Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Other group members: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Glaciologist Puzzle**

**Background:** Alfred Wegener was a meteorologist in the late 1800's and early 1900's. Wegener had the idea in 1915 that the continents were not always in the place they are now. In fact, he believed the continents fit together in a supercontinent called Pangea.

**Task:** Your team of scientists has been studying debris from ancient glaciers all around the world. The attached page of glacial evidence shows your many years of research. Your job as glaciologist is to view the evidence provided and determine whether your data supports or refutes Wegener's idea of continental drift.

**Directions:**

1. Label the continents on the glacial evidence sheet. Color the glacial areas **blue** and the rest of the continents **green.**

2. As a team, cut out each of the continents along the edge of the continental shelf (the outermost dark line).

3. Once you have cut out the continents, arrange the continents to look like their current locations on Earth. Draw a rough sketch of your arrangement **with colored glacier sections** in the box labeled "Current Continent Locations".

4. Using past glacier locations, logically piece the continents together to show how glaciers may have spread across the continents. Draw a sketch of your supercontinent **with colored glacier sections** in the box labeled "Probable Past Supercontinent Location".

5. Draw arrows in the Current Continent Locations to show how the continents moved from the Supercontinent to their current locations.

|  |  |
| --- | --- |
| Current Continent Locations | Probable Past Supercontinent Location |

6. Imagine you are Alfred Wegener. Write at least four sentences that summarize your work. Your summary must include: 1) What your map shows about the Earth 225 million years ago (What does the map show?)

 2) How the glacial evidence helped you to put the landmasses together (What was your process?)

 3) Why the glacier evidence is accurate (Why do you think your map is a good one?)

7. Very few scientists agreed with Wegener until more evidence was provided in the 1960's and 70's. Imagine you are a skeptic of Alfred Wegener. Write at least four sentences that criticizes his work. Your critique must include: 1) Why the continents could NOT possibly move the way Wegener is describing

2) Another PLAUSIBLE way the glaciers could naturally be located in the places Wegener found them, WITHOUT the continents moving

 3) Why Wegener is not qualified to be proposing theories in the fields of glaciology and Earth history

8. Now that your team has found a supercontinent based on your evidence, it's time to present your information to the other scientist groups. Remember, you are archaeologists and experts in your field… it is your job to teach the other groups about your content. In the space below, write the main points of what you found, including:

1) A description of your evidence

2) Evidence that supports the idea of continental drift

3) Other possible explanations for your evidence

4) The general shape of the supercontinent