

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

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

| Your Drawing | Description   |
|--------------|---|
|              | <hr style="border: 0; border-top: 1px solid black; margin-bottom: 10px;"/> <hr style="border: 0; border-top: 1px solid black; margin-bottom: 10px;"/> <hr style="border: 0; border-top: 1px solid black; margin-bottom: 10px;"/> <hr style="border: 0; border-top: 1px solid black; margin-bottom: 10px;"/> |

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

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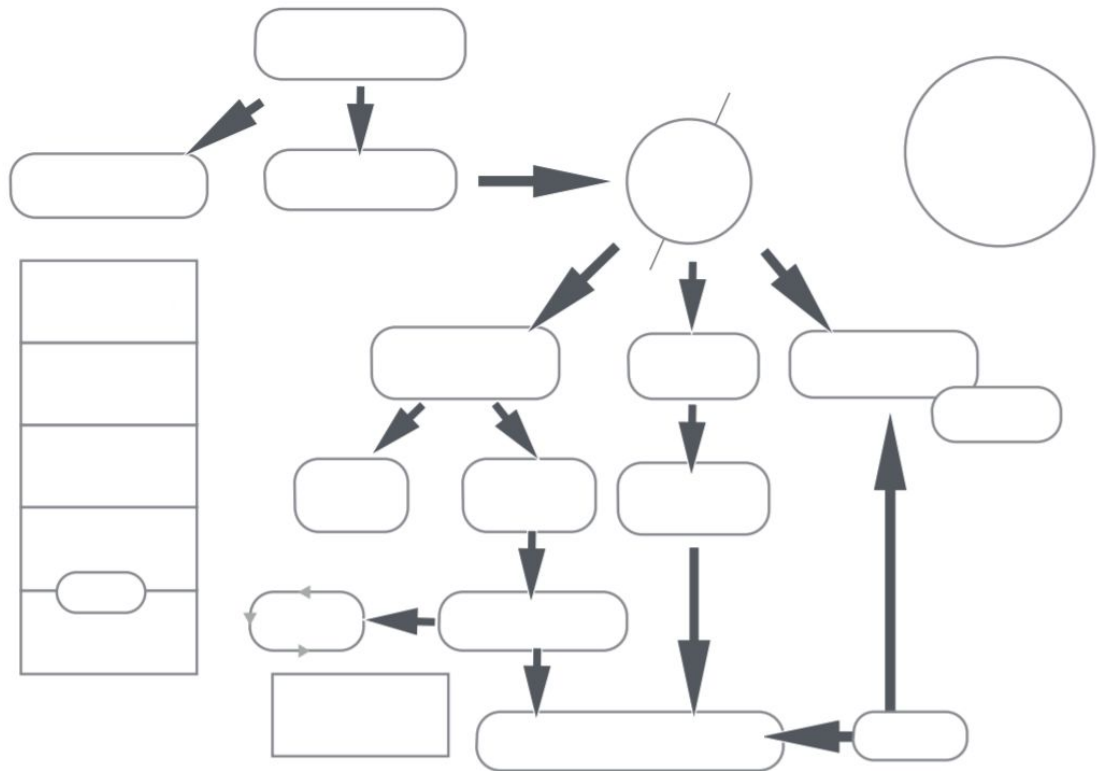
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3. If we don't have that protective Ozone we get \_\_\_\_\_, and \_\_\_\_\_.

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.

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8. **Describe** the Stratosphere.

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9. **Describe** the Mesosphere.

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**10. Describe** the Thermosphere.

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**11. Describe** the Exosphere.

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**12. Define** the difference between Weather and Climate.

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**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.

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

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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)

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

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**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.

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**21.** Deep currents in the ocean are due to \_\_\_\_\_, but are also due to changes in \_\_\_\_\_.

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

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**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        |  |