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](https://vimeo.com/54515304)
- *The Very Hungry Caterpillar* Video
- Interactive Butterfly Puzzle

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
<table>
<thead>
<tr>
<th>Content Vocabulary</th>
<th>Academic Vocabulary</th>
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<tbody>
<tr>
<td>Pupa</td>
<td>Create</td>
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<tr>
<td>Chrysalis</td>
<td>Similar</td>
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<tr>
<td>Metamorphosis</td>
<td>Contrast</td>
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<td>Nectar</td>
<td>Sequence</td>
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**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.
<table>
<thead>
<tr>
<th>Activity 1 - Unit Introduction</th>
<th>Time: 10-15 minutes.</th>
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<tr>
<td>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.</td>
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<tr>
<th>Activity 2 - The Very Hungry Caterpillar</th>
<th>Time: 20-25 minutes.</th>
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<tr>
<td>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.</td>
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<tr>
<th>Activity 3 - The Very Hungry Caterpillar</th>
<th>Time: 15 minutes.</th>
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<tr>
<td>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.</td>
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<th>Activity 4 - The Very Hungry Caterpillar</th>
<th>Time: 10-15 minutes.</th>
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<td>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.</td>
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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  

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  

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  

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.
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<th>Activity 11 - Caterpillar to Butterfly</th>
<th>Time: 10-15 minutes.</th>
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<td>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.</td>
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Instructional Notes: The craft activity can be completed independently, under adult guidance, or in a collaborative setting.

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<td>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.</td>
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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.


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<th>Activity 13 - Butterfly Life Cycle</th>
<th>Time: 15-20 minutes.</th>
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<td>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).</td>
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Instructional Notes: This hands-on activity can take place during centers or at another independent work time.

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<th>Activity 14 - Caterpillar Diary</th>
<th>Time: 20-25 minutes.</th>
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<td>Read <em>Caterpillar Diary</em> to the students. Draw a Venn diagram on chart paper or a whiteboard. Compare a moth to a butterfly.</td>
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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

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

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.
### 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.
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<tbody>
<tr>
<td><strong>Life Cycle Summative Checklist</strong></td>
<td><strong>Student Name: ____________________________________________</strong></td>
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<tr>
<td></td>
<td><strong>Book is 4 or more pages long.</strong></td>
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<td></td>
<td><strong>Phonetic spelling can be found on one or more pages.</strong></td>
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<td><strong>Book includes at least 2 correctly spelled sight words.</strong></td>
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<td><strong>Information is provided through writing, dictation and/ or pictures.</strong></td>
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<tr>
<td></td>
<td><strong>Key details about life cycle are accurate.</strong></td>
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<tr>
<td></td>
<td><strong>Student read his/her book to another student.</strong></td>
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<td></td>
<td><strong>Student listened to another student read his/her book.</strong></td>
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<td></td>
<td><strong>Student took turns during the discussion.</strong></td>
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<td></td>
<td><strong>Student used complete sentences during the discussion.</strong></td>
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<td><strong>Student continued to talk about the subject through multiple exchanges.</strong></td>
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</table>
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
Look! The butterfly laid an egg!
Look! I see the egg.

Look! I see the chrysalis.
Look! I see the caterpillar.

Look! I see the butterfly.
Look at the butterfly. It is laying an egg!
Look at the egg.
It is little.

Look at the chrysalis.
It is still.
Look at the caterpillar.
It is eating.

Look at the butterfly.
It is flying.
Compare and Contrast Life Cycles

Butterflies

Alike

Frogs

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.