

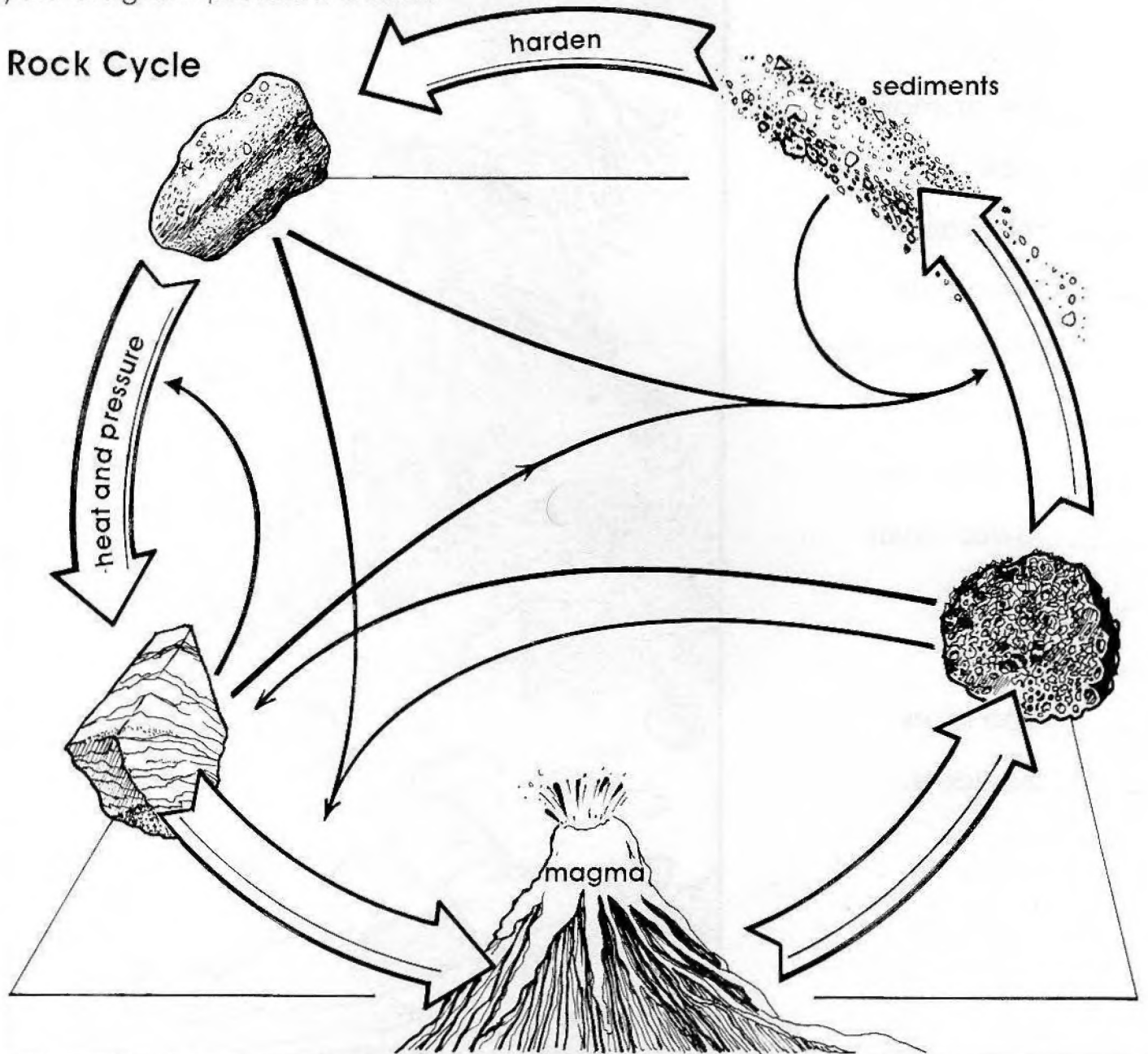
The Rock Cycle

Name _____

With the help of heat, pressure, and weathering, one kind of rock can be changed into a new kind of rock. For example, beautiful marble is formed from limestone, and slate comes from shale and clay.

The changing of rocks is an ongoing cycle. There is no true beginning, but it might be easier to understand by beginning with magma. Complete the rock cycle diagram pictured below.

Rock Cycle



WORD BANK

sedimentary rock
melting

igneous rock
weathering

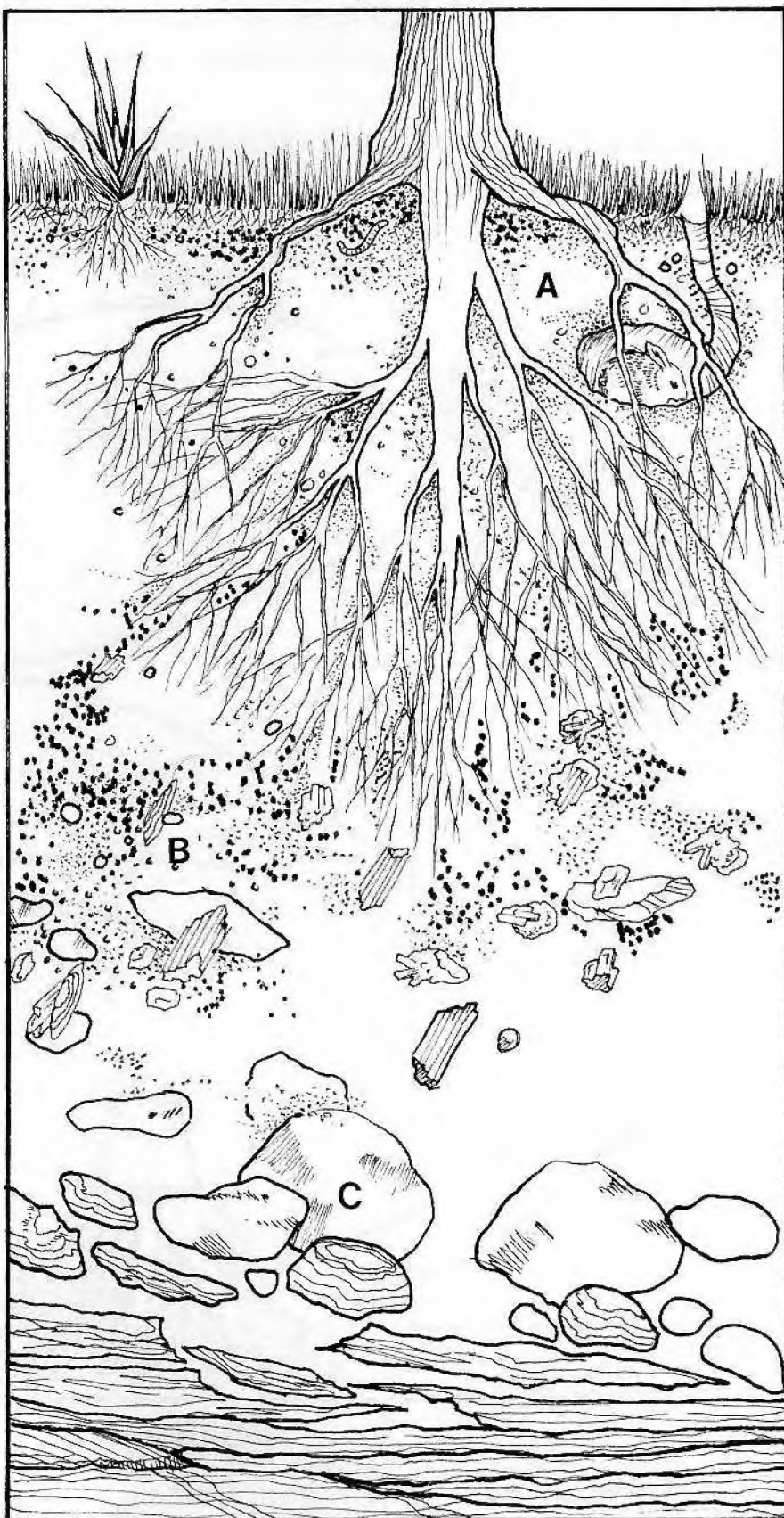
metamorphic rock
cooling and hardening

Soil Profile

Name _____

Study the soil profile pictured below. Identify the layer or layers where each of the following is found.

- _____ live animals
- _____ rock
- _____ minerals
- _____ live plants
- _____ organic matter
- _____ top layer
- _____ middle layer
- _____ lowest layer
- _____ topsoil
- _____ subsoil
- _____ tree roots
- _____ boulders



Mohs Hardness Scale

Name _____

One of the most useful properties used for identification of a mineral is its hardness. The Mohs hardness scale measures a mineral's hardness by means of a simple scratch test.

Name the mineral that belongs in each step of the Mohs Hardness Scale chart.

Mohs Hardness Scale		
Hardness	Mineral	Common Tests
1		Fingernail will scratch it.
2		
3		Fingernail will not scratch it; a copper penny will.
4		Knife blade or window glass will scratch it.
5		
6		Will scratch a steel knife or window glass.
7		
8		
9		Will scratch all common materials.
10		

WORD BANK

Talc
Calcite
Apatite

diamond
Topaz
Feldspar/Orthoclase

Gypsum
Fluorite

Corundum
Quartz

Name That Mineral

Name _____

One can identify many minerals by carefully observing their physical characteristics. **Some** of these characteristics are:

Hardness — This is determined with a scratch test.

Color — Color depends on the substances that make up the crystals. Varies greatly.

Luster — This refers to how light reflects off the mineral.

Enough information has been given to you here to help you find the unknown minerals and fill in the chart.

Hardness Scale		
Hardness	Mineral	Common Tests
1	Talc	Fingernail will scratch it.
2	Gypsum/ Kaolinite	
3	Mica/ Calcite	A copper penny will scratch it.
4	Fluorite	Knife blade or window glass will scratch it.
5	Apatite/ Hornblende	
6	Feldspar	Will scratch a steel knife or window glass.
7	Quartz	
8	Topaz	
9	Corundum	Will scratch all common materials.
10	Diamond	

Color	Mineral
White:	Quartz, Feldspar, Calcite, Kaolinite, Talc
Yellow:	Quartz, Kaolinite
Black:	Hornblende, Mica
Gray:	Feldspar, Gypsum
Colorless:	Quartz, Calcite, Gypsum

Luster	Mineral
Glassy:	Quartz, Feldspar, Hornblende
Pearly:	Mica, Gypsum, Talc
Dull:	Kaolinite

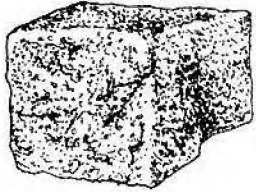
THE UNKNOWN MINERALS —

Hardness	Color	Luster	Mineral
Will scratch a steel knife or window glass.	yellow	glassy	
Will scratch a steel knife or window glass.	gray	glassy	
A copper penny will scratch it.	black	pearly	
Fingernail will scratch it.	white	pearly	
Knife blade or window glass will scratch it.	black	glassy	

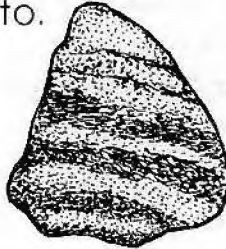
Classy Rocks

Name _____

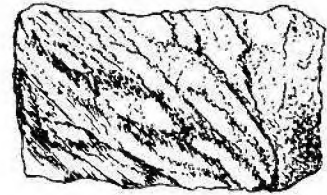
There are three main groups of rock: **igneous** rock, **metamorphic** rock, and **sedimentary** rock. Each of the rocks pictured on this page belongs to one of these groups. Fill in the definitions. Then, in the space below each picture, tell which group each rock belongs to.



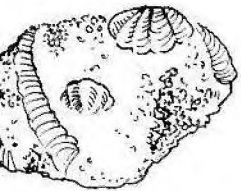
granite



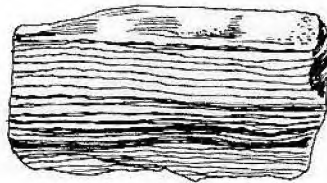
gneiss



marble



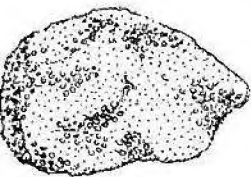
limestone



shale



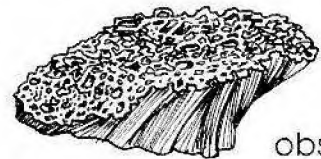
basalt



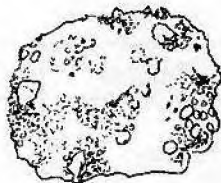
sandstone



slate



obsidian



conglomerate

Kind of Rock	Definition
Igneous	
Sedimentary	
Metamorphic	

WORD BANK

igneous
metamorphic
sedimentary

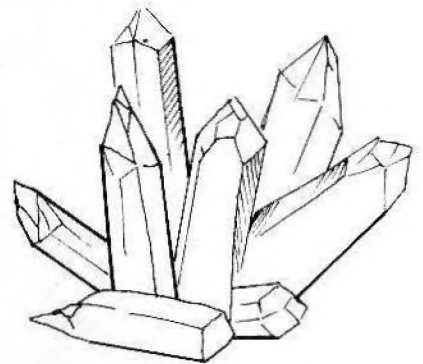
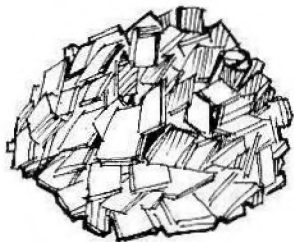
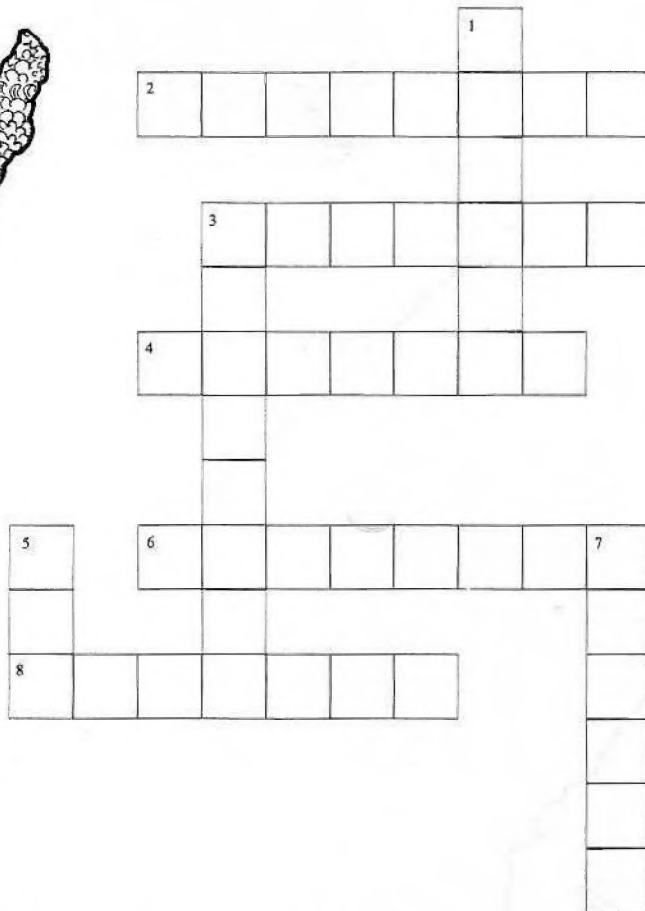
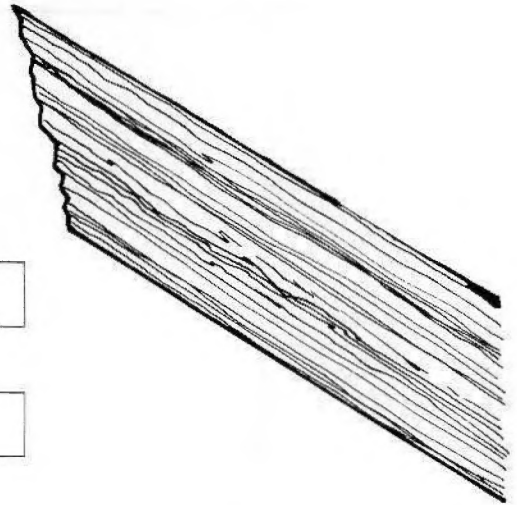
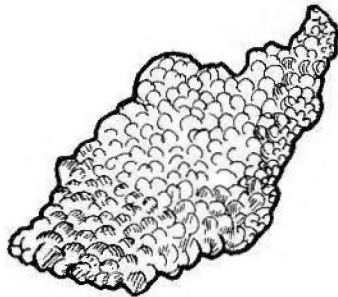
DEFINITIONS

layers of loose material which solidified
cooled magma
rock that has been changed into a
new rock

Use what you have learned about rocks and minerals to complete this puzzle.

Across

2. An uneven break
3. Substance with 3-dimensional plane faces
4. Feel of a surface when rubbed
6. Measured with Mohs Scale
8. Quartz is an example of a _____.



Down

1. Light reflected from a mineral's surface
3. Smooth break in a mineral
5. Large mineral crystal with brilliant color
7. A _____ test shows the color of a mineral when it is rubbed into a fine powder.

WORD BANK

hardness
gem
fracture

crystal
cleavage
luster

streak
texture
mineral