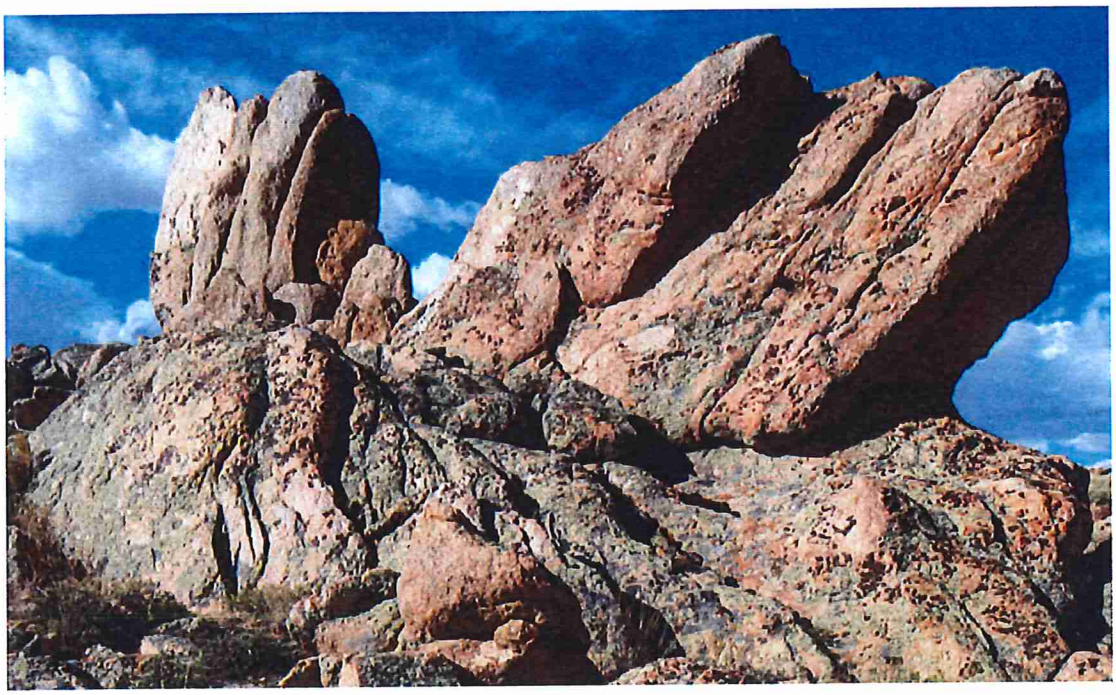
Rock Cycle Year 8
Test and Practical



Name: MARKING KEY

Teacher:

Practical	Test	Total
____ 24	____ 21	____ 45

Year 8 Rocks Assessment

Part A: Multiple Choice (5 marks)

1. Rocks that form from cooling magma underground are called:

   a) extrusive metamorphic rocks
   b) intrusive metamorphic rocks
   c) extrusive igneous rocks
   d) intrusive igneous rocks

2. Identify the property of a diamond that allows it to scratch glass or drill through hard rock.

   a) Lustre
   b) Streak
   c) Hardness
   d) Transparency

3. Which of the following rocks are formed from the remains of living things?

   a) Basalt and Coal
   b) Coal and Limestone
   c) Coal and Slate
   d) Slate and Granite

4. All rocks are made up of a number of basic materials called:

   a) fossils
   b) ores
   c) minerals
   d) crystals

5. Use the following chart to answer the following question:

Mohs' Rank Position		Mineral
1	softest	talc
2		gypsum
3		calcite
4		fluorite
5		apatite
6		feldspar
7		quartz
8		topaz
9		corundum
10	hardest	diamond

Which of the following is correct?

a) Calcite will scratch diamond
b) Feldspar will scratch quartz
c) Quartz will scratch calcite
d) Talc will scratch all minerals

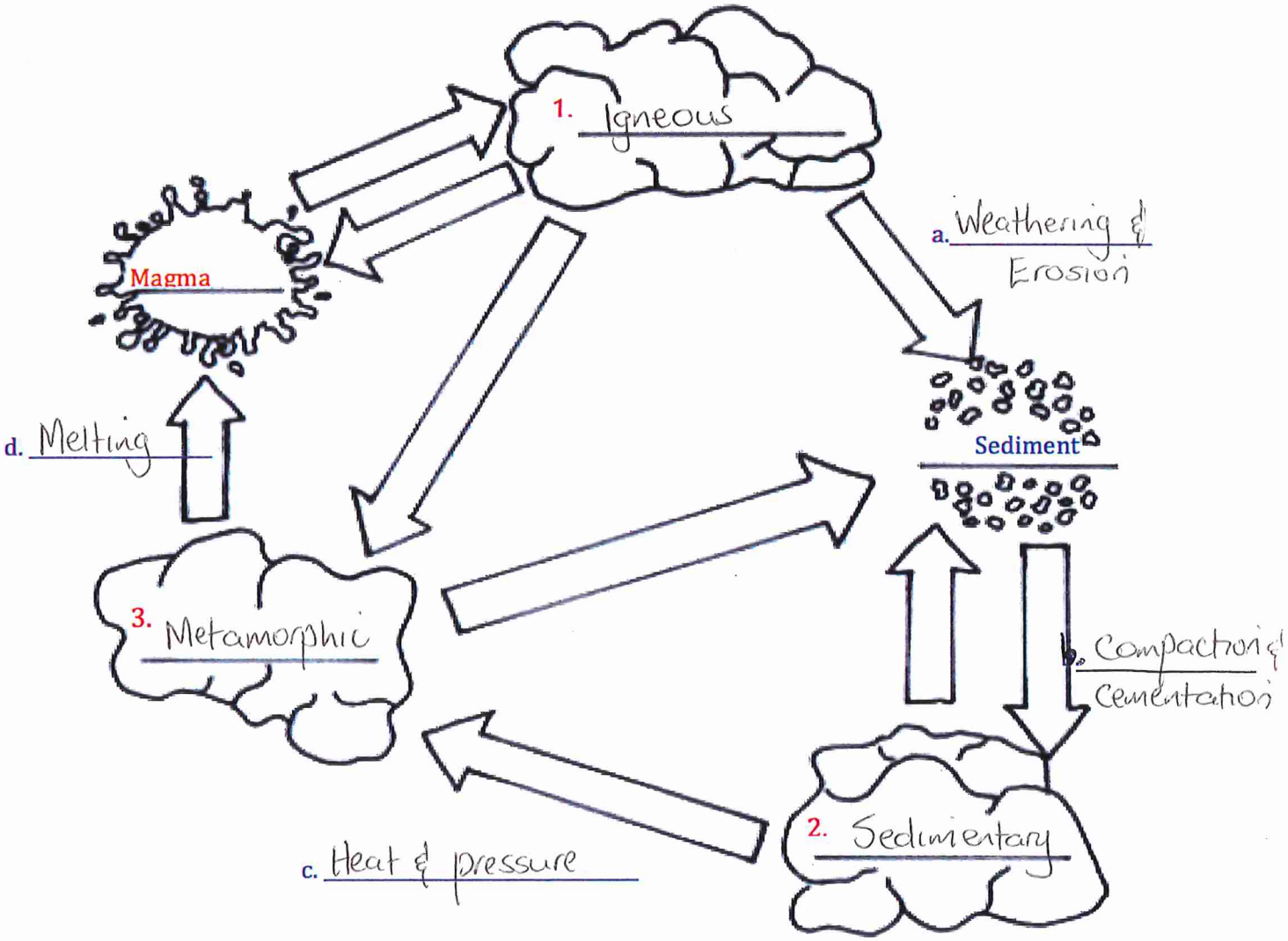
Part B: Label the Diagram **(7 marks)**

A trip through the rock cycle takes millions of years.

Using the Rock Cycle diagram below:

1. Label the three rock types, using the spaces provided (boxes 1 – 3). (3 marks)

2. Label the four processes which help to create each of the rock types, using the spaces provided (lines a – d). (4 marks)



Part C: Rock Identification

[9 marks]

1. Label each of the 3 Rock samples shown below (Igneous, Sedimentary or Metamorphic). (3 marks)

Metamorphic

Sedimentary

Igneous

2. Accompany your choice with **two** reasons why you think it belongs in that category (what features does it have that helps you classify it). (6 marks)

- Has bands / foliations (layers)
- Interlocking crystals
- Very dense
- Harder & stronger than original material.

- Grains / sediments of different sizes
- Sediments cemented together
- No interlocking crystals
- Can be friable
- May have fossils

- Vesicular (air holes) from trapped gas during cooling
- No / tiny crystals from rapid cooling
- No fossils
- Mafic

Part D: Rock Cycle investigation

[24 marks]

Materials :			
	1 sugar cube Foil (10cm square) Candle	Hand lens Wooden test tube peg Safety glasses	White paper (10 cm square)

Procedure, Observations and Conclusions

Procedure	**Observations** - Describe what you see		**Marks**	**Conclusion** Relate your observations to the Rock Cycle	**Marks**
1. Examine the sugar cube with a hand lens.	Grain size	Very small / tiny /**Fine**	½ mark each	**What rock type does this represent?** Igneous or sedimentary	1
	Grain shape	Cube (circular)			
	How close together are the grains?	Very close (touching)		**Explain why** Igneous - tiny crystals present - tiny airholes / vesicles between crystals Sedimentary - tiny grains / sediments - sediments cemented together.	2
	Are the grains cemented together?	Yes			
	What is the overall shape of the sample?	Cube			
	What state of matter is the sample? (solid,liquid,gas)	Solid			

<table>
<tr>
<td>2. Place sugar cube on white paper square and use the back of the tongs to crush <u>A SMALL AMOUNT</u> of the cube into a powder.</td>
<td>How close together are the grains in the small amount of crushed material?</td>
<td>Further apart (than before)</td>
<td>½ mark each</td>
<td>What process in the Rock Cycle does this crushing represent?
Weathering
Explain why:
Physical breakdown of a large piece (1) into much smaller pieces (1)</td>
<td>1

2</td>
</tr>
<tr>
<td></td>
<td>Are the grains cemented together?</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Fold the edges of the foil over to make a small bowl. Pour the crushed sugar into the foil bowl.</td>
<td colspan="3">What process in the Rock Cycle does the <u>movement</u> from place to place, of the crushed sugar represent?
Erosion.
Explain why and how:
Fragments are being moved physically (from the paper to the foil bowl) (1)
by agents such as animals, wind, water and/or gravity (1)</td>
<td> 
</td>
<td>1

2</td>
</tr>
<tr>
<td>4. Use the metal tongs to hold the bowl over the candle flame. Write down what your observations are after waiting a few minutes</td>
<td colspan="4">What process in the Rock Cycle does this represent?
Melting
Explain how this comes about in the Rock Cycle
Solid fragments are heated (1)
and change state to form molten/liquid 'rock' (1)</td>
<td>1

2</td>
</tr>
</table>

5. Set the foil bowl aside and let the sugar cool and harden. Write down what your observations after a few minutes.	What is the overall shape of the sample?	Takes the shape of the foil (circular/square/ etc)	½ mark each	**What process in the Rock Cycle does this represent?** Cooling / Solidification **Explain how this comes about in the Rock Cycle.** When hot magma/lava is exposed to cooler temperatures (1) and solidifies to form igneous rock (1)	1 2
	What state of matter is the sample? (solid,liquid,gas)	Solid			
6.Break the hardened sugar into pieces by crumpling the cooled foil a little. Write down what your observations are as the sugar begins to break up.	**What process in the Rock Cycle does this represent?** Weathering **What is produced from this process in the Rock Cycle?** Sediments **What do you notice about what we did in step 2, and what we did in step 6?** Both involve weathering / breaking down of the 'rock' into smaller pieces. **What does this say about what happens to rocks?** Rocks are part of a continuous process called the rock cycle, which involves constant change from one form to another.				1 1 1 1
	TOTAL: 24		5		19