Teacher Name – Melinda Lyons

Grade – Kindergarten at The Lyme School

Name of Unit – Squirrels

This year my kindergarten class focused our Forest Friday time on squirrels. I wasn't sure if this focus on one animal would keep my class engaged for the entire year. I was pleasantly surprised to discover that there was plenty to keep us busy with observing and reading about squirrels throughout each season. On top of that, having a specific focus kept me disciplined about preserving enough time each week for free play and discovery. Without having my mind bogged down about a number of ways I could take my lesson each week, we had a brief lesson on squirrels and then we were free to explore. I found myself relaxing and enjoying my time in the forest with my class. On more than one occasion, I discovered that my students were mimicking my behaviors in the woods. One day on our way to our home base, I kneeled down to put my ear to a frozen stream to see if I could hear the water bubbling. For the next few weeks, almost the entire class would do this before crossing the stream to our home base! I would never have thought to include this in one of our Forest Friday lessons. This lovely ritual came to be because the focus for our Forest Friday was focused and simple – allowing for moments of discovery and joy.

NGSS Performance Expectations:

K-LS1-1. Use observations to describe patterns of what plants and animals need to survive. [Clarification Statement: Examples of patterns could include that animals need to take in food but plants do not; the different kinds of food needed by different types of animals; the requirement of plants to have light, and, that all living things need water.]

Sample Activities: Look for caches, play a game to see if it's smarter to hide all acorns together, or if they should be spread out.

Connections to Nature of Science: Scientists look for patterns and order when making observations about the world.

Sample Activity: Ask how can we tell squirrel footprints apart from rabbit footprints?

Science and Engineering Practices:

Analyzing and interpreting Data – Analyzing data in K-2 builds on prior experiences and progresses to collecting, recording, and sharing observations. *Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (K-ESS2-1)

Sample Activity: Maintain a bar graph in the classroom of the weather. Is there a relationship between how many squirrels we see and the weather?

Disciplinary Core Ideas:

LS1.C: **Organization for Matter and Energy Flow in Organisms –**

All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow.

Sample Activity: Squirrels help to grow their food! After explaining the plant life cycle, discuss what happens if a squirrel doesn't dig up its acorns.

Sample Activity: Squirrels collect acorns in the fall – why can't they just find food in the winter? Play a game – freeze candy in ice – why can't you eat it? What if you were a squirrel and you were really hungry with no stored food?

Cross Cutting Concepts:

Patterns

Patterns in the natural and human designed world can be observed and used as evidence.

Focusing Questions:

Imagine being a squirrel living in NH through the year!

How do squirrels stay warm/cool/dry?

How do squirrels find food?

What do squirrels need to survive?

Why do squirrel footprints always stop at a tree?

How do squirrels keep their front teeth from getting too long?

Brainstorm and List Possible Vocabulary:

Content words: cache, shiver, bury, acorns, collect, forage, habitat, leaves, location, zigzag, file

Assessment Opportunities:

Formative – Make pictures that describe how squirrels live during different seasons

Summative – Students make a bar graph that reports how many squirrels are seen each Forest Friday and compare it to the weather for the day – discuss observations in small groups.

Reading Materials:

Nuts to You – Lois Ehlert

Earl the Squirrel – Don Freeman

Squirrel Rescue – Jennifer Keats Curtis

Because of an Acorn – Lola Schaefer

Animals in Fall – Martha Rustad

The Busy Little Squirrel – Nancy Tafuri

Over and Under the Snow – Kate Messner

Who Lives in the Snow? – Jennifer Berry Jones

Monthly Themes:

Since we focused our entire year on squirrels, I assigned a theme to each month.

October – Gain comfort within the boundaries of our forest space. Observe squirrels and look for nests in trees.

November – Squirrel Drawing, Learn outdoor games that address camouflage and their behaviors for hiding food.

December – How do squirrels stay warm- dens vs. dreys. How can squirrels use their bodies to stay warm?

January – Explore animal tracks – squirrels vs. rabbits

February – How do squirrels care about each other? What squirrel behavior have you seen that takes cooperation? Share stories, videos in the classroom as well.

March – Squirrel anatomy – How does a squirrel's body help it survive? How does a squirrel keep its front teeth short? How can a squirrel use its body to swim?

April – Squirrels in spring. What happens now?

May – Squirrel food – what does a squirrel eat? How does it help grow its own food?

June – Informative writing and squirrel poetry – writing at our forest home base.

Here is an example of a one-week lesson plan that asks students how squirrels stay warm in the winter.

Day 1

- Read the book Nuts to You by Lois Ehlert.
- Discuss observations made during reading aloud about how squirrels stay warm.
- Make a picture to demonstrate how squirrels stay warm.

- Explain that a cache can keep a squirrel from having to search for food during the winter months.

Day 2

- Generate a list of observations made the previous day from reading Nuts to You.
- Read the book Over and Under the Snow by Kate Messner.
- Discuss new observations made during read aloud about how squirrels stay warm.
- Make a picture of the underground tunnel systems that some squirrels make.
- Explain how squirrels shiver to stay warm.
- Have students shiver and share if their bodies feel warmer.

Day 3

- Generate a list of observations made the previous day from reading Over and Under the Snow.
- Ask students to explain how shivering makes a squirrel feel.
- Review how to use a bar graph to record how many squirrels we see when we are in the forest, along with the weather.
- Read Who Lives in the Snow? By Jennifer Berry Jones.
- Have students talk with a partner – what type of weather will we see the most squirrels and why? (options are sunny, cloudy, windy, rainy, and snowy)

Day 4

- Generate a list of materials found in the woods that help squirrels stay warm
- Explain to a partner how different materials can keep a squirrel warm
- Read Squirrels – A Love Story
- Explain to students that squirrels help each other stay warm by sharing a space in the forest

Day 5

- Forest Friday – Students count the number of squirrels they see on the way to our home base
- Students record their squirrel count and weather on their bar graphs
- Students find locations in the forest that would make good shelters for squirrels
- In circle, students share out what materials they see that can help squirrels stay warm

Extensions:

- Students can choose to write about their squirrel observations in their classroom journal
- Visiting Storyteller shares additional habits of squirrels that help them stay warm in the winter
- Compare different species of squirrels in our woods and what they need to survive
- Sprout acorn and spruce seeds. Look in the forest for acorns and spruce seeds of different ages
- What do all plants (including oaks and evergreen trees) need to survive?
- Where do squirrels go? Observe squirrel tracks and follow them from tree to tree