CARBON SINKS AND SOURCES

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

To explore how to reduce the impacts of climate change, we need to learn about carbon sinks and sources.

 Carbon sink – any location, system, or process where carbon can be absorbed from the

 atmosphere.

 Carbon source – an activity that results in the release of carbon into the atmosphere.

**To reduce the impacts of climate change we need a combination of decreasing our carbon sources and increasing our carbon sinks.**

Princeton’s Carbon Mitigation Initiative at: <http://cmi.princeton.edu/wedges/intro.php>

* For each strategy listed on the website, identify whether the strategy is an example of a decrease in a carbon source or an increase in a carbon sink. Then identify the source or sink.

Efficiency

1.
2.

1.

Fuel Switching

1.

Carbon Capture and Storage

1.
2.

1.

Nuclear

1.

Wind

1.

Solar

1.

1.

Biomass Fuels

1.

Natural Sinks

1.
2.

Carbon Applet from University of Wisconsin Madison at:

<http://carboncycle.aos.wisc.edu/carbon-budget-tool/>

* Run the simulation keeping track of the following settings and outcomes:

|  |  |  |  |
| --- | --- | --- | --- |
| Simulation Settings/Results | Run 1 – current trends | Run 2 – improved trend | Run 3 – amazing improvement |
| Fossil Fuel Source – 2020 |  |  |  |
| Fossil Fuel Source – 2100 |  |  |  |
| Land Use Source – 2020 |  |  |  |
| Land Use Source – 2100 |  |  |  |
| Ocean Uptake – 2020 |  |  |  |
| Ocean Uptake – 2100 |  |  |  |
| Land Uptake - 2020 |  |  |  |
| Land Uptake - 2100 |  |  |  |
| Maximum CO2 PPM Reached |  |  |  |
| Ending CO2 PPM Concentration |  |  |  |
| Sketch of the shape of the CO2 Projection Curve |  |  |  |

* Which of your runs of the simulation would be the best for Earth? Why?
* Provide one example of a Fossil Fuel Source –
	+ Land Use Source -
	+ Land Uptake -