**Global Warming: Signs and Sources**

**Discovery Channel Webquest**

<http://dsc.discovery.com/convergence/globalwarming/interactive/interactive.html>

*There are three main sections to this interactive website: Signs, Sources, and Carbon Cycle. Start with* ***signs****, and complete each section one at a time. Answer the questions that go along with each section.*

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| **Signs** |
| *Polar Meltdown, Sea Level Rising, Air Temperatures, Sea Temperatures,* *Permafrost Thinning, Unhealthy Conditions* |

**Section I – Polar Meltdown**

*Summarize each of these effects that global warming is having on the poles.*

1. Arctic Beasts on the Run

2. Vanishing Ice Cap

3. Color Matters

4. Glacial Retreat

5. Sudden Collapse

6. Color Matters

7. Peninsula Melts First

**Section II – Sea Level Rising**

1. Compare each of the cities listed. Which one is MOST at risk?

**Section III – Air Temperatures**

1. Earlier Springs – How are the seasons changing in North America?

2. Temperature Rising – Exactly how fast is the temperature increasing?

**Section IV – Sea Temperatures**

1. Move, Adapt, or Die – How is global warming affecting animal species?

2. Hurricanes Intensifying – How are hurricanes affected?

3. Weather Shifting – How does global warming affect El Nino and La Nina?

4. Coral Reefs Bleaching – How does the increase in temperature affect coral reefs? Why do they “bleach”?

**Section V – Permafrost Thawing**

1. Shrinking Permafrost – How much is the permafrost shrinking?

2. Sinkholes – Why are sinkholes being formed?

**Section VI – Unhealthy Conditions**

Explain each of these indirect consequences of global warming.

1. Sewage Escapes –

2. Killer Bees –

3. Tropical Diseases –

4. Hay Fever Epidemic –

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| **Sources** |
| *Fossil Fuels, Water Vapor, Methane, Nitrous Oxide, Warming Masks, Color Matters, Deforestation, Spin Turn & Wobble* |

**Section I – Fossil Fuels**

1. Big Players – Who is the biggest producer?

2. Getting Around – How much of our carbon dioxide comes from transportation?

3. Coal – Why is this considered the most polluting fossil fuel?

**Section II – Water Vapor**

1. How does water vapor affect global warming?

**Section III – Methane**

1. Explain how methane is produced in each of these places:

 Swamps:

 Cows:

 Traffic:

 Fire:

 Landfills:

 Other Natural Sources:

**Section IV – Nitrous Oxide**

1. Where does it come from?

2. Why is it considered a “super greenhouse gas”?

**Section V – Warming Masks**

1. Global warming masks are pollutants that can actually cool the earth by partially blocking infrared energy from the sun. What are the three main sources of global warming masks?

**Section VI – Color Matters**

1. What reflects the most sunlight? What absorbs the most sunlight?

**Section VII – Deforestation**

1. How does deforestation relate to global warming?

**Section VIII – Spin, Turn, & Wobble**

1. How can the Earth’s orbit and axis change, and how does this affect our climate?

2. What kind of age are we in the midst of currently?

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| **Carbon Cycle** |

1. What are carbon sponges?

2. What is a “carbon footprint”? What is the average U.S. footprint?

3. What is the most abundant greenhouse gas?

4. How can carbon be “put back” into the Earth?