

Wooden Houses – Building with Nature in Norway

NOTE: It is optional to have a small piece of birch bark, a full water dropper, moss, and Lincoln Logs for this lesson.

TEACHER: *Today we will learn about how some people build their homes in Norway. Norway is a country in northern Europe. It can be very cold and snowy in Norway. People have to make sure their houses are built well, so they will stay warm and protected during the winter months. Look at this photo. Can you tell what this house is made from?*

STUDENTS: *trees/wood*

*This home is made of logs. The logs came from the trunks of trees. The logs have special cuts on the ends called, “notches.” The notches help the logs fit together, like a puzzle. The logs fit together so tightly that the builder did not use any nails!
(Optional – Demonstrate how the logs would fit together using Lincoln Logs.)*

Why do you think some people build their homes from wood?

There are lots of trees; It is easy to build with wood; etc.

*Norway is a country with many trees. Usually, people like to build their homes using materials that are easily available on the land where they live. Wood is easy to cut and shape. It is also very strong, so it makes for a solid home that will last for many years. In Norway, the winter months are very cold. Sometimes when logs are stacked together to build a house, there are small gaps between the logs. Those gaps can let in cold air. So, many years ago, the builders in Norway came up with a clever idea. They collected moss from the forest and put it in between the logs of the house as they built the walls.
(Optional – Add small pieces of moss between the Lincoln Logs as you stack them.)*

How did the moss help to keep the houses warm?

It stopped the cold air from coming in

The moss filled in the small gaps between the logs, and kept the cold air out. It was a natural form of “insulation.” Insulation is like a blanket for your house. Your house in Ithaca has insulation to help keep it warm in the winter. The insulation in your walls probably came from a factory, not a forest.

Look closely at the roof in this photo. Does it look like the roof on your house? Why not?

No, it has plants growing on it; my roof is black; etc.

This roof is called, “a natural roof.” A natural roof is made from things found in nature. Most of the roofs in Ithaca are made from shingles that come from a factory.

Sometimes, people in Ithaca, and other parts of the world, also use wood, rocks, or metal for the tops of their houses.

In order to make a roof like the one in the photo, the builders construct a roof out of logs and wooden planks. Next, they put a layer of birch bark over the wooden roof. Finally, they put a layer of sod (soil and grass) on top of the bark. Why do you think they put the birch bark underneath the sod?

It keeps the dirt and grass from falling into the house; the plants like it; etc.

The birch bark does an important job for the roof. The bark naturally repels water. So, when it rains, the water does not soak through the roof. The birch bark is kind of like putting a big raincoat over your house.

(Optional - You can demonstrate by placing water droplets on a piece of birch bark.)

Grass, flowers and other plants all grow on top of the natural roof during the warm summer months. Sometimes trees even try to grow on the roof, but they have to be removed or their roots would start to come through the ceiling! What do plants need to help them grow on the roof?

Dirt, sun, and water, space, etc.

The plants on the roof need all of the things that plants on the ground need. They get light from the sun, water from the rain, and soil from the sod. Building a natural roof is like putting a garden on top of your house! Why would someone want to have plants growing on their roof?

It looks pretty; it protects the house; etc.

Having a natural roof helps your home and the environment. A natural roof helps to keep a house warm in the winter, because cold air cannot easily escape through the top. The dirt and dead plants act like a warm blanket for your house. In the summer, the natural materials keep the house cool, because the plants absorb the sunshine and do not heat up as quickly as asphalt shingles or metal. This is good for the environment, because a natural roof helps you use less energy to heat and cool your home. Also, extra plants help provide habitats for other living things, keep the air cleaner, and help make the world a prettier place.

Although homes like the one in this photo are great, many people in Norway today are choosing to build homes in a different way. Would you like to live in a house like the one in this picture? Turn to your neighbor and tell them why or why not?

(Give the children time to share their feelings. If possible, set up a Lincoln Log station for Choice Time.)

Kindergarten Standards:

NYS Common Core Kindergarten Social Studies Standards

- K.8.a Climate, seasonal weather changes, and the physical features associated with the community and region all affect how people live.
- K.9.a Children, families, and communities of today can be compared with those in the past.

Kindergarten ELA Power NYSCCLS (ICSD Power Standards in Bold)

Reading Standards for Informational Text: Kindergarten

- **Integration and Knowledge of Ideas**
 - 7. With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).**

Speaking and Listening Standards: Kindergarten

- **Comprehension and Collaboration**
 - 1. Participate in collaborative conversations with diverse partners about *kindergarten topics and texts* with peers and adults in small and larger groups.**
 - Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion).**
 - Continue a conversation through multiple exchanges.**
 - Seek to understand and communicate with individuals from different cultural backgrounds.**
 2. Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.
 - 3. Ask and answer questions in order to seek help, get information, or clarify something that is not understood.**
- **Presentation of Knowledge and Ideas**
 - 6. Speak audibly and express thoughts, feelings, and ideas clearly.**

Language Standards: Kindergarten

- **Vocabulary Acquisition and Use**
 - 6. Use words and phrases acquired through conversations, reading and being read to, and responding to texts.**

Next Generation Science Standards for Kindergarten

K-ESS2 Earth's Systems

- ESS2.E: Biogeology
 1. Plants and animals can change their environment. (K-ESS2-2)
- ESS3.C: Human Impacts on Earth Systems
 1. Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things. (secondary to K-ESS2-2)

K-ESS3 Earth and Human Activity

- ESS3.A: Natural Resources
 1. Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do. (K-ESS3-1)
- ETS1.A: Defining and Delimiting an Engineering Problem
 1. Asking questions, making observations, and gathering information are helpful in thinking about problems. (secondary to K-ESS3-2)