

Unit: The Life Cycle of a Butterfly

Written by: Kathleen Law

Grade Level: Kindergarten

Subject: Science

Duration: Approximately 3 weeks

Unit Rationale

Change is all around us – in nature and in our own lives. Through this unit, kindergartners will have the opportunity to observe the changes that a butterfly goes through during its life cycle. They will learn more about butterflies through literature and informational books. They will share what they are learning through conversations and writing, using conventions of English grammar and usage such as speaking in complete sentences, using words and phrases acquired from text or conversation, and using sounds to spell words phonetically. The butterfly theme will also serve as a framework to practice reading foundation skills such as decoding and reading sight words. As the unit concludes, conversations and activities will help students focus on the changes that have taken place during their year as kindergartners.

Essential Questions

How do living things - including people - change throughout their lives?

Why is change necessary?

Idaho Common Core State Standards

CCSS.ELA-Literacy.RI.K.2: With prompting and support, identify the main topic and retell key details of a text.

CCSS.ELA-Literacy.RF.K.3: Know and apply grade-level phonics and word analysis skills in decoding words.

CCSS.ELA-Literacy.W.K.2: Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.

CCSS.ELA-Literacy.L.K.1: Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. LK.1.f: Produce and expand complete sentences in shared language activities.

CCSS.ELA-Literacy.SL.K.1: Participate in collaborative conversations with diverse partners about *kindergarten topics and texts* with peers and adults in small and larger groups.

Materials

Informational Texts:

A Butterfly is Born by Melvin Berger
Caterpillar Diary by David Drew
Caterpillar to Butterfly by Melvin and Gilda Berger
Butterfly by Susan Canizares
Monarch Butterfly by David M. Schwartz
Butterflies by Melvin and Gilda Berger
Fly With a Butterfly - National Geographic Young Explorer

Literature Selections:

The Very Hungry Caterpillar by Eric Carle
Big Book or library copy
Listening Center set with 4 or 5 copies and a CD or tape of the story
Munch, Munch, Munch by Norma L. Gentner
Big Book and CD or tape
The Caterpillar and the Polliwog by Jack Kent

Teacher-Made Guided Reading books

Butterfly Life Cycle - Level B
Butterfly Life Cycle - Level D

Related Web Addresses

Cartoon Life Cycle Video - <https://vimeo.com/54515304>
The Very Hungry Caterpillar Video
http://www.dailymotion.com/video/xheay8_the-very-hungry-caterpillar_animals
Interactive Butterfly Puzzle
<http://www.jigzone.com/puzzles/0411E2F970&m=DF191AF.6F3E55?z=5&v=30590>

Games/Models/General Materials

Live Caterpillars - Insect Lore
Video - *See How They Grow* series: *Insects and Spiders*
Chart Paper
Student Journals
Word Wall Words or Word Cards - Sight Words and/or Content Words
Velcro Board and Hungry Caterpillar Story Pieces
Life Cycle Posters and/or Pictures
Life Cycle Model Pieces and/or Puzzles
Sight Word Butterfly Game
Decoding Caterpillar/Butterfly Game

Art/Craft Materials

Butterfly waterpaint picture
Paper plates
Small white beans
Small twigs
Pipe cleaners
Colored tissue
Construction paper
Life Cycle labels

Content Vocabulary

Pupa
Chrysalis
Metamorphosis
Nectar

Academic Vocabulary

Create
Similar
Contrast
Sequence

Formative Assessments

K-W-L Chart will be revisited and revised weekly.
Observation during discussions.
Journals examined weekly to note writing performance.
Completion of Life Cycle Wheel and/or sequencing of puzzles, model pieces, or pictures.

Summative Assessments

Culminating Project

The student will create a book with 4 or more pages of information about the life cycle of a butterfly. The student will include at least 2 correctly spelled sight words as well as phonetically spelled words to convey the information. The students will meet in small groups to read their books and discuss the information presented during the butterfly unit.

Decoding Assessment

The student will read the list of sight words introduced during this unit.
The student will read a list of decodable words.

Universal Design for Learning Adaptation to Summative Assessments

Principle II. Provide Multiple Means of Action and Expression

Guideline 5: Provide options for expression and communication

Checkpoint 5.1 Use multiple media for communication

In order to provide choice and options for sharing information that they have learned, students will choose a method to identify the four stages of the butterfly's life cycle. Students will be able to choose from the following options: painting, poster, poem, song, model (e.g. from playdough), creation of a new life cycle wheel using different materials (e.g. pasta), explanation of a life cycle poster or model, dramatization, or picture.

Activity 1 - Unit Introduction

Time: 10-15 minutes.

Place jar of live caterpillars where all students can see them.
Make observations, using complete sentences.
Predict what will happen to them.
Make K-W-L chart about caterpillars.

Instructional Notes: If a student doesn't use grammatically correct complete sentences during this activity, model the correct format and have the student repeat it. After creating the K-W-L chart, explain how to care for the caterpillars (leave the lid on the jar, don't shake the jar, etc.) so the caterpillars can be placed where students can make independent observations at a later time.

Activity 2 - The Very Hungry Caterpillar

Time: 20-25 minutes.

Read *The Very Hungry Caterpillar* to the students.
Together name what the caterpillar ate on each day. Re-read pages as necessary.
Discuss how the caterpillar changed.
Make adjustments to the K-W-L chart.

Instructional Notes: In addition to enjoying a literature selection, students will practice naming key details. Use a poster to review previously taught rules for class discussions prior to the discussion about the caterpillar changes.

Activity 3 - The Very Hungry Caterpillar

Time: 15 minutes.

Listening Center activity - *The Very Hungry Caterpillar*
After listening to the story, use Velcro story pieces to re-tell the story in a small group.

Instructional Notes: This activity should be completed independently by small groups of students, giving them an opportunity to practice naming key details.

ELL Adaptation - Providing a Spanish recording of the story may help ELL students comprehend the story.

Activity 4 - The Very Hungry Caterpillar

Time: 10-15 minutes.

Observe the hungry caterpillars in the jar.
Use phonetic writing to record observations in your journal.

Instructional Notes: The journal assignment is an independent writing activity that can be completed during centers. Students can use pictures, labels, and/or sentences to write about the caterpillars. Demonstrate/review how to write a short sentence using sounds when giving directions for this activity.

Activity 5 - Munch, Munch, Munch

Time: 20-25 minutes.

Read the book *Munch, Munch, Munch*.

Play the song version of the book.

Partner Pair/Share: Tell a partner your favorite part of the book.

Review/Add to K-W-L Chart.

Instructional Notes: This musical selection introduces the stages of a butterfly's life. Review discussion rules prior to the pair/share discussion. As students add information on the K-W-L chart, encourage them to use words and phrases acquired from the shared texts.

Activity 6 - Munch, Munch, Munch

Time: 10-15 minutes.

Play a sight word game entitled Munch, Munch, Munch.

Instructional Notes: This game features new and recently learned sight words. It is best played in supervised small groups, thereby providing guided practice in identifying sight words. After playing the game, make it available for students to use during independent work times.

Adaptations for Differentiation: Students who have not mastered the alphabet should be provided with alphabet cards instead of sight word cards. Students who recognize all of the sight words in the game should be given cards with Fry Phrases on them.

Activity 7 - A Butterfly is Born

Time: 20-25 minutes.

Day 1 - Close Reading Activity

Make predictions about the book from the cover illustration and title.

Take a picture walk through the book, pointing to pictures and using the book's vocabulary.

Read the book to the students.

Confirm predictions.

Have students summarize the book, using words and phrases from the text.

Re-read information from the book as students mention it in the summary.

Instructional Notes: This informational book is written at a 1.8 reading level. Although above a kindergarten reading level, it is well within the listening comprehension range for kindergartners. Students will have the opportunity to identify the main topic and key details during this activity.

Activity 8 - A Butterfly is Born

Time: 20-25 minutes.

Day 2 - Close Reading Activity - Text Dependent Questions

Re-visit the book with another picture walk or brief summary by the students.

Present the first question. Re-read the text for the answer.

Continue in this same manner with the remaining questions.

1. What kind of an animal is a butterfly?
2. What is nectar?
3. What is the first state of a butterfly's life?
4. What is the next stage?
5. Why does the caterpillar eat a lot of leaves?
6. How will we know when the caterpillar is ready to change?
7. What is the pupa?
8. What is the next stage of a butterfly's life?
9. Can a butterfly fly as soon as it emerges? How do you know?

Instructional Notes: Monitor student attention and focus. If necessary, ask just some of the questions at this time. At a later time or on another day, ask the remaining questions.

Activity 9 - A Butterfly is Born

Time: 15-20 minutes.

Observe the chrysalises.

Use phonetic writing to record observations in your journal.

Instructional Notes: The journal assignment is an independent writing activity that can be completed during centers. Students can use pictures, labels, and/or sentences to write about the chrysalises.

Demonstrate/review how to write a short sentence using sounds when giving directions for this activity.

Activity 10 - Caterpillar to Butterfly

Time: 10-15 minutes.

Read *Caterpillar to Butterfly* to the students.

Review the life cycle of a butterfly.

Update the K-W-L chart, using complete sentences.

Play a decodable word card game featuring caterpillars and butterflies.

Instructional Notes: This informational book provides students with the opportunity to identify the main topic and key details. The decodable game gives the students practice with a reading foundation skill. After playing the game, make it available for students to use during independent work times.

Activity 11 - Caterpillar to Butterfly

Time: 10-15 minutes.

Have students create a life cycle model or wheel using paper plates and craft materials such as small white beans, twigs, pipe cleaners, tissue paper, and green construction paper. Using a model or poster, students should attach provided labels on the appropriate sections.

Instructional Notes: The craft activity can be completed independently, under adult guidance, or in a collaborative setting.

Activity 12 - Butterfly Life Cycle

Time: 10-15 minutes.

Activate background knowledge by asking students to name something about butterflies.

Take a picture walk through the book to establish the vocabulary.

Review the sight words in the story with flashcards.

Assist students in reading this guided reader.

Instructional Notes: This teacher-made book will give the students the opportunity to practice reading while reviewing the life stages of a butterfly. It can be read *with* the students or *by* the students. This activity is best completed in small groups.

Adaptation for Differentiation: Two different versions of the book are available: a Level B book and a Level D book.

Activity 13 - Butterfly Life Cycle

Time: 15-20 minutes.

Students can work alone or with a partner to put puzzles, life cycle model pieces, and picture cards in order. Posters and books of varying reading levels are available as resources and for additional investigation. Students can also examine/explore butterflies and their life cycle through computer videos or interactive sites (possible choices posted in materials list).

Instructional Notes: This hands-on activity can take place during centers or at another independent work time.

Activity 14 - Caterpillar Diary

Time: 20-25 minutes.

Read *Caterpillar Diary* to the students.

Draw a Venn diagram on chart paper or a whiteboard.

Compare a moth to a butterfly.

Instructional Notes: The Venn diagram will help students see the similarities and differences between two insects that can be confused with each other. If a student doesn't use a complete sentence when making a comparison, have him/her rephrase it.

Activity 15 - The Butterfly

Time: 25-30 minutes.

Before completing the writing assessment, students will have the opportunity to share information through the medium of their choice. Possibilities include: painting, poster, poem, song, model (e.g. from playdough), creation of a new life cycle wheel using different materials (e.g. pasta), explanation of a life cycle poster or model, dramatization, or picture.

Instructional Notes: In order to provide choice and options for sharing information that they have learned, students will choose a method to identify the stages of the butterfly's life cycle.

Activity 16 - My Butterfly Book

Time: 50-60 minutes.

Have the students create an informational book about the butterfly life cycle. Students may use any combination of pictures and writing to create the book. Review the summative checklist so students understand the requirements.

Instructional Notes: This culminating project will be the summative assessment for this unit. Allow students at least three or four different work times to complete it. To facilitate the process, provide just one sheet of paper at a time. Use the checklist to evaluate the book.

Activity 17 - My Butterfly Book

Time: 15-20 minutes.

Divide students into partner or small groups.
Have each student read his/her book.

Following the reading, provide time for students to discuss and share information from the unit.

Instructional Notes: Review student discussion rules. Use the checklist to note student participation.

Activity 18 - Other Assessments

Time: 25-30 minutes.

Have each student read ten decodable words.
Have each student read the list of ten sight words.

Instructional Notes: These one-on-one assessments can be conducted while students are writing their books.

Activity 19 - Butterfly Celebration

Time: 25-30 minutes.

Observe the butterflies that have emerged.
Record observations in journals using phonetic spelling.
Complete the K-W-L chart.
Waterpaint a butterfly.

Instructional Notes: This activity can be moved up in the sequence. It is best to complete this activity as close to the day the butterflies emerge as possible. Activities can be continued after the butterflies emerge - students will want to observe the butterflies for a week or more.

Activity 20 - Change

Time: 25-30 minutes.

Watch the butterfly portion of the *See How They Grow: Insects and Spiders* video.
Before starting the video, challenge students to compare the sequence in the video with their observations of the live caterpillars. Discuss this after watching the video.
Have the students tell how the caterpillar changed. Encourage use of complete sentences.
Have students determine if change is necessary for the caterpillar, explaining why or why not.

Get out portfolios.

Page through them together, comparing work done early in the year with work completed during the last month.

Continue this self-assessment activity by discussing the following:

- How have you changed this year?
- Was the change a good thing or not?
- What changes might you face next year?

Instructional Notes: Show the video to the whole group. Portfolios can be examined and discussed in a whole or small group setting. Review discussion rules if necessary and remind students to use complete sentences.

Unit Extension

This optional extension continues exploring life cycles and change.

Activity 1 - The Caterpillar and the Polliwog

Time: 20-25 minutes.

Read the *Caterpillar and the Polliwog* to the students.

Tell a partner your favorite part of the story.

Whole group discussion: How did the butterfly and the frog change?

Examine a poster of the life cycle of a frog.

Fill out a Compare and Contrast Organizer on a whiteboard or chart paper to highlight the similarities and differences between the two life cycles.

Instructional Notes: Through this literature selection students will have the opportunity to identify key details as they compare the life cycles of the frog and the butterfly. Encourage students to use words and phrases from the text.

Activity 2 - See How They Grow

Time: 20-25 minutes.

Watch the ladybug portion of the video *See How They Grow: Insects and Spiders*.

Name the four stages of the ladybug's life cycle.

Compare the stages with the butterfly's four stages.

Construct one of the ladybug's life stages.

Instructional Notes: Encourage and model (if necessary) grammatically complete sentences. *The See How They Grow* video has segments featuring grasshoppers and spiders. View these later if time permits, making note of the change that each animal experiences.

Activity 3 - Journals

Time: 20-25 minutes.

Examine life cycle posters (butterfly, frog, ladybug, and/or chick).

Discuss how they are alike and how they are different.

Choose one life cycle other than the butterfly and write about it.

Instructional Notes: Have the life cycle posters and related books available for further examination. This writing activity can be completed independently during centers. Demonstrate/review how to write a short sentence using sounds when giving directions for this activity.

Life Cycle Summative Checklist

Student Name: _____

	Book is 4 or more pages long.
	Phonetic spelling can be found on one or more pages.
	Book includes at least 2 correctly spelled sight words.
	Information is provided through writing, dictation and/ or pictures.
	Key details about life cycle are accurate.
	Student read his/her book to another student.
	Student listened to another student read his/her book.
	Student took turns during the discussion.
	Student used complete sentences during the discussion.
	Student continued to talk about the subject through multiple exchanges.

Sight Word List

Read these words.

- are
- look
- out
- the
- with
- from
- then
- what
- has
- little

Decodable Word List

Read these words.

- big
- egg
- fat
- jog
- top
- cup
- bun
- made
- still
- shell

Butterfly Life Cycle

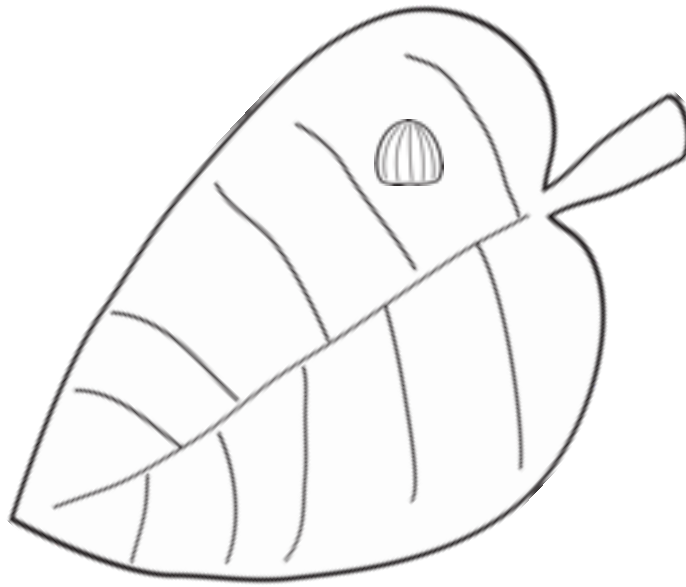
A line drawing of a caterpillar on the left and a chrysalis on the right, both hanging from the bottom of the title text.

Name _____

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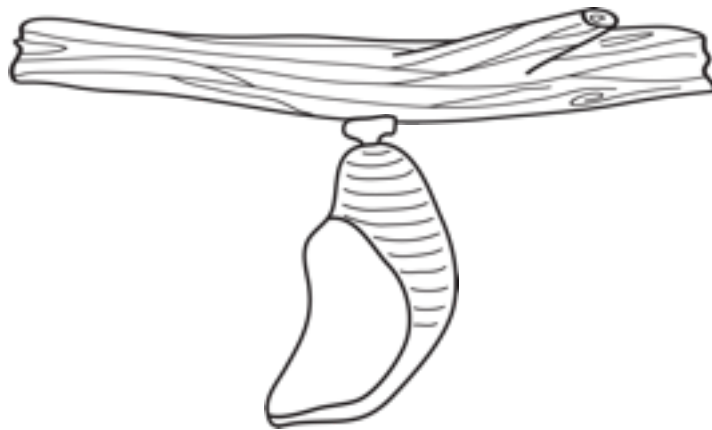


Look! The butterfly laid an egg!



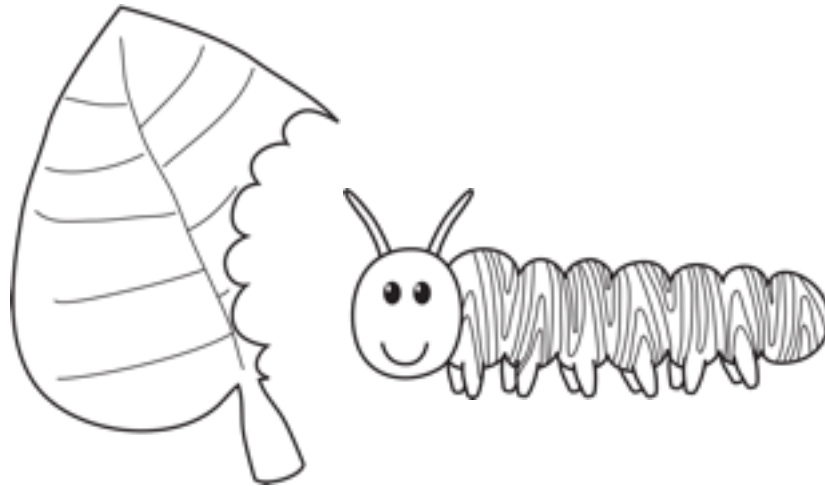
Look! I see the egg.

1



Look! I see the chrysalis.

3



Look! I see the caterpillar.


2



Look! I see the butterfly.

4

Butterfly Life Cycle

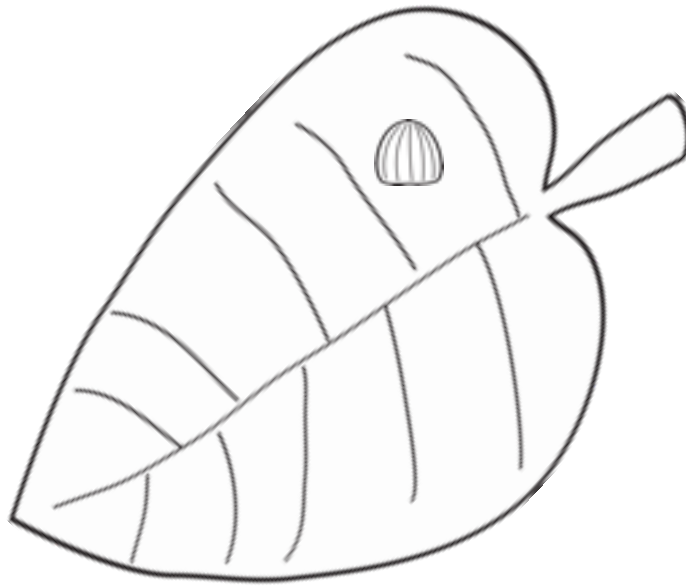
A caterpillar is hanging from the letter 'y' in 'Butterfly', and a chrysalis is hanging from the letter 'e' in 'Life Cycle'.

Name _____

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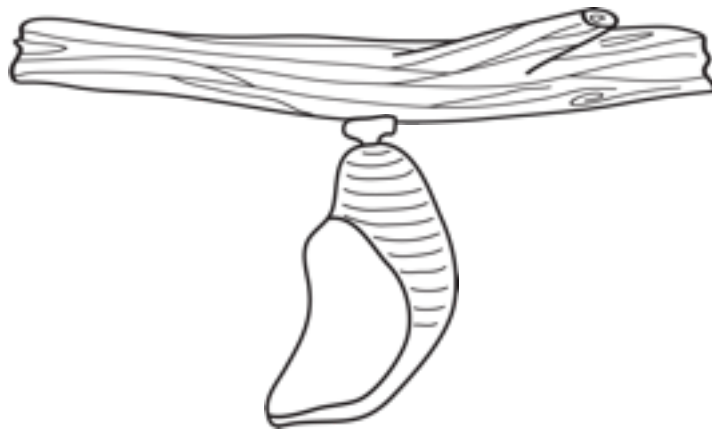


Look at the butterfly.
It is laying an egg!



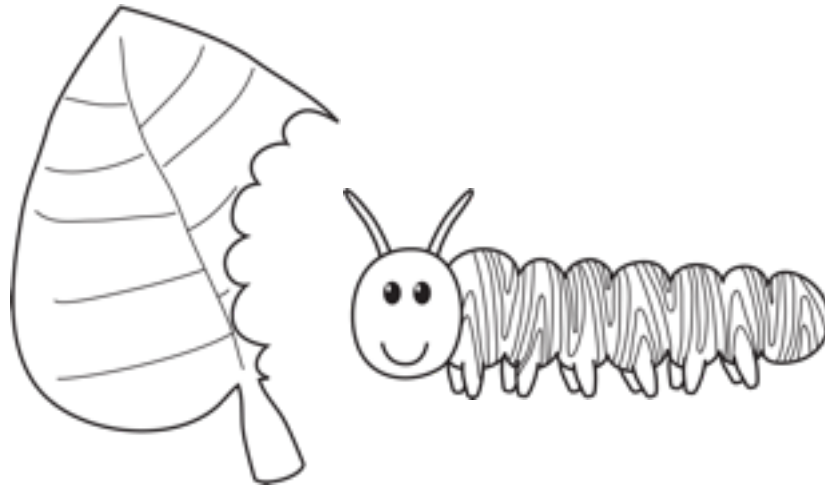
Look at the egg.
It is little.

1



Look at the chrysalis.
It is still.

3



Look at the caterpillar.
It is eating.

2



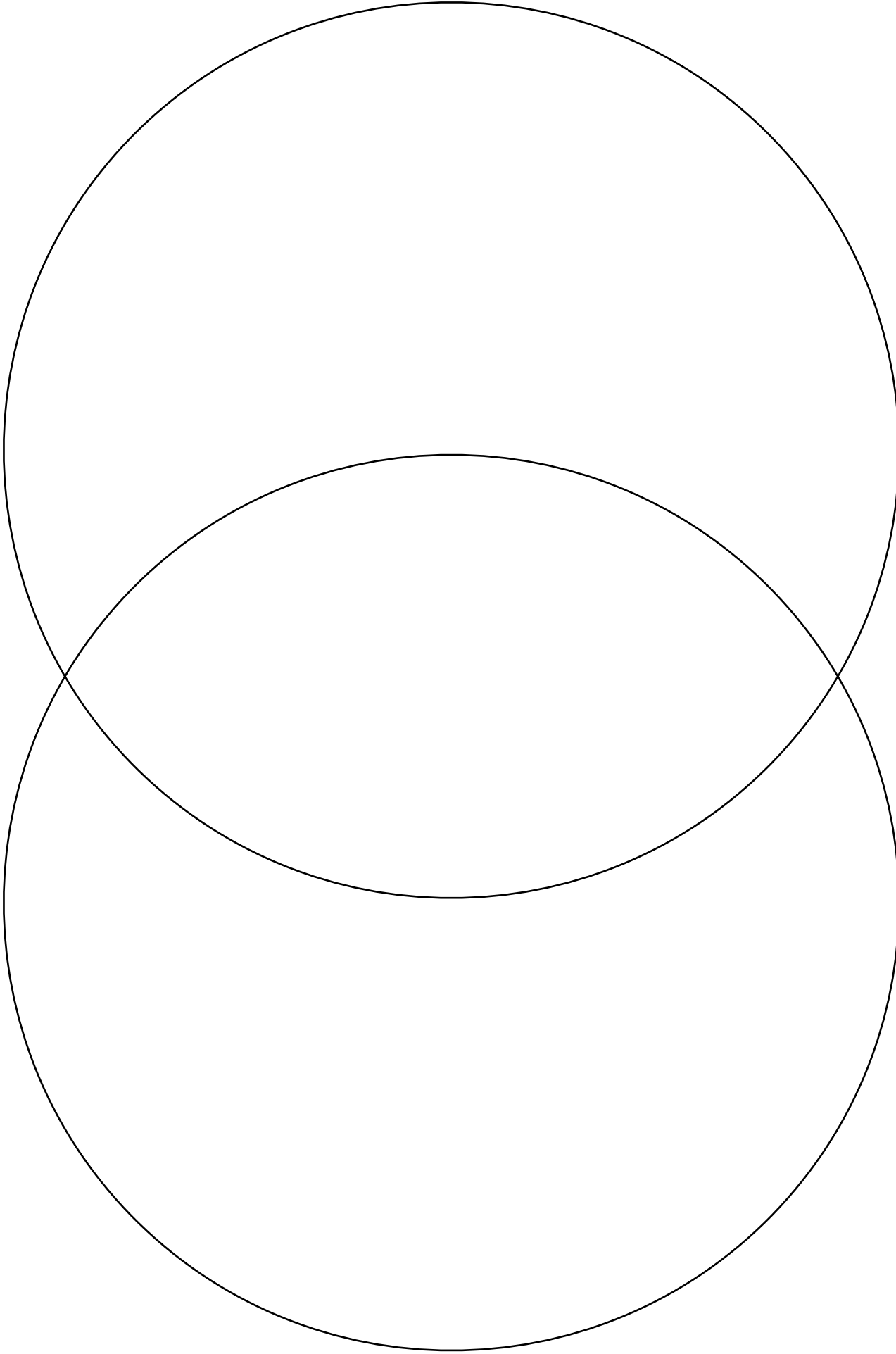
Look at the butterfly.
It is flying.

4

Butterfly

Both

Moth

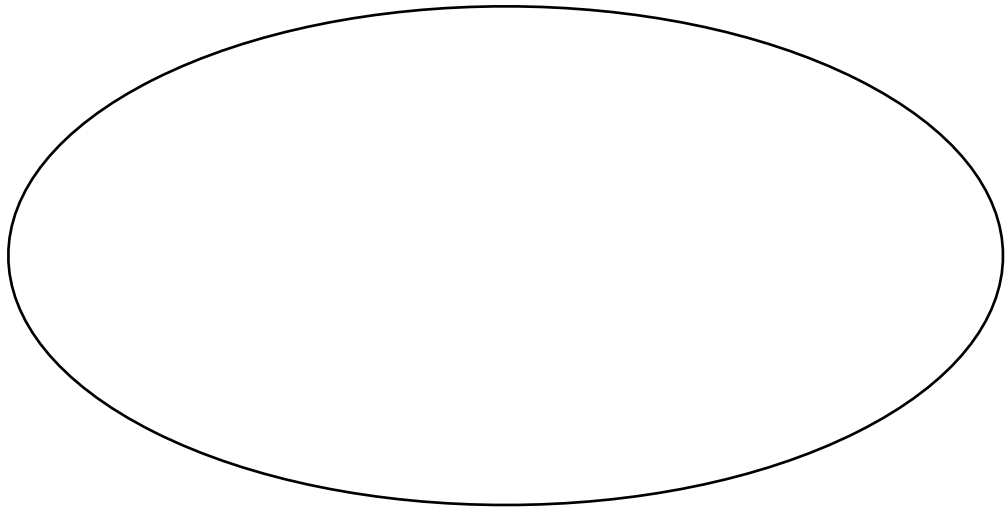


Compare and Contrast Life Cycles

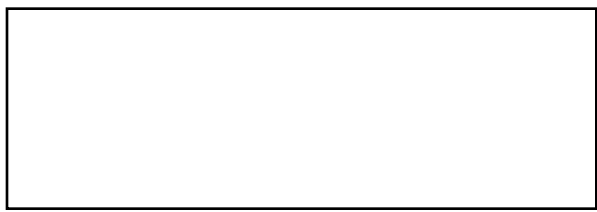
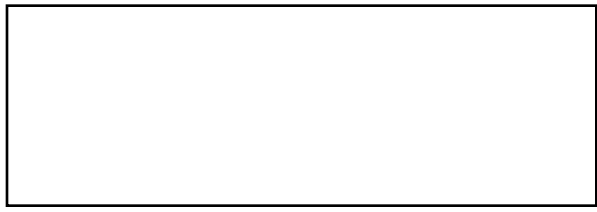
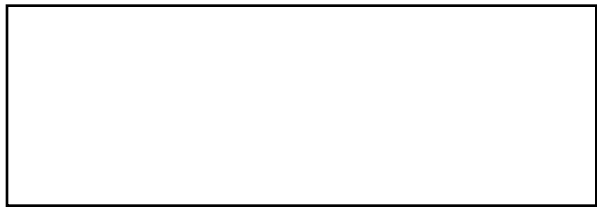
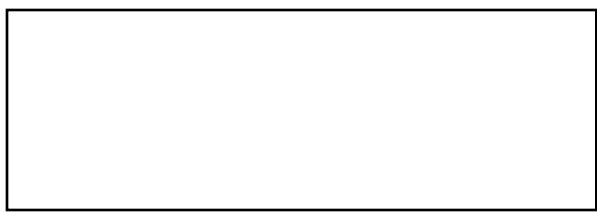
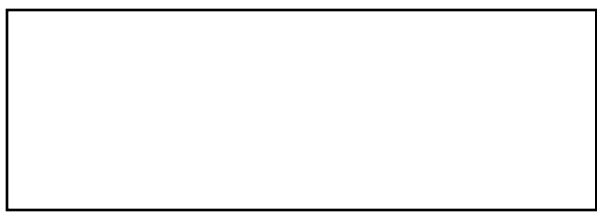
Butterflies

Frogs

Alike



Different



Let's Talk

Rules for Class Discussion



Take turns.

Listen to the speaker.

Stay on topic.

Keep the discussion going
for the entire time.