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Home is Where the Ice is

Habitat is made up of four items essential to survival; food, shelter, space, and water. Of these four resources water poses a unique challenge because it is not always in the same form. When temperatures fall, liquid water freezes into a solid state, snow or ice, which most living things cannot utilize until it becomes liquid again. Not only can freezing temperatures transform a resource into a state that we are unable to use, but as many of us experienced last weekend during the ice storm, solid water can be a pain to live with. We are lucky that ice storms are not a common occurrence where we live, but in many other parts of planet Earth, water is frozen in a solid state for much longer than a few days.

To most humans an icy landscape, including our own town, probably looks like a barren landscape but for many animals living at the poles, ice is home. Sea ice covers a large portion of Earth's surface (about two and a half times the area of Canada). In wintertime more sea water will freeze providing more space to be used by animals. This icy land will become birthing grounds for sea life, like seals and walrus, and provide hunting and foraging areas for a variety of mammals including polar bears. As sea ice grows it not only helps animals survive above the ice, but also below. Some arctic whales, like narwhal and beluga, can have their survival tied to the sea ice. These whales can be found closer to shore in warmer months but will preferably spend winter out at sea. During this migration away from shore, the sea ice can form on top of them and those individuals will be unable to travel further if the newly formed ice forces them to swim farther than they can hold their breath. The new sea ice will be spotted with small holes, called leads, allowing the whales to breathe through these air holes. If the whales are lucky they might have a few leads grouped in the same area allowing them to travel under the ice holding their breath from one lead to the next. Eventually warmer weather allows the sea ice to melt a little and the leads expand and create easier paths for the arctic whales to travel along to access open water. Sea ice might seem like an inhospitable world but life finds a way to thrive both above and below the ice.

Now, what about a glacier? When you imagine a glacier you are probably thinking of a big hunk of ice carpeting the landscape and you wouldn't be far off. A glacier is a mass of ice formed from compacted snow on mountains or near our planet's poles; but when you were envisioning that glacier you probably weren't thinking of life on the ice. Microscopic plants, called algae, find a way to live on glaciers through adaptations, unique physical features or behavior, which helps them to survive in such an extreme place. The ice of a glacier reflects ultraviolet rays from the sun at a level that most organisms cannot handle constantly. To tolerate this radiation, glacier algae has a high level of kerotene which not only gives it a red pigmentation but provides a sunscreen like effect to protect the plant from ultraviolet radiation. The red algae found living on glaciers is commonly referred to as "watermelon snow". Even a sheet of ice can be home if you have the right adaptations for it.

Kansas might not have extreme frozen conditions compared to sea ice and glaciers but our native wildlife still thrives under these tough conditions. Bison are a great example of native Kansas animals that have adaptations for dealing with snow and ice but luckily for our zoo's two resident bison, Titus and Sienna, they have a warm shelter in which to ride out a storm. Winter survival for a wild bison is dependent upon growing a thick winter coat made of dense woolly underfur and long coarse guard hairs to stay warm and dry. Bison are so well insulated that they lose very little body heat and because of this, snow will pile up on their back rather than melting. Next time you stop by the zoo, adventure out to our North American Plains area and look for our bison to see how comfortable they look in their winter coats even on the coldest day.

Lee Richardson Zoo is home to a variety of animals that can be spotted all year long; there's always something to see and learn about at the zoo. Winter hours for the walk through gate are 8am- 5pm or if you want to adapt to the cold weather you can drive through the zoo from 10am- 4pm which is free for Friends of Lee Richardson Zoo or \$10 a car load if you do not have a membership.