**Food Web and Earth Systems Study Guide**

| 1- What is the difference between food chains and food webs?  -Be ready to read food webs and identify a food chain. | A food web represents multiple pathways through which energy and matter flow through an ecosystem. A food chain represents a single pathway by which energy and matter flow through an ecosystem. |
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| 2- What are the four trophic levels? Start at the bottom and work your way up. | Producer, primary consumer, secondary consumer, and tertiary consumer. |
| 3- Starting at the bottom of the energy pyramid, name two organisms on each trophic level. | Producer: Plankton and kelp  Primary consumer: Sea urchins and small fish  Secondary consumer: Emperor penguins and fish  Tertiary consumer: Shark and killer whale |
| 4- What is the atmosphere? | The atmosphere is the relatively thin envelope of gasses that forms Earth's outermost layer. |
| 5- What is the geosphere? What is an example? | The geosphere is something that is not alive and is from the earth. Rock |
| 6- What is the hydrosphere? What is an example? | The hydrosphere is all earth's water. Water. |
| 7- What is the cryosphere? What is an example? | The Cryosphere is a form of the hydrosphere. Ice. |
| 8- What is the Biosphere? What is an example? | The biosphere is the part of the earth that contains all living organisms. |
| 9- How do the spheres interact with one another?  -Be ready to give examples and/or be able to identify examples of how they interact. | They interact by creating the earth. If one sphere was out of balance the others would fall apart. They connect with each other and make up the earth. An example is the hydrosphere interacts with the cryosphere because the cryosphere is just a frozen component of water and the hydrosphere is all earth's water. |
| 10- What are constructive forces? What is an example? | Constructive forces are creative forces. When fire and water combine they create steam. |
| 11- What are destructive forces? What is an example? | A destructive force is a force that destroys. When a volcano erupts it destroys. |
| 12- What are earth systems movements driven by? | Earth systems movements are driven by energy, the sun, and heat from Earth’s interior. |