

Bozeman AP Environmental Science | Big Idea #1 - Earth Systems & Resources
003 - Geology

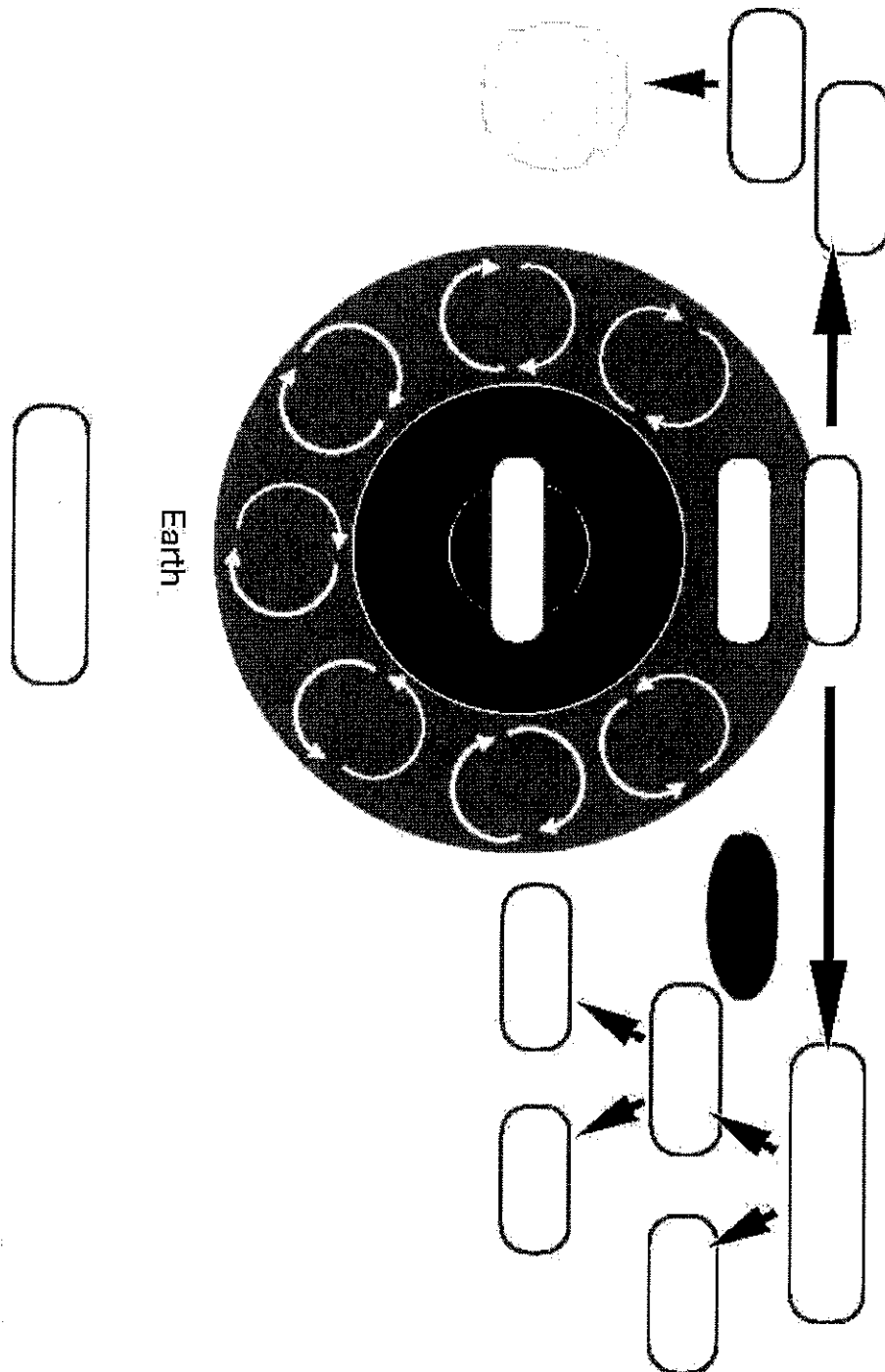
Name: _____ Block/Period: _____ Date: _____

Students: It is recommended that you watch the video with subtitles ON; be prepared to pause and rewind. The video is ~10 minutes long, but this worksheet will take you around ~30 to 35 minutes to complete. There will be a review / discussion afterwards requiring you to record corrections AND summarize additional material / information.

Description (-½ point for each time the rubric is not followed)	Point Value
Each question has been answered	0 ½ 1
Each question has been answered in a full sentence	0 ½ 1
Each answer has avoided 'it' or 'they' statements, by being clear on the topic of the answer	0 ½ 1
<i>Review:</i> Answers that were incorrect are corrected, <i>in a different color</i>	0 ½ 1
<i>Discussion:</i> 2 OR more <i>summary</i> statements of the additional material / information, <i>in a different color</i>	0 ½ 1
Score:	____ / 5

1. Explain why we cannot see most types of rocks form.

- Listen to Mr. Anderson describe the various parts of the concept map, and pause after he reveals a new word, and filling in that word.



3. An igneous rock, like _____, is going to be formed when we have _____ of magma.

4. **Describe** what Erosion does to rocks.

5. **Describe** how Sedimentary rocks form.

6. **Describe** how Metamorphic rocks form.

7. **Explain** the process of convection in the Mantle.

8. **Describe** the processes that cause the plates of the crust to move.

9. **Explain** the two ways that we can measure plate movement on the surface of Earth.

10. **Define** the 3 types of plate boundaries.

i. _____ - _____

ii. _____ - _____

- What forms at this boundary?

iii. _____ - _____

- What forms at this boundary?

11. **Explain** how geologic processes formed Hawaii.

12. Explain the two types of volcanoes.

13. Define the 3 types of faults that cause earthquakes.

- i.

- ii.

- iii.

14. Describe why an Earthquake occurs.

15. Describe why an Tsunami occurs.

16. Describe why an Landslide occurs.

**Bozeman AP Environmental Science
Big Idea #1 - Earth Systems & Resources
004 - The Atmosphere**

Name: _____ Block/Period: _____ Date: _____

Students: It is strongly recommended that you watch the video with subtitles ON. Be prepared to pause and rewind. Even though the video is ~10 minutes long, this worksheet will take you around ~35 minutes to complete. There will be a discussion afterwards requiring you to record corrections AND additional information.

Youtube link: youtu.be/6LkmD6B2ncs (case sensitive)

Reminder: You can use the left and right arrow keys to jump forwards and backwards 5 seconds on YouTube, and the space bar will pause the video.

Rubric	Point Value
Each question has been answered <i>showing</i> that the student has watched the video (-½ Point per, max 1)	0 ½ 1
Each question has been answered in a full sentence (-½ Point per, max 1)	0 ½ 1
Each question has restated the question within the answer, no 'it' or 'they' statements (-½ Point per, max 1)	0 ½ 1
<i>Discussion:</i> 2 to 3 <i>additional</i> statements written next to the question (or in margin), <i>in a different color</i>	0 1
<i>Discussion:</i> 4 OR more <i>additional</i> statements written next to the question (or in margin), <i>in a different color</i>	0 1
Score:	____ / 5

- Draw** the chemical formula for Ozone, and **describe** what Ozone does in the upper atmosphere.

Your Drawing	Description

2. **Explain** what CFCs do to Ozone in the upper atmosphere.

3. If we don't have that protective Ozone we get _____, and

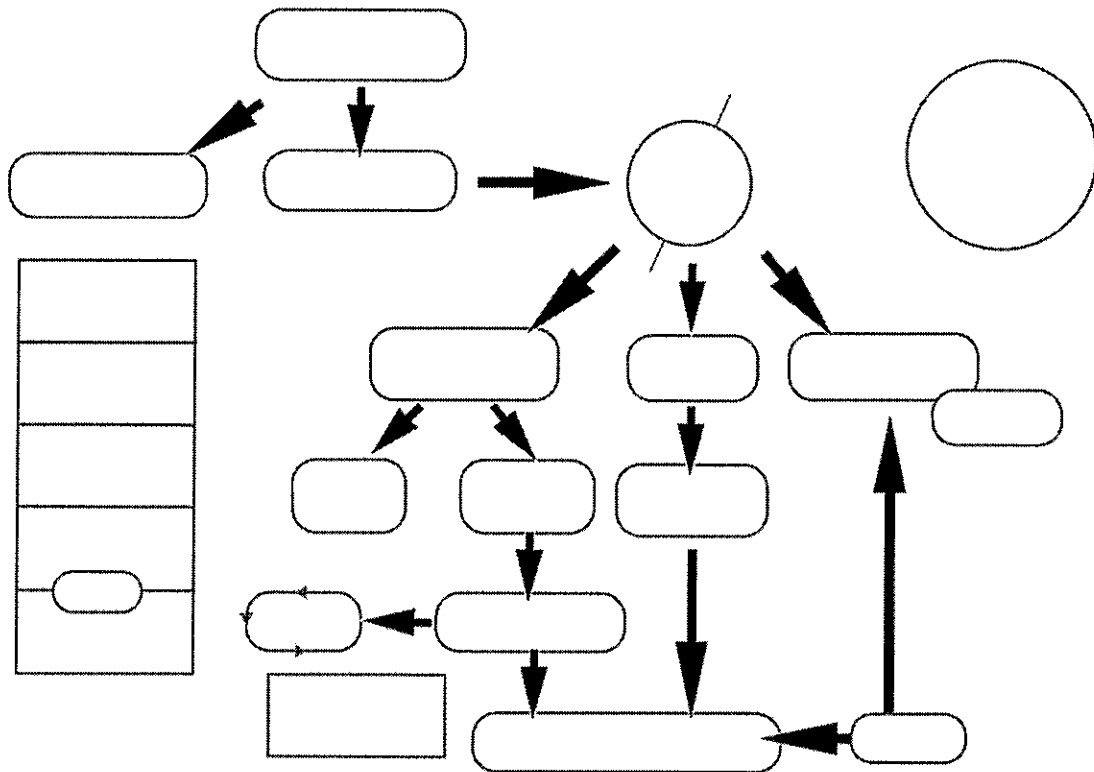
_____.

4. The _____ CFCs... Ozone will return to its original levels around

_____.

5. We live in the _____, and Ozone can be found at the boundary
between the _____ and the _____.

6. Listen to Mr. Anderson describe the various parts of the concept map, and pause after he reveals a new word, and filling in that word.



7. **Describe** the Troposphere.

8. **Describe** the Stratosphere.

9. **Describe** the Mesosphere.

10. Describe the Thermosphere.

11. Describe the Exosphere.

12. Define the difference between Weather and Climate.

13. Fill out the following table for the primary biome that exists at the latitude listed.

Latitude	Biome
0° (the Equator)	
30°	
60°	

14. Explain why we have Seasons.

15. **Describe** the *difference* between how light falls on the Earth near the Equator vs the Poles.

16. What two things contribute to the Unequal Heating of the surface of the Earth?

i. _____

ii. _____

17. **Draw and Label** a diagram of the Hadley, Ferrell and Polar cells that exist above (or below, they are the same) the Equator.

a. **Analyze** why we have such wet Biomes at the Equator and at 60° Latitude. (not in the video)

18. Explain how the Coriolis Effect occurs in Earth's atmosphere.

19. The combinations of these cells and the Coriolis Effect creates the

_____ that we have on our planet.

20. Describe how the surface Ocean Currents are created.

21. Deep currents in the ocean are due to _____, but are also due to changes in _____.

22. Define ENSO (El Niño–Southern Oscillation).

23. Fill in the following table with what is happening during the ENSO cycle.

<i>La Nina</i> Walker Circulation	
<i>Neutral</i> Walker Circulation	
El Niño Walker Circulation	

**Bozeman AP Environmental Science
Earth Systems & Resources
005 - Water Resources**

Name: _____ Block/Period: _____ Date: _____

Students: It is strongly recommended that you watch the video with subtitles ON. Be prepared to pause and rewind. Even though the video is ~10 minutes long, this worksheet will take you around ~35 minutes to complete. There will be a discussion afterwards requiring you to record corrections AND additional information.

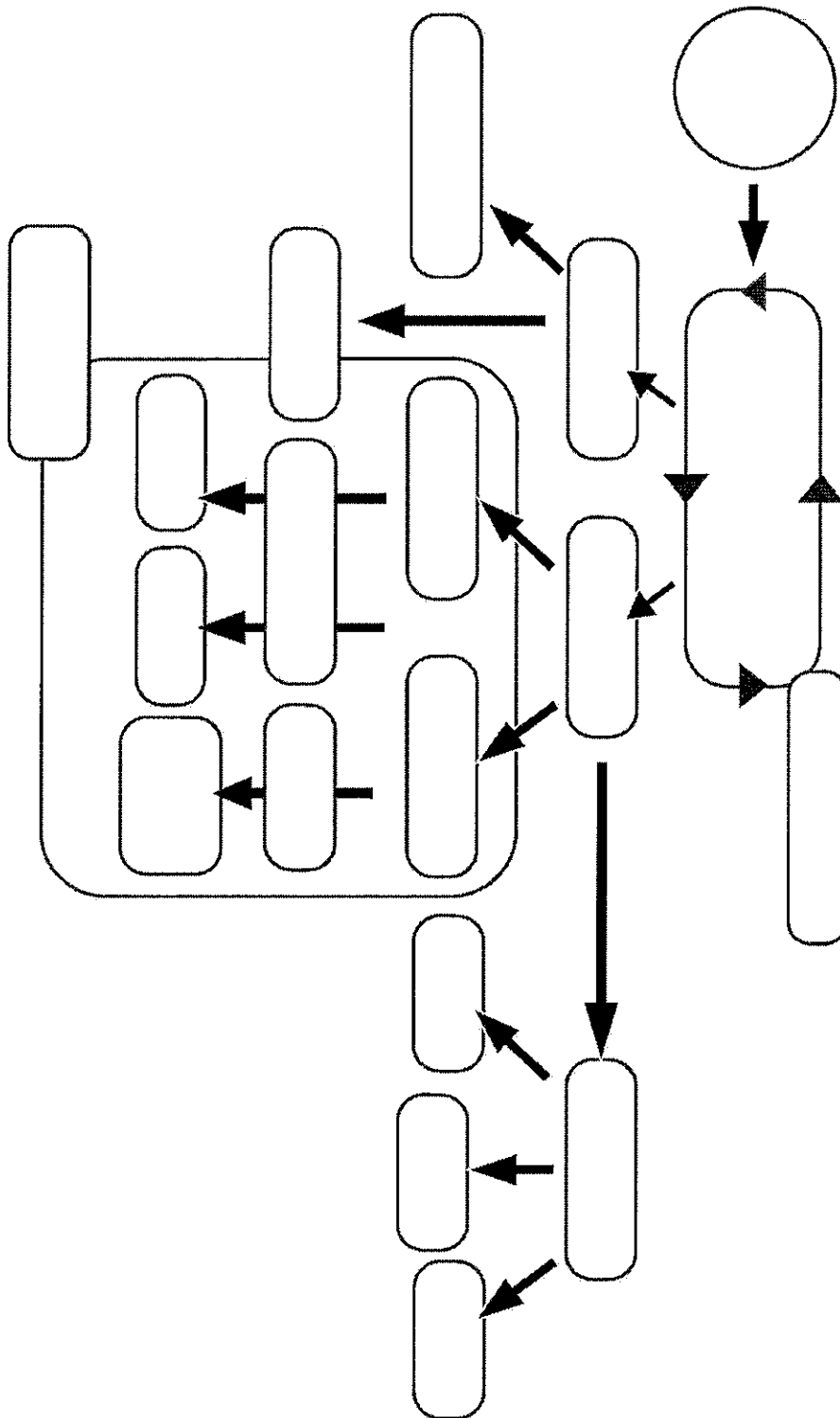
Youtube link: youtu.be/IDAj5T1ST7o (case sensitive)

Reminder: You can use the left and right arrow keys to jump forwards and backwards 5 seconds on YouTube, and the space bar will pause the video

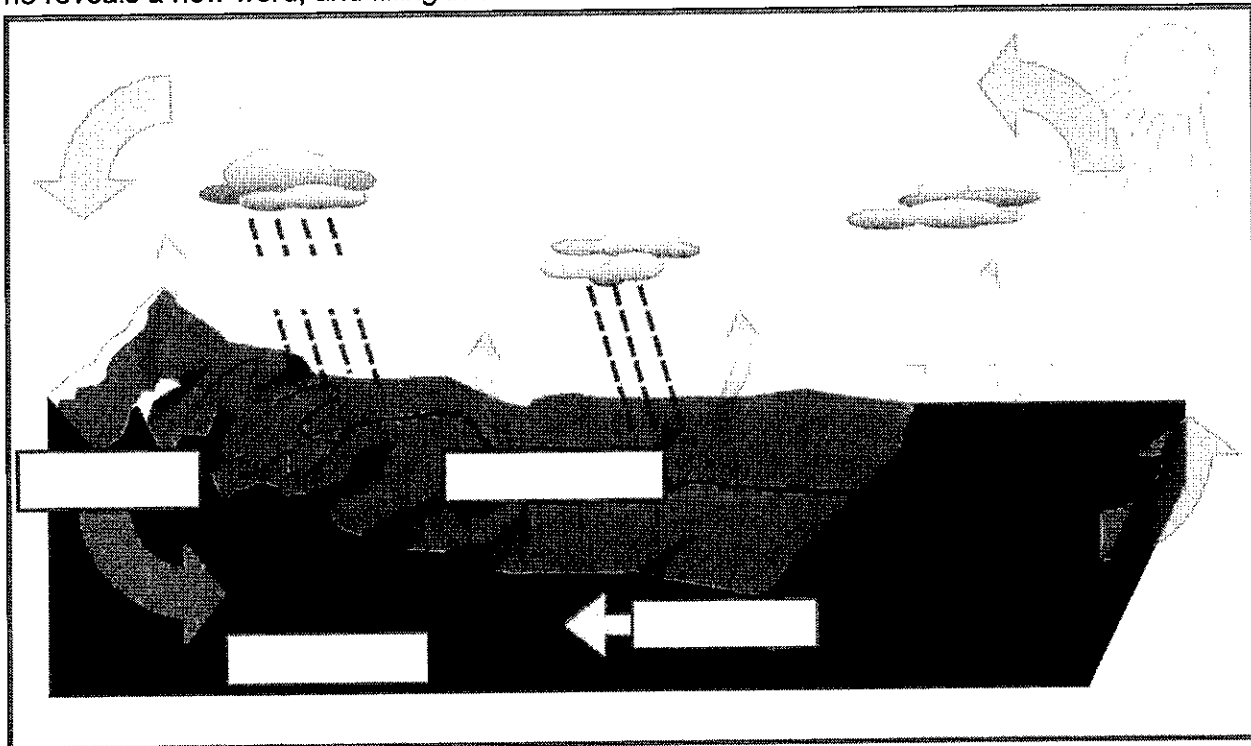
Rubric	Point Value
Each question has been answered <i>showing</i> that the student has watched the video (-½ Point per, max 1)	0 ½ 1
Each question has been answered in a full sentence (-½ Point per, max 1)	0 ½ 1
Each question has restated the question within the answer, no 'it' or 'they' statements (-½ Point per, max 1)	0 ½ 1
<i>Discussion:</i> 2 to 3 <i>additional</i> statements written next to the question (or in margin), <i>in a different color</i>	0 1
<i>Discussion:</i> 4 OR more <i>additional</i> statements written next to the question (or in margin), <i>in a different color</i>	0 1
Score: _____	____ / 5

1. Describe why most of the freshwater on Earth is non-consumable for humans.

2. Listen to Mr. Anderson describe the various parts of the concept map, and pause after he reveals a new word, and filling in that word.



3. Listen to Mr. Anderson describe the various parts of the concept map, and pause after he reveals a new word, and filling in that word.



- a. **Explain** infiltration vs water table.

4. **Explain** why ocean water near the equator has a *higher* salinity than the water that is near the poles.

5. **Analyze** why people used to be able to dig wells into the ground and they would fill up with water.

6. **Explain** how we would access the water in a confined aquifer.

7. **Define** the term Recharge (referring to aquifers).

8. **Draw & Label** a pie-chart of how we use our water.

9. Define a Reservoir.

10. Fill-in the Pros vs Cons of building reservoirs.

Pro-	Con-

11. Analyze what will happen to the Northern Ogallala Aquifer vs the Southern Ogallala Aquifer if we make no changes to our usage.

12. Fill-in the chart for the 4 types of irrigation. Make sure to **describe** each type.

Name	% Efficiency	Description

13. Explain the two most common types of Desalination.

- i. _____ - _____

- ii. _____ - _____

14. Explain how we can encourage people to use less water.

Bozeman AP Environmental Science | Earth Systems & Resources
006 - Soil & Soil Dynamics

Name: _____ Block/Period: _____ Date: _____

Students: It is recommended that you watch the video with subtitles ON; be prepared to pause and rewind. The video is ~10 minutes long, but this worksheet will take you around ~30 to 35 minutes to complete. There will be a review / discussion afterwards requiring you to record corrections AND summarize additional material / information.

Description (-½ point for each time the rubric is not followed)	Point Value
Each question has been answered	0 ½ 1
Each question has been answered in a full sentence	0 ½ 1
Each answer has avoided 'it' or 'they' statements, by being clear on the topic of the answer	0 ½ 1
<i>Review:</i> Answers that were incorrect are corrected, <i>in a different color</i>	0 ½ 1
<i>Discussion:</i> 2 OR more <i>summary</i> statements of the additional material / information, <i>in a different color</i>	0 ½ 1
Score:	____ / 5

1. **Describe** in general how all soil is made.

-

4. Describe Chemical Weathering.

5. List the three phases of matter in soils.

i. _____

ii. _____

iii. _____

6. List & Describe the soil horizons from the top down.

i. _____ - _____

ii. _____ - _____

iii. _____ - _____

iv. _____ - _____

v. _____ - _____

7. **Describe** the porosity of the different types of soil particles.

a. Sand - _____

b. Silt - _____

c. Clay - _____

8. **Analyze** why we use layers of clay in retaining ponds.

9. **Analyze** why a Loam (20/40/40 mixture) of clay, silt, and sand is the best type of soil for raising most species of plants.

10. **Describe** Cation Exchange Capacity (CEC).

11. **Define** Base Saturation.

12. **Define** Erosion.

13. Define Compaction.

14. Explain the process that can lead to soil Salinization.

15. List the ways that we could still use soil that has become higher in salinity.

i.

ii.

iii.
