Unit 2 Study Guide

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| --- | --- | --- | --- |
|  | **Formation** | **Texture** | **Composition** |
| **Igneous**  **(intrusive, extrusive)**  **Words to use:** mica, quartz, feldspar, coarse-grained, fine-grained, melt, granite, cool, magma, lava, harden, feldspar | Rocks \_\_\_\_\_\_\_\_\_\_\_\_\_ (lava or magma), then \_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_ (solidifies). | \_\_\_\_\_\_\_\_\_\_\_\_\_-grained (intrusive)  \_\_\_\_\_\_\_\_\_\_\_\_\_-grained (extrusive) | Example: \_\_\_\_\_\_\_\_\_\_\_\_\_ is made of the minerals: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Sedimentary**  **(clastic, organic, sedimentary)**  **Words to use:** limestone,plants,weathered, smooth, calcite, coarse-grained, fine-grained, cemented, compacted, deposited, layers, pointy, coal, eroded | Rock is \_\_\_\_\_\_\_\_\_\_\_ (broken down), then \_\_\_\_\_\_\_\_\_\_\_\_\_ (moved), then \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (dropped) in water. These sediments are \_\_\_\_\_\_\_\_\_\_\_\_\_\_(compressed) and \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (glued) together over time. | \_\_\_\_\_\_\_-grained (like coglomerates)  Medium-grained (like sandstone)  \_\_\_\_\_\_\_\_\_\_-grained (like shale)  \_\_\_\_\_\_\_\_\_\_ visible (like sandstone)  \_\_\_\_\_\_\_\_\_\_\_\_ sediments (like conglomerate) or \_\_\_\_\_\_\_\_\_\_\_\_ sediment (like breccia) | Example: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is made of mostly the mineral \_\_\_\_\_\_\_\_\_\_\_\_ (maybe shells)  Example: \_\_\_\_\_\_\_\_\_\_ is made of ancient \_\_\_\_\_\_\_\_\_\_\_\_. |
| **Metamorphic**  **(foliated, nonfoliated)**  **Words to use:** marble, foliated, heat, nonfoliated, limestone, pressure, underground | Rock is under a lot of \_\_\_\_\_\_\_\_\_ (but not enough to melt the rock) and \_\_\_\_\_\_\_\_\_\_\_\_. This usually happens deep \_\_\_\_\_\_\_\_\_\_\_\_\_ (or near magma).  Note: colliding tectonic plates can also cause metamorphic rocks. | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (banded due to pressure)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Example: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is made from \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (calcite). |

**Rocks**

\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_

(molten rock cools/hardens) (weather/erosion/deposition, THEN (heat and extreme pressure)

compaction and cementation

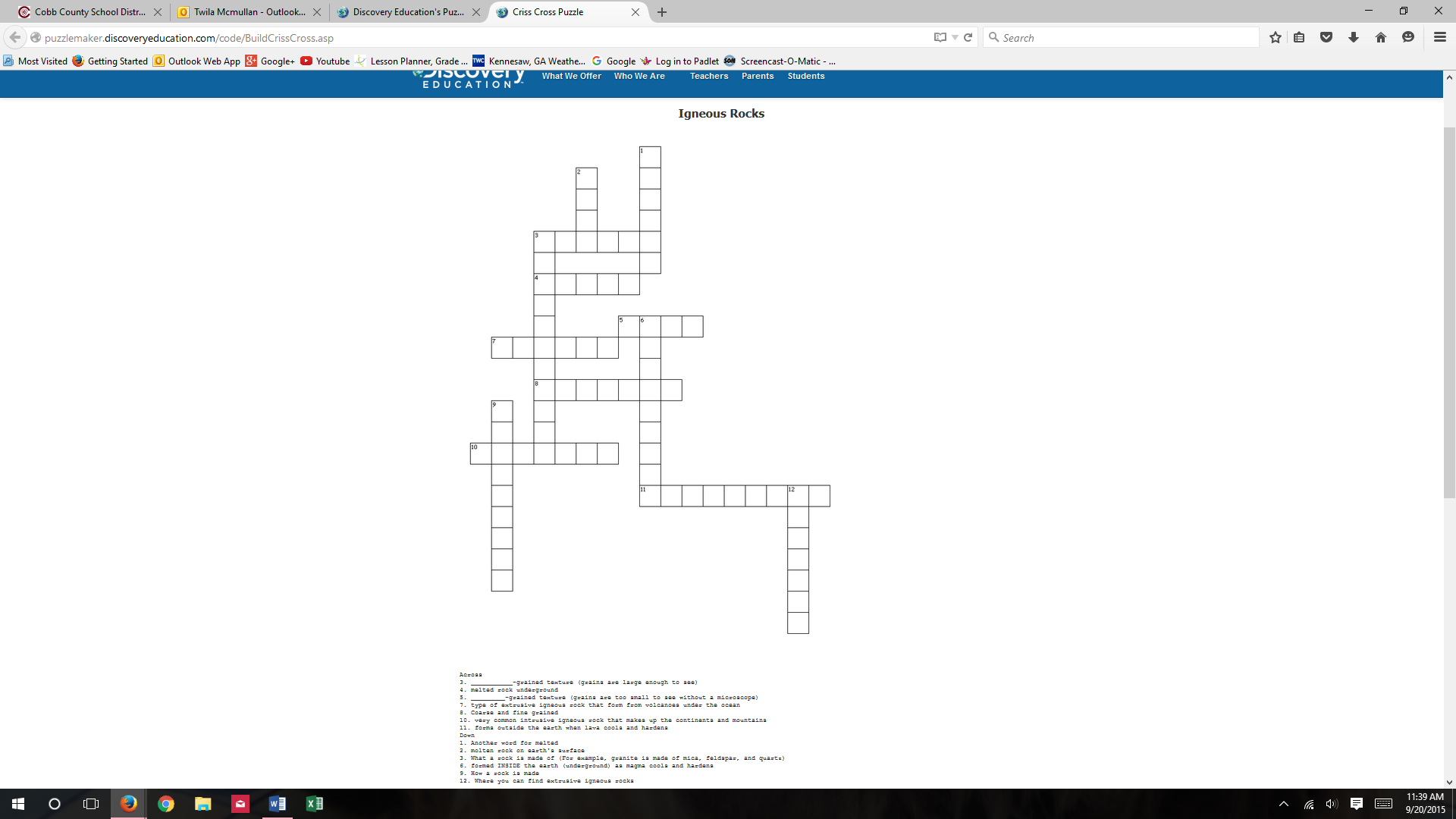
\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

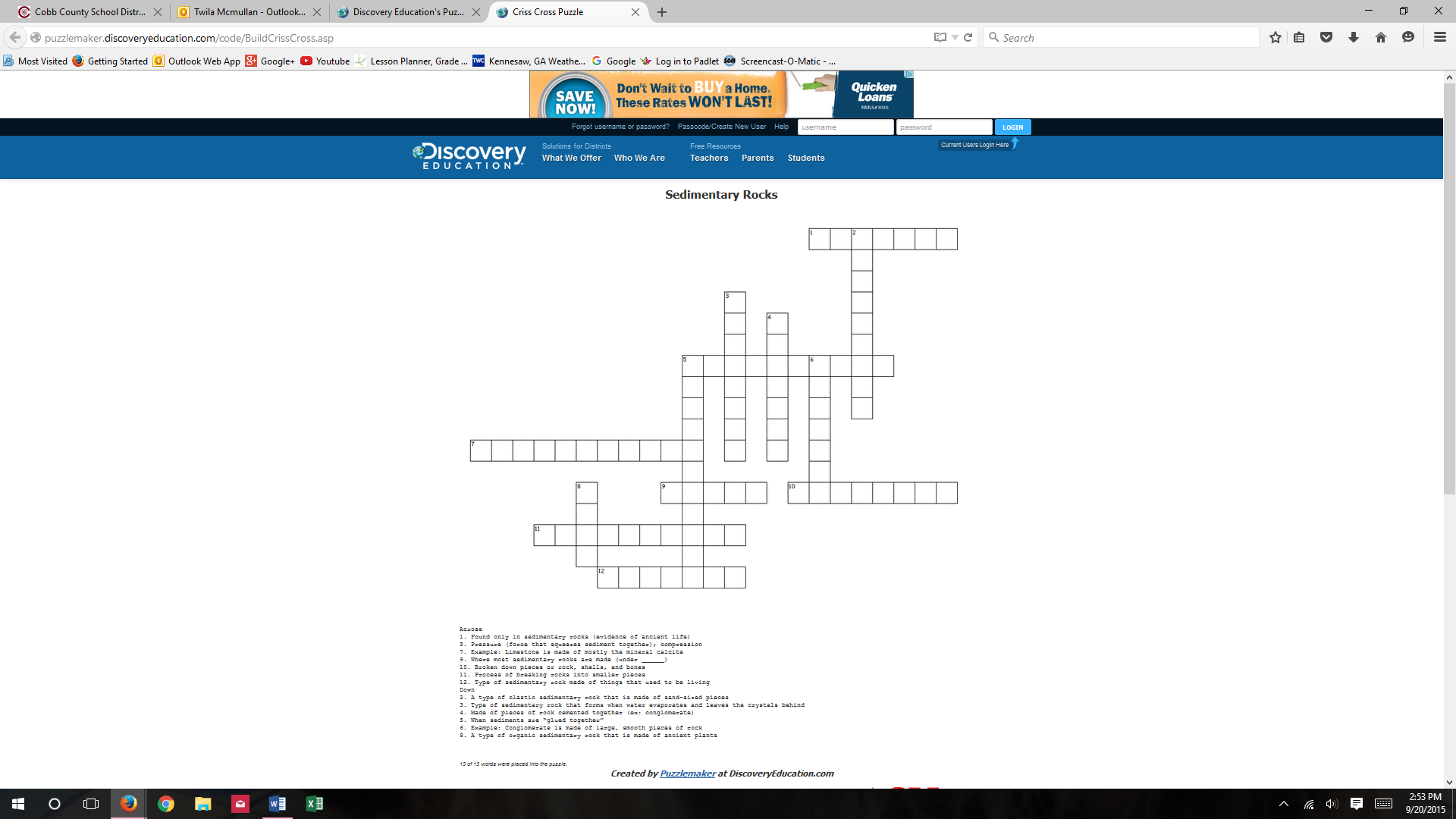
(magma) (lava) (small pieces (once living) (evaporation) (banded) (not banded)

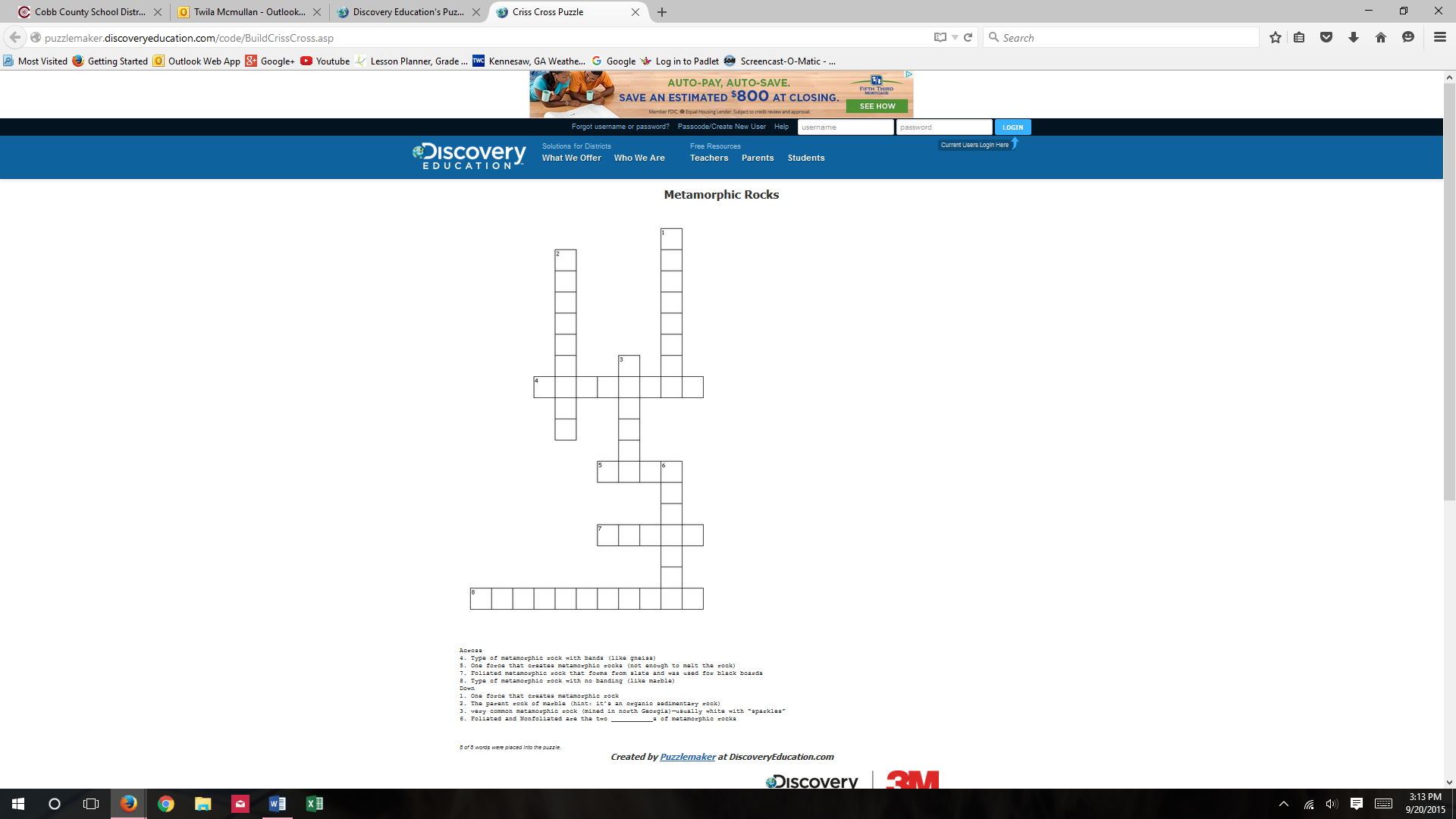
>larger grains< >fine-grained< stuck together)

Ex: \_\_\_\_\_\_\_\_\_ Ex: \_\_\_\_\_\_\_\_\_ Ex: \_\_\_\_\_\_\_\_\_ Ex: \_\_\_\_\_\_\_\_\_ Ex: \_\_\_\_\_\_\_\_\_ Ex: \_\_\_\_\_\_\_\_\_ Ex: \_\_\_\_\_\_\_\_\_

**Example to use:** sandstone, marble, granite, gneiss, fossil limestone, basalt, rock salt







**Rock Riddles**

**Riddle 1:**

Use the poetic information provided below to identify the igneous rock.

Some lava may be hotter,

But this one floats on water.

And when you need to sine or grind,

This is the rock to keep in mind.

Here are two more hints:

It has ice in it, but the ice won’t melt.

Rodents are part of its name.

**Riddle 2:**

The earth produces a giant mass of intrusive igneous rock. What is it called?

To find out, supply the missing letters in the clues below. When you put the missing letters together, you’ll know what the mass is called.

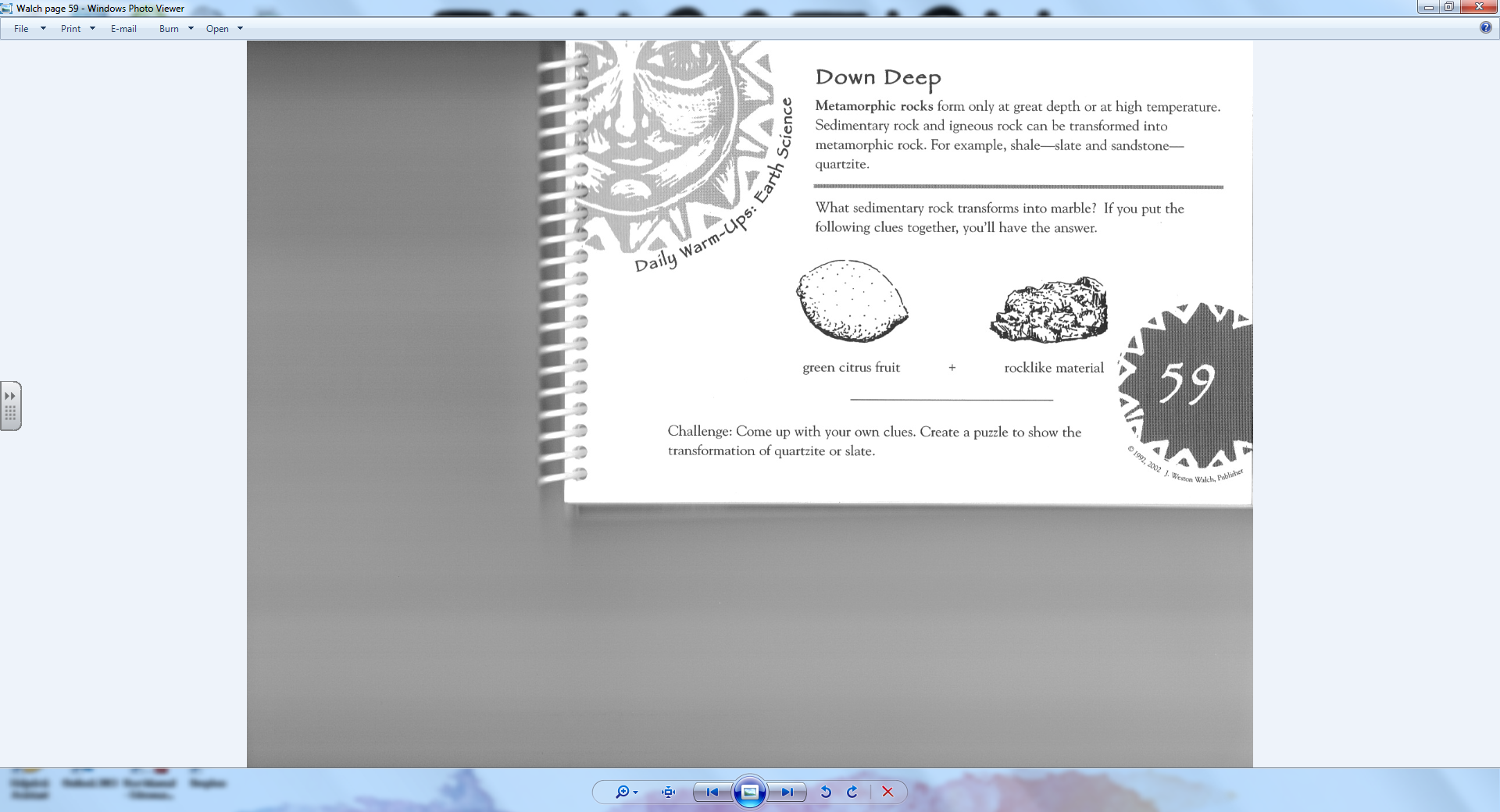
1. The opposite of good: \_ \_ d
2. Big Bang \_ \_ eory.
3. Ring-shaped island of coral: at\_ \_ l.
4. Earth’s outer shell: l\_ \_ \_ osphere

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Riddle 3:**

Metamorphic rocks form only at great depth or at high temperature. Sedimentary rock and igneous rock can be transformed into metamorphic rock. For example, shale turns into slate and sandstone turns into quartzite.

What sedimentary rock transforms into marble? If you put the following clues together, you’ll have the answer.



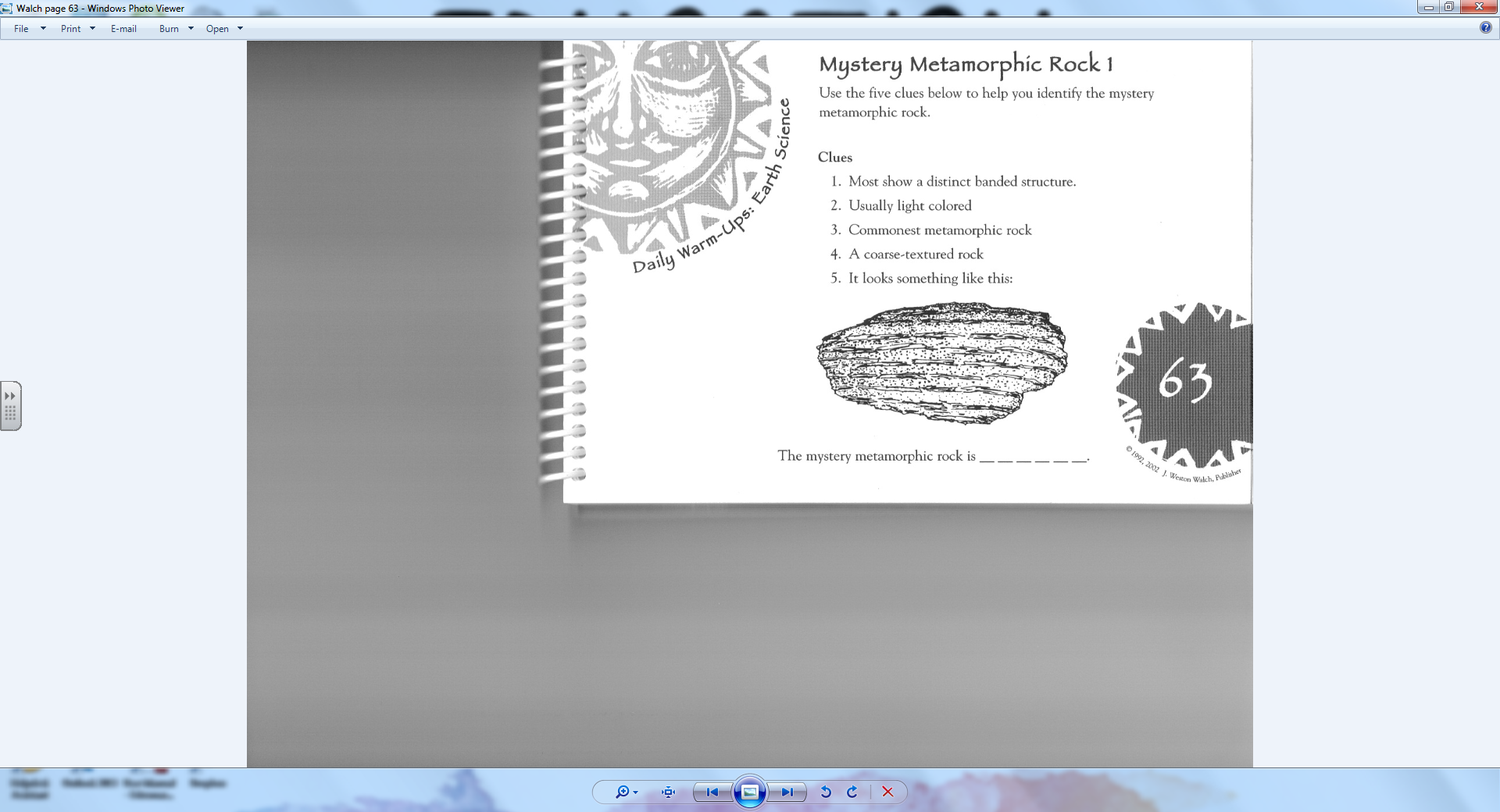
*Challenge: come up with your own clues. Create a puzzle to show the transformation of quartzite or slate.*

**Riddle 4:**

Use the five clues below to help you identify the mystery metamorphic rock.

Clues

1. Most show a distinct banded structure
2. Usually light colored
3. Commonest metamorphic rock
4. A course-textured rock
5. It looks something like this:



The mystery metamorphic rock is \_ \_ \_ \_ \_ \_ .

