It's a Rocky World

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Developed for 3rd graders

Georgia Performance Standards

- S3E1. Students will investigate the physical attributes of rocks and soils.

a. Explain the difference between a rock and a mineral.

b. Recognize the physical attributes of rocks and minerals using observation (shape, color, texture), measurement, and simple tests (hardness).

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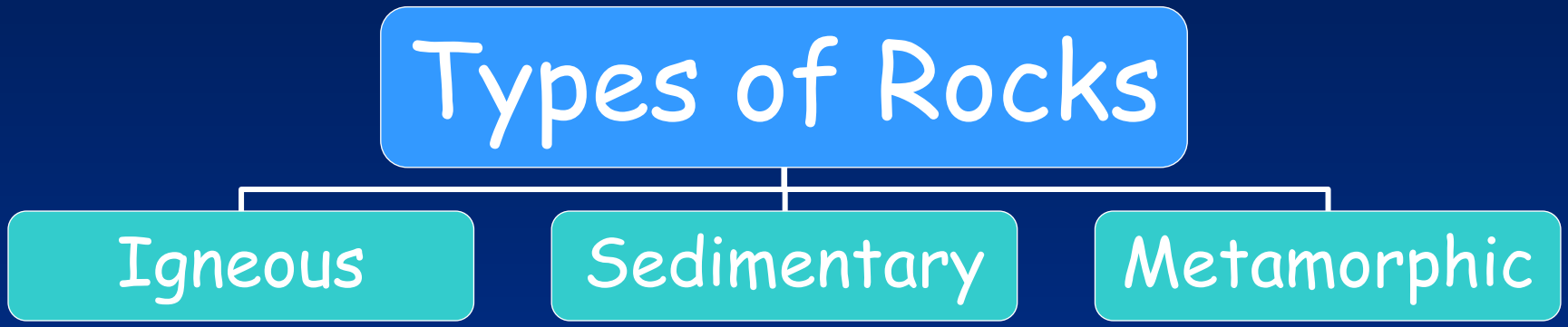
What are the 3 types of Rocks?

- **Igneous rock** is formed from molten rock that has cooled and hardened.
- **Sedimentary rock** is formed from material that has settled into layers and hardened.
- **Metamorphic rock** is a rock that has changed by heat and pressure.

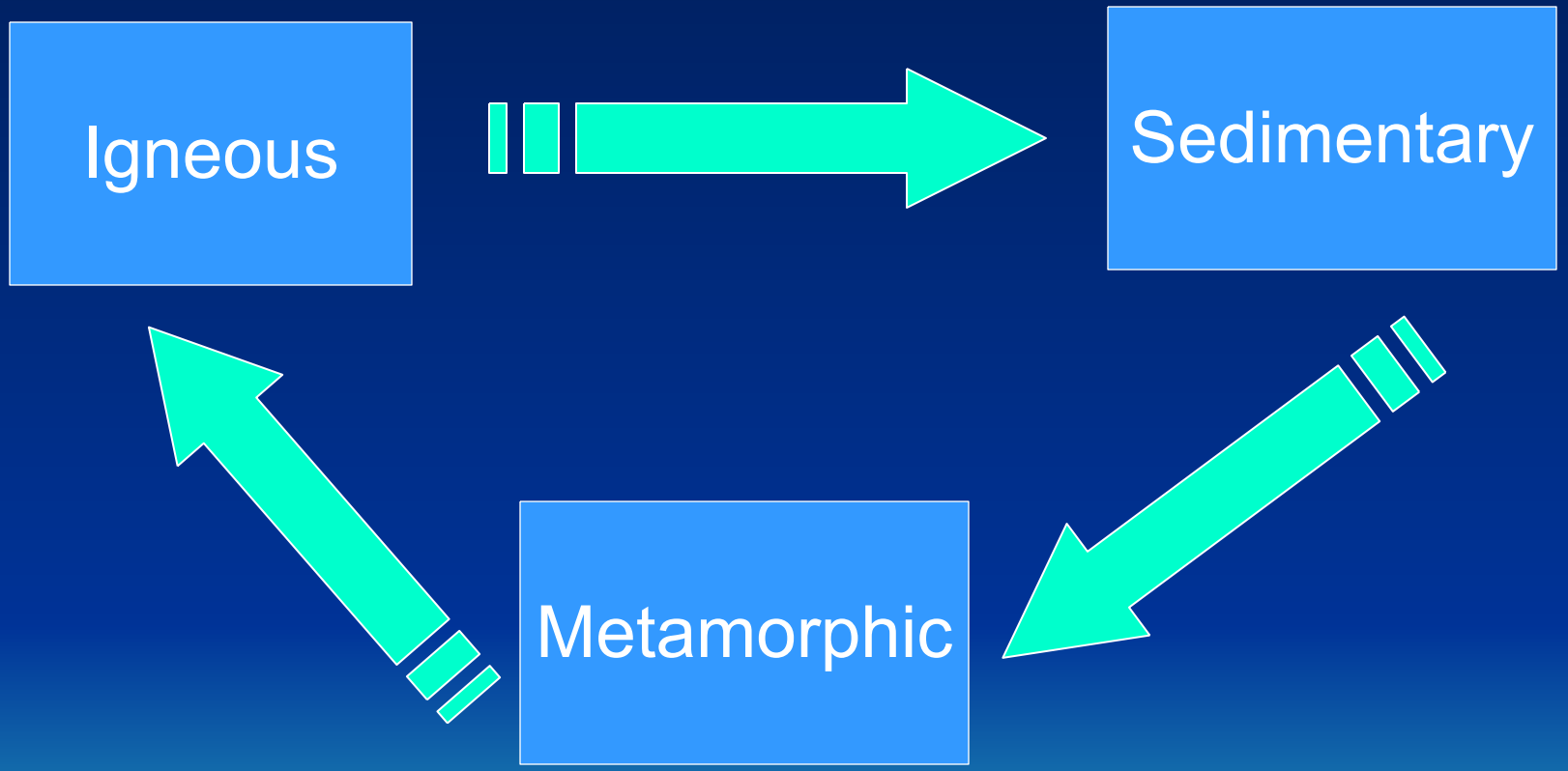
3 Types of Rocks



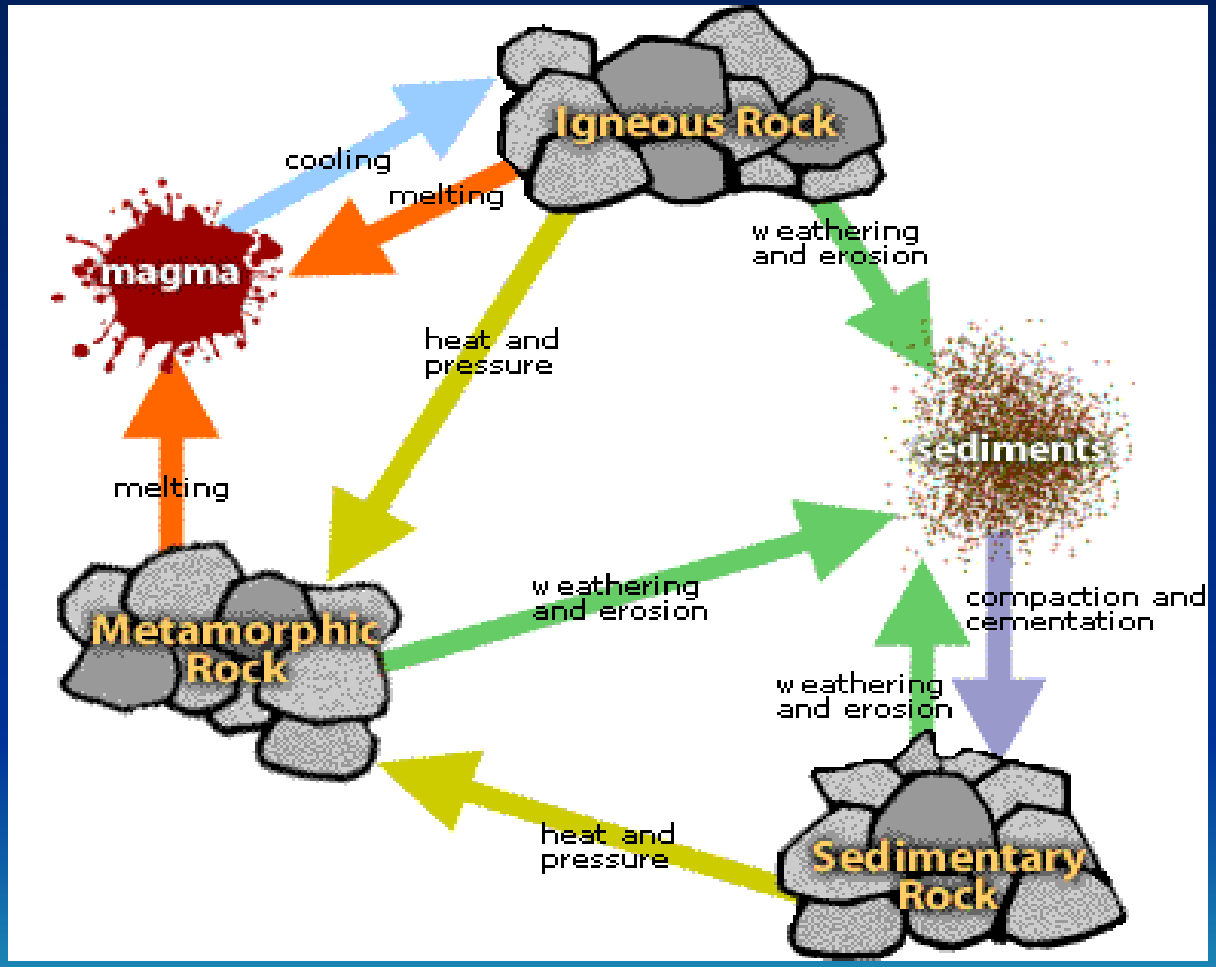
Examples…

Igneous	Metamorphic	Sedimentary
Granite	Slate	Sandstone
Obsidian	Marble	Limestone
Pumice	Gneiss	Shale

The Rock Cycle



Another Rock Cycle



Brain Pop Video

http://www.brainpop.com/science/theearthsystem/rockcycle/

Wow, I wonder what this video is about??

How do Rocks form?

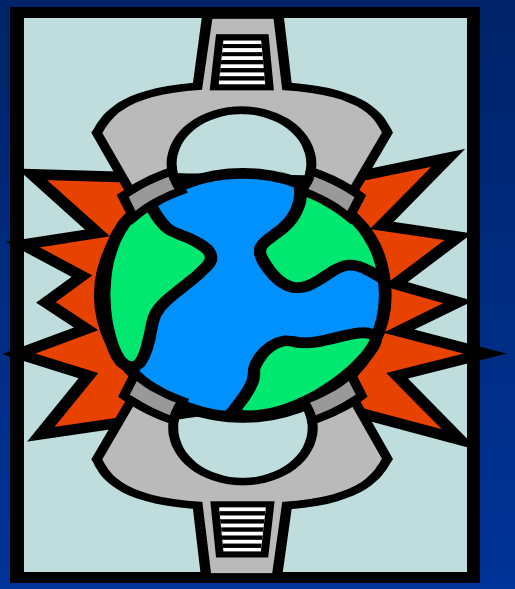
- How much time does it take to form a rock?
  - If you squeeze and heat a rock for a few million years, it can turn into a new kind of rock.

Continued…

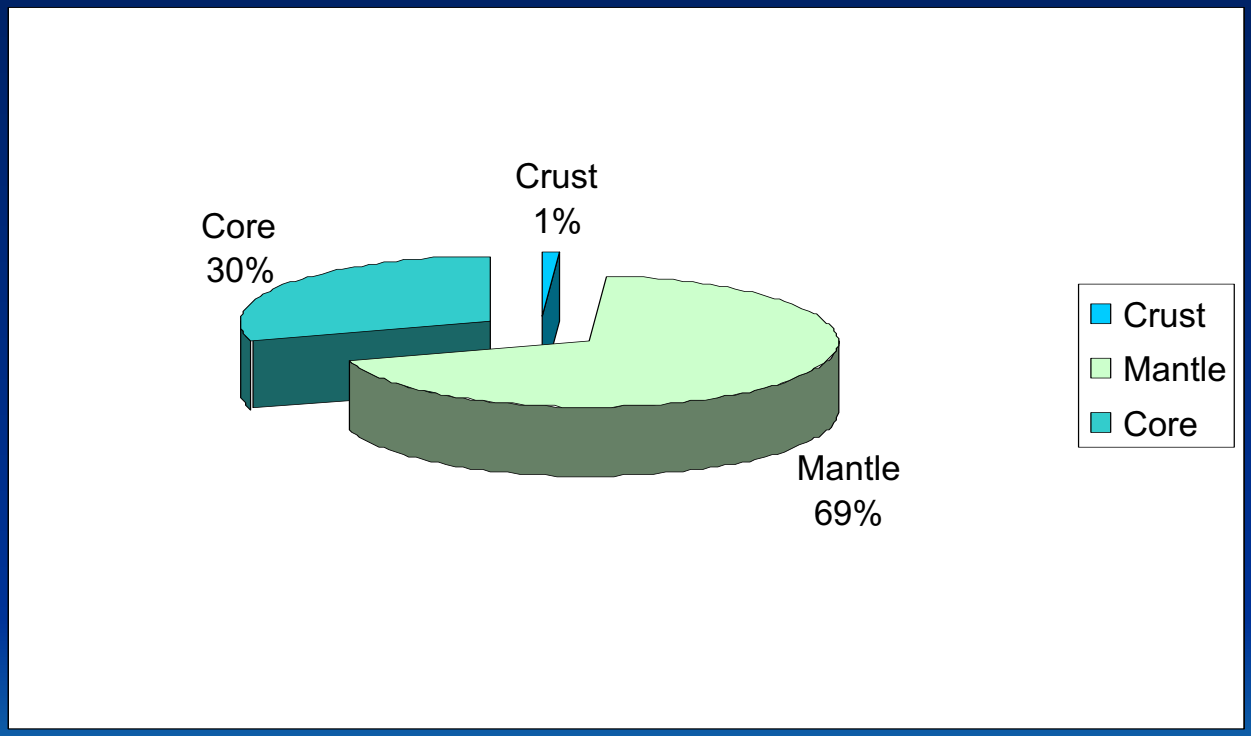
- Where does the heat come from?
  - When rocks are close enough to the magma to be heated but not close enough to be melted, the rocks can be changed.

Continued…

- Where does the pressure come from?
  - Rocks below the surface are squeezed by the layers of rock above them. The thicker the layers, the more pressure there is.



What makes up the earth?



What is the difference between rocks and minerals?

- A mineral is a nonliving solid found in nature.
- But, aren't rocks nonliving and found in nature too??
- Then what is the difference between a rock and a mineral?

Rocks and Minerals

- Rocks are made up of one or more minerals!!!
- The reason why some rocks have more than one color, is because they contain more than one mineral.
- Also, some rocks are made of other things, such as sand and pebbles, in addition to minerals.

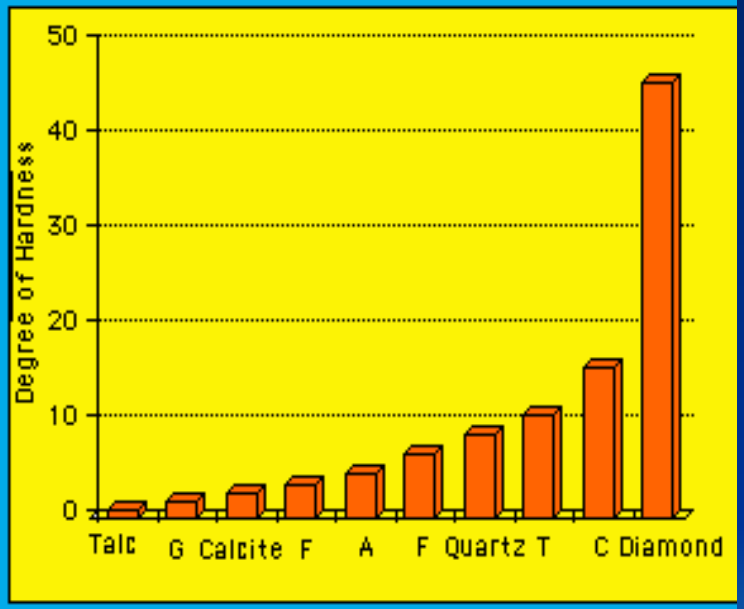
How do we know the strength of rocks and minerals?

- The Mohs Hardness Scale was designed for us to use as a scale to determine the strength of rocks and minerals. Here are some examples that we could test using the scale.

Mohs Hardness Scale

1. Talc
2. Gypsum
3. Calcite
4. Fluorite
5. Apatite
6. Feldspar
7. Quartz
8. Topaz
9. Corundum
10. Diamond

Mohs Hardness Scale



In Conclusion...

- Rocks and Minerals are found everywhere on earth.
- Rocks are made from minerals and can contain several different kinds.
- Rocks can be divided into 3 different groups based on their properties.
- People use rocks in many different ways!

References

- Classroom of the Future. (1999-2005). Retrieved July 22, 2005, from www.cotf.edu.
- Discovery School. (2005). Retrieved July 22, 2005, from www.discoveryschool.com.
- Kansas Geological Survey. (2005). Retrieved July 22, 2005, from www.kgs.ku.edu
- Rocks for Kids. (1999-2005). Retrieved July 22, 2005, from www.rocksforkids.com.
- Yahoo, Inc. (2005). Retrieved July 22, 2005, from www.yahooligans.com.