

# Wheel of Life: Life Cycle of a Butterfly

## Contents of Wheel of Life: Life Cycle of a Butterfly Puzzle

- 8 puzzle pieces to fit into the Wheel of Life Puzzle Base (*sold separately*)
- 8 cards telling the story of the Life Cycle of a Butterfly



### You will need

Wheel of Life base, Life Cycle of a Butterfly Puzzle with sequence cards, copies of blank wheel from master, colored pencils.

### Purpose

To understand and appreciate the perfection and sustainability of nature's cycles. To become familiar with how a cycle works (that the end is the beginning again). To develop a sense of how those cycles relate to the eight directions taught by indigenous cultures.

*In preparation, children should have the Orientation to the Four Directions lesson. This lesson can be found in The Waseca Biomes Curriculum, with the lesson for Cardinal Points, or on our website in the A - Z PDF library.*

### Lesson

To begin, orient the puzzle base to north. Place the N tab in the puzzle. Ask the children where South would be and have them place the S tab. Ask where East and West would be and place those tabs. Note the place between East and South. Call it Southeast and have the children place the tab SE. Repeat this procedure for SW, NW, and NE. Place the sun in the middle of the puzzle. Talk about how all the energy comes from the Sun and how that energy moves in cycles or circles.

# E

*Guide: I would like to show you a very special wheel that tells a story about the life of a butterfly. This story begins with a caterpillar just hatching. Every time we do this wheel, we will always start in the East.*

Have the children turn to sit on the east side of the puzzle with you. East is always the beginning. Place the puzzle pieces for the Butterfly Wheel in a row above North with the directions facing up. Find the piece with the E and turn it over. Notice that it shows a newly hatched caterpillar emerging into the sunshine.

*Guide: The newly hatched caterpillar is called a larvae. It is about 2 mm long. It eats its own egg casing soon after it hatches.*

*It will eat the egg casing for its energy. The caterpillar is a Monarch caterpillar and its egg was laid on a milkweed plant. A milkweed is the only kind of leaf that a Monarch caterpillar will eat.*

# SE

Look for the puzzle piece with SE on the back and place it in the puzzle.

*Guide: Then, the caterpillar starts to eat the leaves of the milkweed plant it was born on. In 9 to 14 days, it grows to about two inches long. As it grows, it sheds its skin five times.*

*The southeast is about growing very quickly. Caterpillars eat constantly and grow quickly. That caterpillar is taking its energy from the milkweed plant.*

# S

Find the puzzle piece with a S on the back and place it in the South position.

*Guide: The caterpillar is fully grown after about three weeks. It makes a silk-like pad on the underside of a leaf. Then, it attaches its last pair of legs to the pad. It hangs upside down in the shape of a J. It sheds its skin one last time.*

*The south is about the work of the day. Look how big the caterpillar has gotten. Its work is to eat as many leaves as it can and store that energy in its body.*

## SW

Find the piece with SW on the back, turn it over and place it in the Southwest position.

*Guide: Under the last skin that is shed is a green casing called a chrysalis. Quickly, the soft green casing hardens into a protective shell. During the pupa stage, a remarkable change happens inside the chrysalis.*

*The southwest is about preparation and rest. The caterpillar has made a chrysalis around itself. Inside, the chrysalis, changes are happening.*

## W

Place the W piece in the puzzle.

*Guide: After 9 to 14 days, the chrysalis cracks open and out comes a monarch butterfly! Its wings are crumpled and wet. Fluid is pumped into the wings and they unfold. The warm sun dries them.*

*The west is about harvest. All the work of the caterpillar and the preparation inside the chrysalis leads to the new butterfly. The butterfly will find a flower where it can sip the nectar with its long tongue. Let's see what happens next. Can you find two butterflies together?*

## NW

Find the puzzle piece with NW on the back for the Northwest. Turn it over and place it in the puzzle.

*Guide: An hour after it has emerged from the chrysalis, the butterfly can fly. It uses its proboscis to sip the nectar from flowers. Four to six days later, the male and female are ready to mate.*

*The butterfly is in the adult part of the cycle. Now its work is to make more of its kind before it dies. Males and females will mate. Once they mate, the female will go to lay an egg.*

# N

Find the puzzle piece with N on the back for the North. Turn it over and place it in the puzzle.

*Guide: A female lays eggs right after her first mating. She may lay 100 to 300 eggs. A butterfly born in the summer will live two to five weeks. A butterfly born in the fall will migrate before returning to mate and may live eight or nine months.*

*Do you remember what kind of plant the female must find to lay her eggs? Why does she have to find a milkweed plant? Soon after she lays all of her eggs, she will die and her spirit will leave her body.*

# NE

Find the puzzle piece with NE on the back for the Northeast. Turn it over and place it in the puzzle.

*Guide: A single egg is laid on a single milkweed plant. The egg will stay attached to the leaf for about four days before it hatches.*

*The eggs are waiting to hatch. The northeast is a time between the end and the beginning. The cycle will start all over again.*

After the initial lesson, invite children to practice the puzzle on their own. If they are reading independently, they may read the text cards and place them below the corresponding puzzle piece. The text cards have a control of error on the back for the direction in which they should be placed.

Once the child has practiced the puzzle repeatedly, ask them what is happening in each direction. Invite them to tell the story of the life cycle. They may wish to tell it on the circle and have other children act out the parts as they narrate. Assign parts for each direction. Perform the story in a circle beginning with East.

## **Extension**

- Have the children use copies of the blank wheel to draw their own illustrations of the story or have them think of another life cycle of an animal and illustrate that.

## **Some provocative questions:**

- What would happen to the Monarch butterfly if the milkweed plants were gone?
- How could the butterfly help the milkweed plant?
- Where do the Monarch butterflies go when they are born in the late summer?
- Can you make a timeline of the life cycle of a butterfly?
- How do you think the caterpillar knows when it is time to make a chrysalis?