**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class:\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Forest Carbon Cycle: Passport Chart**

Key Questions:

* What reservoirs and Earth’s sphere do carbon atoms pass through as they move through a Forest Carbon Cycle?
* What processes drive the movement of carbon from one reservoir to another?

**Instructions:**

1. Go to any forest carbon cycle station. Record the reservoir and Earth’s sphere you now currently occupy in the Forest Carbon Cycle Passport Table. Note: It is possible to be in more than one sphere at a time.

2. Choose a “forest carbon cycle” ticket from the box/bag. Follow the directions and move to the next reservoir and sphere. Record the new reservoir and sphere.

3. Identify the process(s) that drove you to the next reservoir. \*Note: If the “time” information is not given, take your best guess.

4. Do as many rounds as you can and then share your experience of a carbon atom on the move with your peers.

* Earth’s Spheres = Biosphere, Atmosphere, Hydrosphere, Geosphere (pedosphere -upper soil section of Geosphere)
* Processes: photosynthesis, respiration, ingestion(eating), death/decomposition, excretion/defecation, carbon fixation (biosynthesis), diffusion, combustion
* Length of time for carbon storage = days, months, years, decades, 100 years or more.

**Here are two examples:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Round #: | What reservoir and sphere(s) are you now in? | What new reservoir and sphere(s) did you move to? | What process moved you to the new reservoir? | How long do you stay in this new reservoir (if available) |
| Example 1: | Living Plants  Biosphere | Live animal consumers  Biosphere | Ingestion/eating |  |
| Example 2: | Decomposers  Biosphere  Geosphere(soil) | Atmosphere | Decomposition  Respiration | 25 years |

**Forest Carbon Cycle Table:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Round #: | What reservoir and sphere(s) are you now in? | What new reservoir and sphere(s) did you move to? | What process moved you to the new reservoir? | How long do you stay in this new reservoir (if available) |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |
| 4 |  |  |  |  |
| 5 |  |  |  |  |
| 6 |  |  |  |  |
| 7 |  |  |  |  |
| 8 |  |  |  |  |
| 9 |  |  |  |  |