**Causality and Consequence Part 2:**

**Earth and The Solar System Because….Then Statements**

We have been talking a lot about causes and consequences lately, with a specific emphasis on Because, Then Statements. Today we are going to apply what we know about the formation of the Earth and the Solar System to Because, Then Statements. You will need to accomplish all of the following steps to successfully complete this lesson:

1. Correctly match all of the following Because, Then Statements that relate to the formation of the Earth and Solar System.
2. Once you have the statements in the correct order, raise your hand and have Mr. Cain check them over for accuracy. If they are correct move on to step 3. If they still need some work, ask for a hint.
3. Once you have the correct order, obtain the Earth and the Solar System Flipbook Mini-Project Instructions and a Flipbook Foldable.
4. Complete the Formation of the Earth and the Solar System CER.

**Earth and The Solar System CER**

After looking at all of the causes and consequences of the formation of the Earth and the Solar System, identify which cause had the greatest impact on the formation of planet Earth. Be sure to back up your claim with both evidence and reasoning.

Claim:

The event that had the greatest impact on the formation of planet Earth was…..

Evidence:

The evidence that backs up my claim is…..

Reasoning:  
The reason my evidence backs up my claim is…..

**Formation of the Earth and Solar System Because, Then Worksheet**

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| Because | Then |
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**Formation of the Earth and Solar System Because, Then Statements Answer Key**

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| Because | Then |
| Because a supernova exploded near what would become the Milky Way Galaxy, | Then it became seeded with all of the various elements of the Periodic Table. |
| Because gravity began to interact and push all of these elements together, | Then the conditions became just right for a protoplanetary disk to develop. |
| Because of the abundance of Hydrogen and Helium at the center of the protoplanetary disk and the effects of gravity, | Then when the temperature rose to the magical number of 10 million degrees celsius, our Sun was born. |
| Because gravity continued to force the various atoms and molecules to orbit around our newly formed Sun, | Then because of random collisions, these atoms and molecules began to accrete and eventually grew into meteors, asteroids, planetesimals, and planets. |
| Because of the Sun’s intense heat, | Then most of the lighter elements such as Hydrogen and Helium were blown further out into our Solar System. |
| Because the majority of the heavier elements were closer to the Sun, | Then the 4 inner planets became terrestrial (rocky) in composition. |
| Because the majority of the lighter elements were further from the Sun, | Then the 4 outer planets became gassy in composition. |
| Because the early Earth was extremely hot, and most of the metals sank to the core, | Then the Earth’s core became solid metal and produced a magnetic field that protected the Earth from the Sun’s radiation. |
| Because the Earth developed a liquid type mantel and a solid crust, | Then Earth developed continents that shifted and moved as the Earth constantly recycled its solid rocky material. |
| Because there was a Mars sized object that struck the young Earth, | Then Earth began to rotate on its axis (causing seasonal change) and the debris from this collision accreted to form the Moon. |
| Because of the gravitational pull between the Earth and the Moon, | Then Earth’s oceans have a predictable rise and fall (Tides). |
| Because there have been millions of supernovae throughout the universe, | Then there have been the creation of many exoplanets that orbit other stars. |