Project Skills:
- Learners will learn that insects grow and develop as do all living things.

Life Skills:
- Learning to learn

Academic Standards:
- Science C.4.2 Use the science content being learned to ask questions, plan investigations, make observations, make predictions, and offer explanations.

Grade Level: 3
Time: 60 minutes

Supplies Needed:

Reading Activity
- *The Very Hungry Caterpillar* by Eric Carle

Feeding Hike Activity
- Hula hoops (or substitute circles of string)
- Examples of vegetation upon which insects have fed
- Insect replicas – for use in winter

Enhance/Simplify
- Egg cartons
- Pipe cleaners
- Markers, crayons or stickers

Do Ahead:
- Find a nearby outside area for the Feeding Hike.

BACKGROUND
Insects, like all living things, grow and develop. Many insects undergo what is known as complete metamorphosis. Complete metamorphosis involves four distinct stages: egg, larvae, pupa, and adult. Insects that undergo complete metamorphosis include butterflies, beetles, ants, bees, wasps and flies.

The larval stage of a butterfly is called a caterpillar. And, as with most insects that have complete metamorphosis, the larval form spends its life eating. Caterpillars are often aptly referred to as tiny eating machines.

WHAT TO DO

Activity: Read *The Very Hungry Caterpillar*
Initiate a discussion with the learners about how all living things grow and develop (change). Tell the group that the story begins with a little egg lying on a leaf. Ask learners to listen to the ways in which that egg changes. **Hint:** It will change three times!

Read the book, and ask the children to share how the egg changed. Review with them the life cycle of a typical butterfly, as shown below. Remind the participants that a cycle is something that happens over and over.

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egg ----> larvae ----> pupa ----> butterfly
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Activity: Feeding Hike
- Prepare learners for activity by asking the group which of the foods in *The Hungry Caterpillar* were foods that caterpillars really would eat.
- How would you know if insects had fed upon food? What clues might you see?
- Show the children some examples of vegetation with evidence of insect feeding.
- Take the group outdoors, divide them up and give each group a hula hoop (or a piece of knotted string — to form a circle). Have them toss their hoop (or place the string) — the place where it lands is their “study area.” Have them closely observe their study area for insects, or signs of insects especially where they have fed. As a group, visit all the study areas and have the “owners” share their observations.

TALK IT OVER

Reflect:
- What did you find on your feeding hike?
- What kind of plants were insects eating?
- How did you know that they liked them?

Apply:
- If you planted beans in your garden and found little holes in the leaves, what would you think? How could you find out if you are correct?
**ENHANCE/SIMPLIFY**

**Simplify for Younger Children:**
For younger learners, substitute an art activity for the “Feeding Hike.” Try making caterpillars out of egg cartons, as follows:

1. Cut out one row of an egg carton. This will be the caterpillar’s body.
2. Poke holes in the top of the first section for antennae. Insert pipe cleaner through holes.
3. Decorate the caterpillar using markers, crayons or stickers.

**ADDITIONAL WEB LINKS**

http://www.backyardnature.net/metacomp.htm This link shows metamorphosis from caterpillar to butterfly. It’s fast, but good!

*Reviewed by Wisconsin 4-H Afterschool Team: September 2004*