



NATURE AT HOME

We hope to inspire kids of all ages to learn about the natural world and discover new connections to nature.

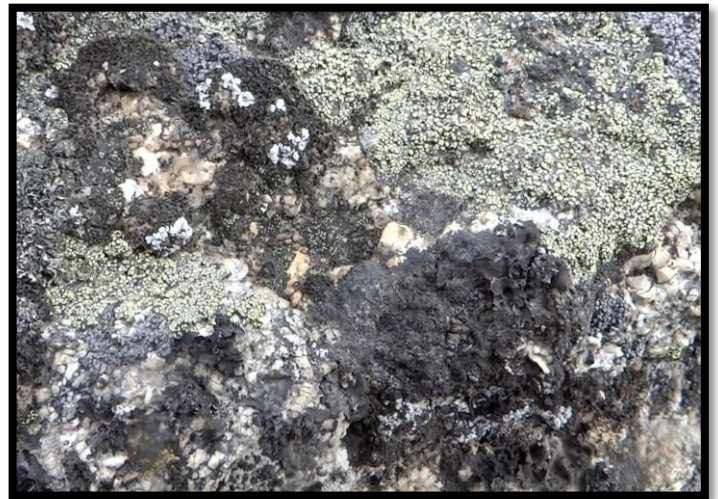


What We Can Learn From A Rock

View the video at DishmanHills.org/Nature-At-Home

The cliffs, ravine walls, the tops of the knobs and peaks make up the bedrock of the Dishman Hills. Think of bedrock as “the bones” of the earth. These bones control the shape of the land. Most visitors don’t give these rocks the attention they deserve. However, you can think of these rocks as “time machines”. If you stop and look closely you will see a history of plant life on the surface of these rocks.

Lichen are two different organisms working as one for the benefit of both. They first appeared on land **700-550 million years ago**. Think “Fiona Fungus met Angus Alga and took a Lichen to him.” Each provides the other with something they need to survive. Working together, they were one of the first organisms to successfully live out of water. *Even today lichens continue the long process of turning rock into a soil that could capture and hold water.* Their rough surface also catches other materials carried by the wind. **All those dry, rough splotches of grey, black and green covering the boulders and cliff faces are lichens.**



Mosses appeared on land about **470 million years ago**. They are members of a group of plants called **bryophytes** and have no stems, vascular system, or roots to move water, nutrients and food around. Like the lichens, they could attach to rock and chemically break down rock over time. Because they do not have stems, they have to stay close to the ground. They also are able to catch materials from the air. Unlike the rough crustose form of lichen, the mosses in this picture are thick and soft and can hold a lot of water. They are covered with decaying pine needles. Moss prefer shade over direct sunlight. Look how thick this bright green moss is compared to the lichens in the picture above.



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Trees like this ponderosa pine first appeared around **153 million years ago**. They are members of a group of plants called ***gymnosperms***. Plants in this group do not have an outer covering or shell around their seeds. They also do not produce flowers or fruits. They are pollinated by the wind.

This seedling is growing out of a crack in this rock. It shares this crack with both moss and lichens. The seedling's roots are well adapted to take advantage of this crack, go deep into the rock to collect the water collecting in the crack. The thick cap of moss will help keep the moisture in.



Flowering plants like this phlox first appeared around **130 million years ago**. Flowering plants belong to the largest group of vascular plants called ***angiosperms***. Members of this group produce flowers as part of their reproductive cycle and reproductive structures that produce seeds or a fruit.

How many different kinds of plants can you see in this picture?



Grasses like these *bunch grasses* are low, green, nonwoody members of the family of vascular plants. They appeared around **66 million years ago**.

There you have it. A visual, physical history of life on land that began with the Lichens and spans 634 million years of Earth's history. That's 634,000,000 years of life represented on a rock!

As you travel through the natural world, take the time to stop and see if you can discover some of the stories that nature has to tell.

Share a story with us at Education@DishmanHills.org

