The Water Cycle

Label each step in the water cycle as well as the important elements that make the water cycle possible. Then color the picture. Use your best 4th grade art work! No scribbles. Stay in the lines.
Water Cycle Elements

Describe the elements of the water cycle by answering each of the questions below.

What is evaporation? How does it happen?
________________________________________________________________________
________________________________________________________________________

What is condensation? How does it happen?
________________________________________________________________________
________________________________________________________________________

What is precipitation? How does it happen?
________________________________________________________________________
________________________________________________________________________

Where are some places you can find water on the Earth as it goes through the water cycle? (Hint: look at the water cycle picture on your other worksheet!)
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
WATER CYCLE POETRY

Write an acrostic poem about how each of the following things play a part in the water cycle. Remember, for an acrostic poem you write a word or phrase for each letter in the word.

S. __________________________
U. __________________________
N. __________________________
R. __________________________
A. __________________________
L. __________________________
N. __________________________
C. __________________________
L. __________________________
O. __________________________
U. __________________________
D. __________________________
S. __________________________
R. __________________________
A. __________________________
L. __________________________
N. __________________________
B. __________________________
O. __________________________
W. __________________________
The Water Cycle & You!
Write about how the water cycle affects you in your daily life. Write a minimum 5 complete sentences with proper grammar, spelling, and punctuation. Try to fill the entire space!

__________________________________________________________________________

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__________________________________________________________________________
The Water Cycle
Flip Book Top Page

Color this top page and write your name. Then, cut out along the SOLID LINES ONLY. DO NOT CUT THE DOTTED LINES. Fold along the dotted lines. Dot glue on the back of the folded flaps. Attach it to the bottom page of the flap book.

The Water Cycle

By: ____________________________
The Water Cycle Flip Book Bottom Page

Glue the top and bottom pages together. Then, underneath each flap, write each step of the water cycle and what it means. Then draw a picture of that step.
The Weather Today

What weather conditions have you seen today so far?

How does the temperature feel outside? What do you think the temperature is and why?

What is the wind like outside?

Has there been any precipitation today? What kind? If not, do you think there will be any precipitation today? Why or why not?
The Weather Tomorrow

What weather conditions do you think you will see tomorrow? Explain your reasoning.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

What do you think the temperature and wind will be like tomorrow? Explain your reasoning.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Draw and color a picture of your weather predictions below.
My day as a Meteorologist

Pretend that you are going to be a meteorologist for a day. What would your day be like? Explain your entire day, from when you wake up until you go to bed. Use as many details as you can! If you have extra time, draw a picture on the back of this page.
Meteorologist Puzzle

Color the puzzle below. Color both the picture and the background to fill the entire square. Cut out the square. Then, cut along the dotted lines. Mix up the pieces and try putting the puzzle back together!
The amount of snowfall in the month of April was recorded by meteorologists. Answer the questions about Line Plot #1.

1) How many days did it rain more than ½ of an inch?

2) How many inches of rainfall was there during the entire month?

The amount of snowfall in the month of December was recorded by meteorologists. Answer the questions about Line Plot #2.

1) What is the difference between the day with the most snowfall and the day with the least?

2) How many inches fell on the 4 highest days all together?

3) How many inches of snow fell during the entire month?
Metamorphic Rocks

Metamorphic rocks are formed deep under the Earth's crust. This happens when igneous and sedimentary rocks are put under intense pressure and heat. Instead of melting from the great heat, they become more compact and dense than they were before. New minerals are also formed in the rocks throughout this process. These rocks often have ribbon-like layers, called foliation and may contain shiny crystals, faults, or folds.

Answer the questions below:

1) How are metamorphic rocks formed?

2) What are some characteristics of metamorphic rocks?

The following rocks below are metamorphic rocks. Describe the characteristics of each rock that make it metamorphic.

Type: Marble

Type: Gneiss

Type: Schist
Igneous rocks are formed when melted rock has cooled down and solidified. When rocks melt from intense pressure and heat, magma is formed. When the magma cools down, coarse-grained rocks with crystals will form. Sometimes the crystals are extremely small, so it just looks like a fine grained rock. When the rocks are formed while still inside of the Earth, they are called intrusive igneous rocks. When magma is released from a volcano before cooling down, extrusive igneous rocks are formed.

**Answer the questions below:**

1) How are igneous rocks formed?

2) What is the difference between intrusive and extrusive igneous rocks?

The following rocks below are igneous rocks. Describe the characteristics of each rock that make it metamorphic.

- **Type: Granite**
- **Type: Obsidian**
- **Type: Pumice**
Name____________________

Sedimentary Rocks

Unlike metamorphic and igneous rocks, all sedimentary rocks are formed at the surface of the earth, either on land or in water. The temperatures and pressures are much lower at the surface of the Earth, so sedimentary rocks are often cemented together by minerals or chemicals. Sometimes they are held together by electrical attraction. They often form near water. Their layers are usually parallel to the Earth's surface, since they are forming at a slower pace. Sedimentary rocks can preserve fossils and other remains. Sedimentary rocks are constantly forming all around us!

Answer the questions below:

1) How are sedimentary rocks formed?

________________________________________________________________________________________

2) What are some characteristics of sedimentary rocks?

________________________________________________________________________________________

The following rocks below are sedimentary rocks. Describe the characteristics of each rock that make it metamorphic.

Type: Shale

________________________________________________________________________________________

Type: Sandstone

________________________________________________________________________________________

Type: Conglomerate

________________________________________________________________________________________
The Rock Cycle

Using what you have learned about each type of rock, can you fill in the rock cycle diagram below? Write each type where it belongs in the diagram. If you have extra time, you can color the picture.

Word Bank:
Metamorphic, Igneous (Intrusive,), Igneous (Extrusive), Sedimentary
Rock Cycle Puzzle

Color the puzzle below. Color both the picture and the background to fill the entire square. Cut out the square. Then, cut along the dotted lines. Mix up the pieces and try putting the puzzle back together!
Pollution

As humans, we do things that can pollute the Earth. Answer the questions below about pollution.

What are some things that humans do that pollute the Earth's atmosphere? List at least 3. Which of these do you do regularly?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Why do you think pollution is a bad thing? Explain your reasoning.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

What are some possible solutions to decrease our pollution problem? Think of things you can do as an individual and things that can be done as a society.

________________________________________________________________________

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________________________________________________________________________

________________________________________________________________________
Land Use and Conservation

The land on Earth is very valuable to us as a society, because we get many of our essential resources from it. We use land for farming to grow food to eat. We filter water from lakes and rivers for drinking. We use trees for building homes and other structures. The gas used in vehicles is also a natural resource that comes from the land. Things you use every day—even this paper—come from natural resources.

While we do use the land for many things, it is important that not all land is developed so that ecosystems are not destroyed. This is why land conservation is important. One way this is done is through National Parks. There are currently 58 National Parks in the United States. The land in National Parks can not be used for resources. They are a great place for recreation to enjoy the great outdoors.

Answer the following questions about the passage:

1) Name 3 ways that land is used for resources that are discussed in the passage.

2) Why is land conservation important?

3) What are National Parks used for?

4) Why do you think the land is important?
Reduce, Reuse, Recycle!

Many of the supplies we use every day come from natural resources. For example, paper comes from wood from trees. We can conserve natural resources by reducing the amount we use, reusing items when we can, and recycling materials that can be recycled.

What can you do to reduce the amount of natural resources you use?

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

What are some items you can reuse to conserve natural resources?

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

What are some items you can recycle to conserve natural resources?

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

Why is it important to conserve natural resources?

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________
My Environmental Law

Pretend that you are able to create a new law to help our environment. What law would you create that would help the environment? Explain what would be required with this law as well as why it is important. How would you enforce this law? If you have extra time, draw a picture on the back to illustrate your law.
The Environment Flip Book Top Page

Color the shapes on this page. Then, cut out along the SOLID LINES ONLY. DO NOT CUT THE DOTTED LINES. Fold along the dotted lines. Dot glue on the back of the folded flaps. Attach it to the bottom page of the flap book.
The Environment Flip Book Bottom Page

Glue the top and bottom pages together. Then, underneath each flap, label and draw a picture of something you can do to help our environment.
HOW ARE FOSSILS FORMED?
Read the passage about how fossils are formed below. Then answer each question about the passage.

Any sign of a past life is called a fossil. You may have asked yourself the following question: How are fossils formed? There are three main ways that fossils are formed. Fossils can be formed by preserved organisms, mineral replacement of organisms, or impressions and tracks. Fossils are usually formed in sedimentary rock.

Organisms can be preserved after they die in the proper conditions. Organisms with hard shells are more likely to become fossilized than ones that don't. Usually the bones are the main part of the body preserved.

Fossils can also be formed by the mineral replacement of organisms. Replacement happens when water dissolves the original hard parts of an organism and replaces them with mineral matter. This creates a replica of the main structure of the organism.

Another common type of fossils are impressions. Impressions are external molds of small organisms or impressions of an organism's tracks. These are formed when an impression is made and hardened under the proper conditions.

1) What is a fossil?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

1) What are the three main ways that fossils are formed?
• ______________________________________________________________________
• ______________________________________________________________________
• ______________________________________________________________________

3) What type of rock are fossils normal formed in?
________________________________________________________________________

4) Which fossil is your favorite and why?
________________________________________________________________________
Fossils and Living Organisms

Explain how each of the following characteristics of a fossil can be used to tell us about the living organism.

Type of Fossil:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Shape of the Fossil:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Size of the Fossil:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Structure of the Fossil:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Patterns in the Fossil:
________________________________________________________________________
________________________________________________________________________
Fossil Exploration

Study each fossil and write what you can infer about the organism from looking at it. Remember to look at the type, shape, structure, and patterns in the fossils.

Name______________________

__________________________
__________________________
__________________________
__________________________
__________________________
__________________________
__________________________
__________________________
Fossil Exploration

Study each fossil and write what you can infer about the organism from looking at it. Remember to look at the type, shape, structure, and patterns in the fossils.

[Images of fossils]

[Blank lines for writing]
Fossils
Flip Book Top Page

Color this top page and write your name. Then, cut out along the SOLID LINES ONLY. DO NOT CUT THE DOTTED LINES. Fold along the dotted lines. Dot glue on the back of the folded flaps. Attach it to the bottom page of the flap book. Draw a picture of a living creature from a long time ago on the front and write about what it is and where it lived.

A Fossil

By: ____________________________

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A Fossil Flip Book Bottom Page

Attach the top flap to this page. Once the book is put together, draw the fossil on the inside flap of the flip book. Try to line it up as close as you can with the living plant or animal on the top flap! Then, write about where your fossil would be found and how it was created.
What is Soil Made Of?

Soil is composed of a variety of minerals, rock, air, and water. It also contains both living organisms (such as plants, fungi, animals and bacteria) and once living organisms. In addition, soil is made up of layers. The top layer of soil is called "topsoil". This is the thinnest layer of soil where most plants and organisms live. The middle layer is called the "subsoil". It is made of clay, iron, and organic matter. In between the middle and bottom layer, weathered material and rocks can be found. This can be called "parent material" because it is the material that is breaking down to form soil. The bottom layer is called bedrock. It is several feet below the surface and it is a large solid mass of rock.

What are some examples of living organisms that can be found in the soil? Think of specific examples not named in the text!

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

What are some examples of once living organisms that can be found in the soil? Think of specific examples not named in the text!

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

What else can be found in the soil?

________________________________________________________________________

________________________________________________________________________
Layers of Soil

Define each layer of soil and give a brief explanation of it. Use the text from "What is Soil Made Of?" to help you fill out the diagram.
SOIL & PLANT GROWTH

The soil helps plants to grow in three distinct ways. First, the soil helps support the plants roots as it grows. It supports the plants because it anchors them into the ground. Second, the soil supplies water to the plants, which they need in order to live. Since water is absorbed into the soil, the roots are able to soak up the water from the soil. Third, the soil provides minerals that are necessary for the plant. The minerals come from weathered rock and decayed organic matter. Healthy soil that contains all 3 of these things is necessary in order for a plant to thrive and produce flowers and fruits.

How does the soil support plants and why is this important? Explain your reasoning, using both evidence from the paragraph AND your own personal observations.

How does the soil provide water to plants and why is this important? Explain your reasoning, using both evidence from the paragraph AND your own personal observations.

How does the soil provide minerals to plants and why is this important? Explain your reasoning, using both evidence from the paragraph AND your own personal observations.
Plant Puzzle

Color the puzzle below. Color both the picture and the background to fill the entire square. Cut out the square. Then, cut along the dotted lines. Mix up the pieces and try putting the puzzle back together!