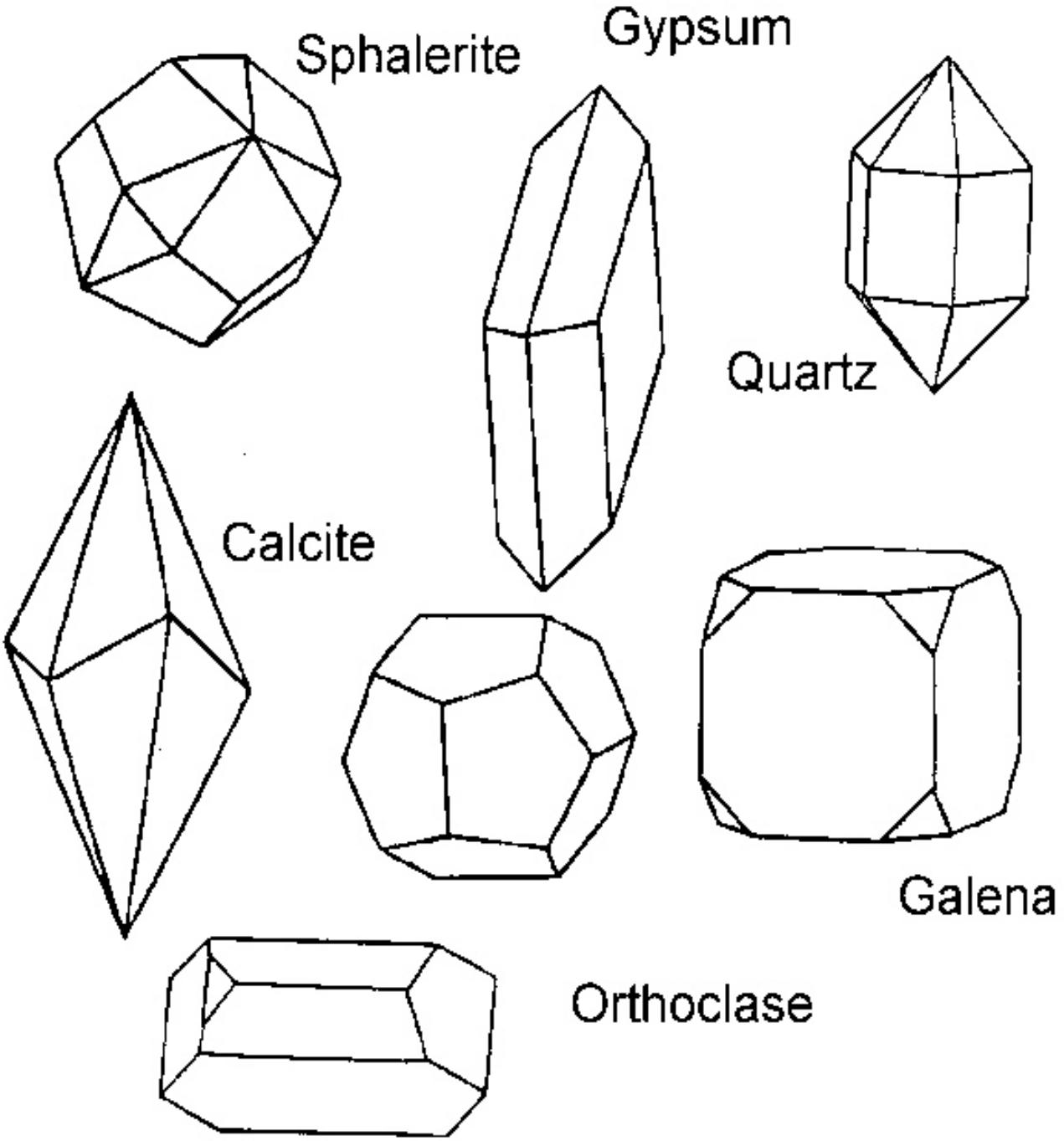
| | | | | |
|---|---|---|---|---|
| | | | | |

**CONCLUSION:** Describe what happened to your crystals after a week.

_____

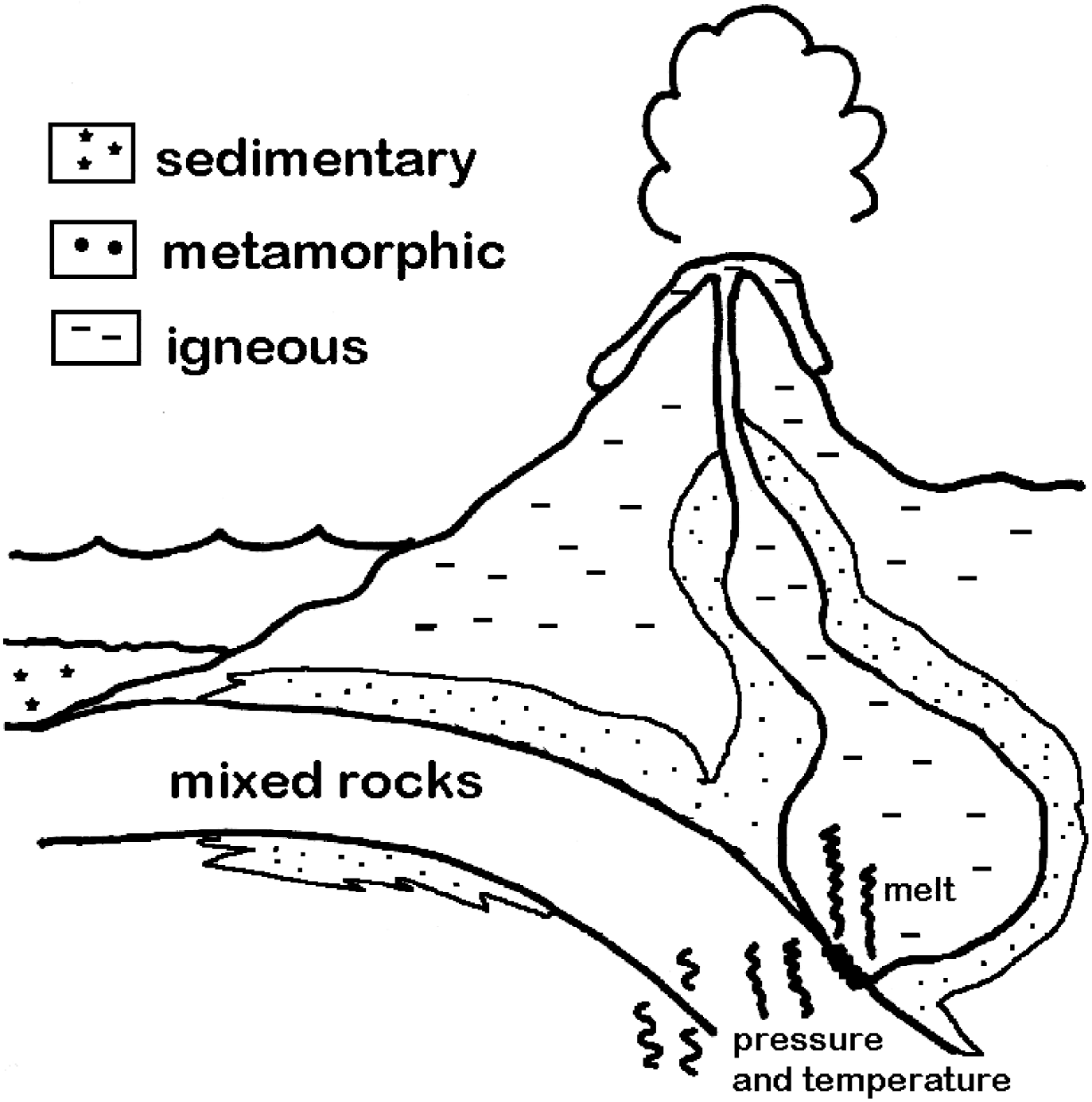
_____

## MAKE A MINERAL PERSON



## THREE TYPES OF ROCKS

Color the diagram below. Use the legend to select colors.



**ROCK CYCLE - ROCKS (2)**
**LAB**

**PROBLEM:** Can you identify rocks with a few characteristics?

**PREDICTION:**_____

**PROCEDURE:** See if you can match the rocks with the information given below. Add one more characteristic about the rock, so that the next time you see this rock it will be easier to identify. Place all igneous rocks on red paper, sedimentary on yellow, and metamorphic on black.

| **IGNEOUS** | | |
|---|---|---|
| CHARACTERISTIC | NAME OF ROCK | LIST ONE MORE |
| BLACK, GLASSY | OBSIDIAN | |
| HOLES, RED | SCORIA | |
| BLACK AND WHITE | GRANITE | |
| LIGHT | PUMICE | |

| **SEDIMENTARY** | | |
|---|---|---|
| CHARACTERISTIC | NAME OF ROCK | LIST ONE MORE |
| BROWN, SMALL PIECES | SANDSTONE | |
| LARGE PIECES | CONGLOMERATE | |
| FLAT | SHALE | |
| SHELLS, MUD COLORED | MUDSTONE WITH FOSSILS | |
| HARD, REDDISH BROWN | CHERT | |

| **METAMORPHIC** | | |
|---|---|---|
| CHARACTERISTIC | NAME OF ROCK | LIST ONE MORE |
| GREEN, SMOOTH | SERPENTINITE | |
| GRAY, SHINY, FLAT MINERALS | SCHIST | |
| WHITE, GRAY | MARBLE | |

**CONCLUSION:** Can you now identify rocks? Why? What have you learned?

_____

**ROCK CYCLE - ROCKS (2)**
**POST LAB**

WRITE A SENTENCE THAT USES THE CHARACTERISTICS OF THE FOLLOWING ROCKS TO DESCRIBE A PERSON, PLACE, OR THING.

RED AS SCORIA

_____

_____

WHITE AND BLACK LIKE GRANITE

_____

_____

GLASSY LIKE OBSIDIAN

_____

_____

GRAINY LIKE SANDSTONE

_____

_____

FLAT AS SHALE

_____

_____

SMOOTH AS SERPENTINITE

_____

_____

SHINY AS SCHIST

_____

_____

GRAY LIKE MARBLE

_____

_____

**ROCK CYCLE - PAST LIFE (2A)**
**LAB**

**PROBLEM:** How can you obtain information from fossils other than bones?

**PREDICTION:** _____

**PROCEDURE:**
**MATERIALS:** playdough, dinosaur models, rulers

**EXERCISE 1:** Roll out the playdough and make an imprint of your hand with your fingers all held together. Answer the following questions.

A: How wide is your hand (from the tip of your thumb to the base of your pinky)?
_____

B: How long is your hand (from the tip of your middle finger to the base of your palm)?
_____

C: Do you see any lines running through the middle of the print of your palm?
_____

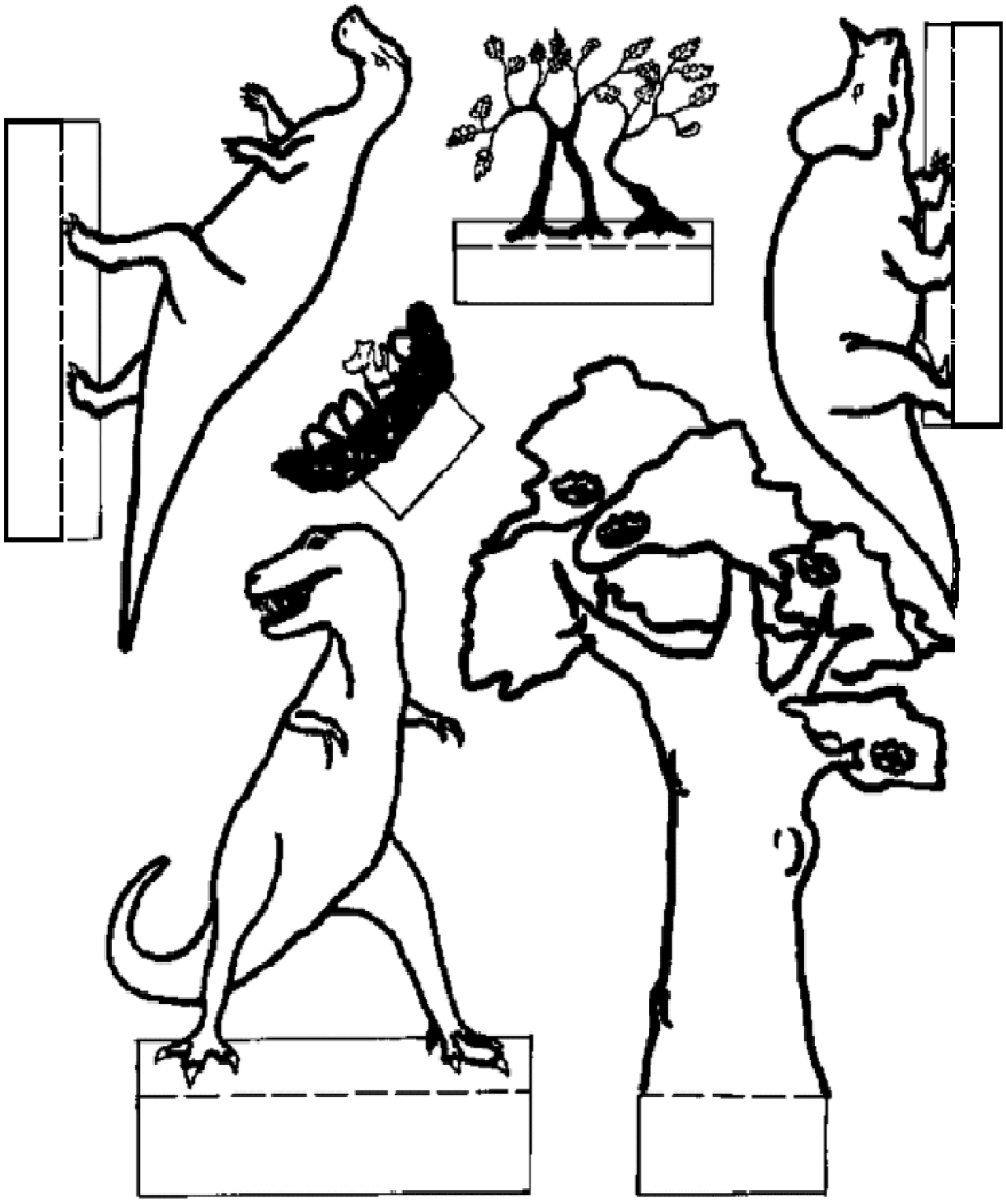
**EXERCISE 2.** Roll the playdough until you have a blank surface. Make imprints of each model's feet and skin. Draw what you see.

| | **FOOTPRINT** | **SKINPRINT** |
|---|---|---|
| Dinosaur 1 | | |
| Dinosaur 2 | | |
| Dinosaur 3 | | |
| Dinosaur 4 | | |

**CONCLUSION:** What kind of information can you get from a trace fossil?
_____
_____

**ROCK CYCLE - PAST LIFE (2B)**

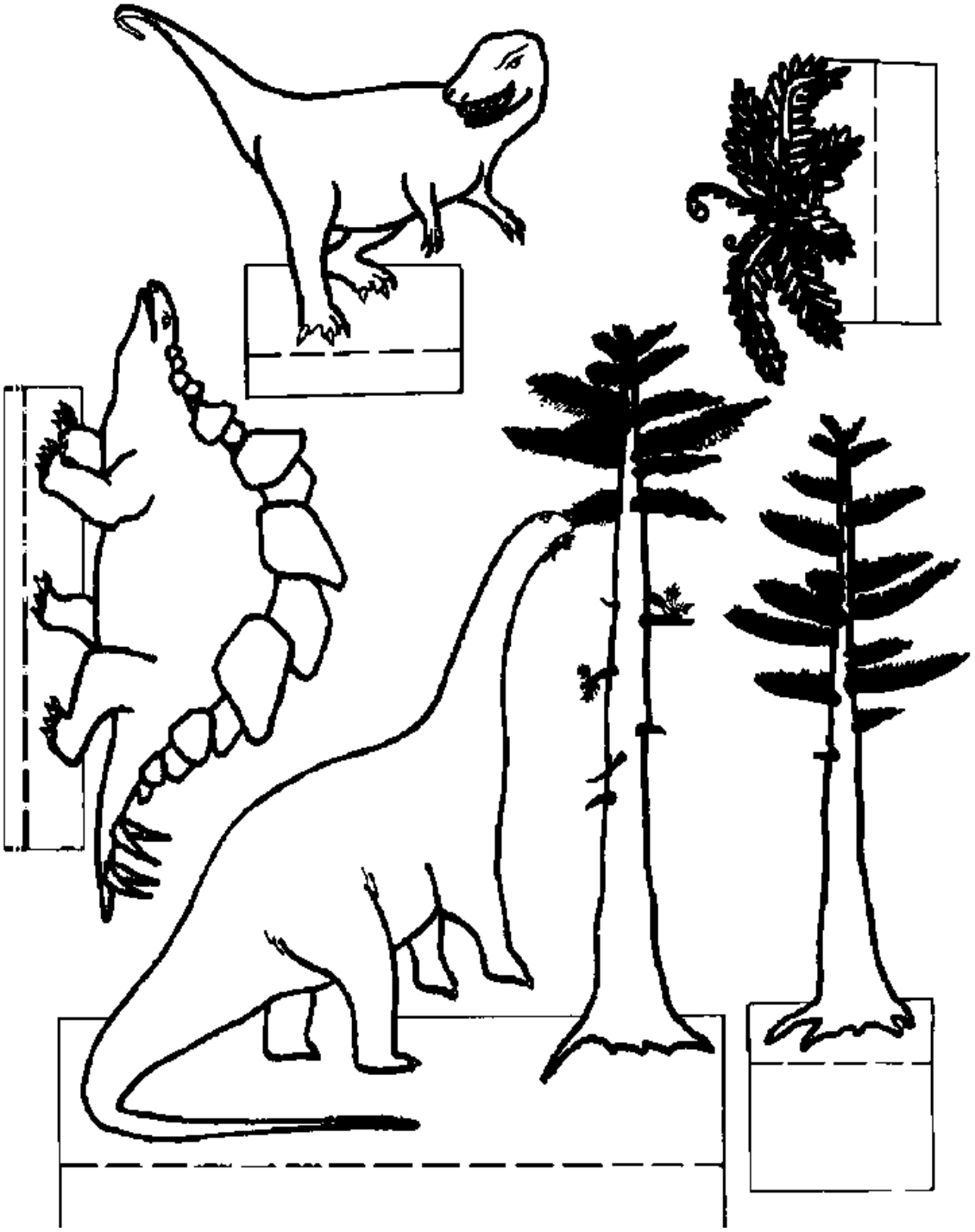
**PRE LAB**



Cretaceous time

**ROCK CYCLE - PAST LIFE (2B)**

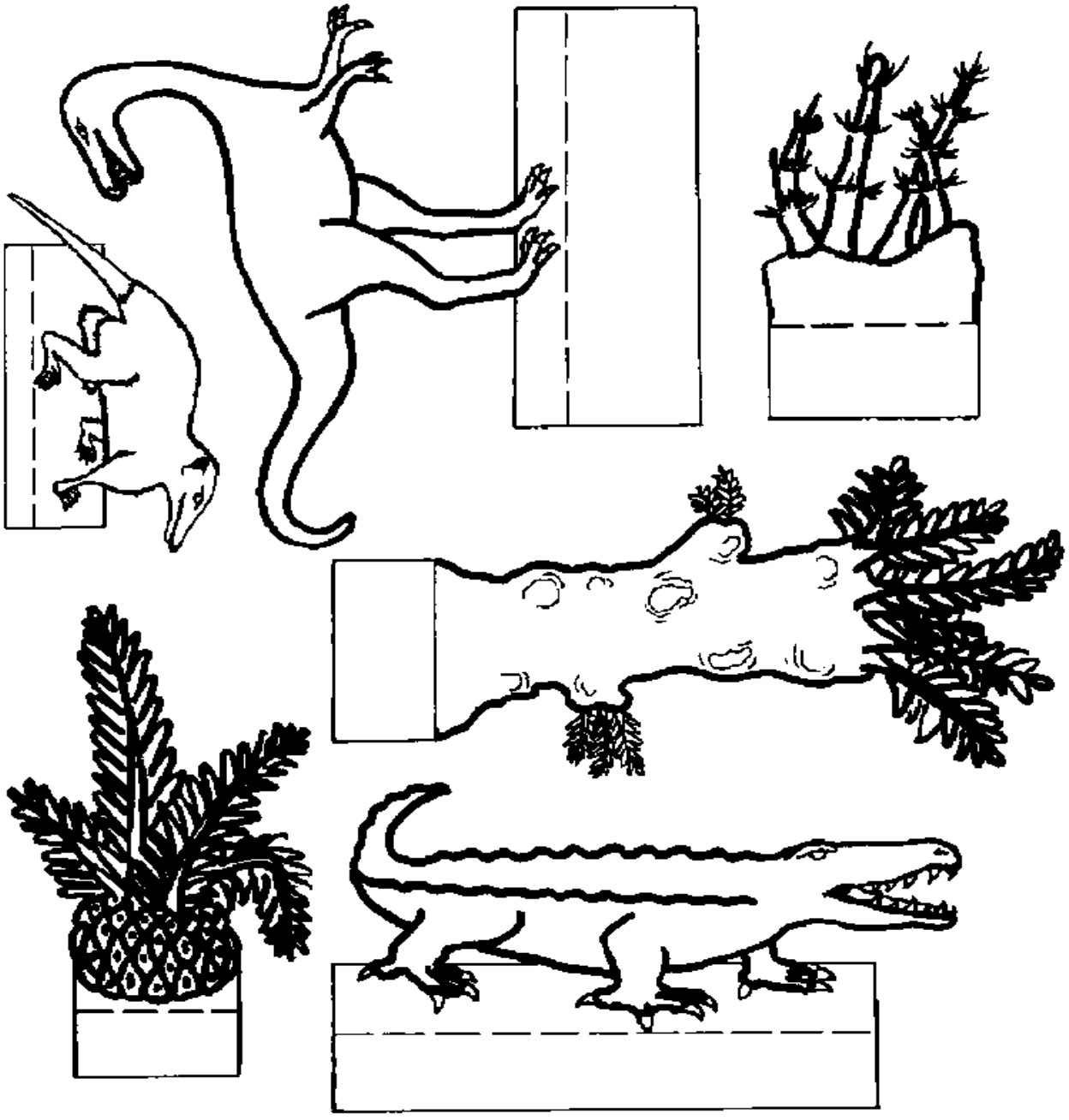
**PRE LAB**



Jurassic time

**ROCK CYCLE - PAST LIFE (2B)**

**PRE LAB**



Triassic time

**ROCK CYCLE - PAST LIFE (2B) AB**

**PROBLEM:** Is learning about living animals helpful in identifying fossils?

**PREDICTION:**_____
**MATERIALS:** snail, clam, scallop; fossil specimens

**PROCEDURE:** Look at each of the present day specimens and describe or draw what they look like.

| | | |
|---|---|---|
| | | |

Look at the fossil specimens in your sample and describe or draw what they look like.

| | | |
|---|---|---|
| | | |

**CONCLUSION:** How was it helpful to look at the present day specimens before you looked at the past life?

_____
_____