

Final Project for:  
*Integrating Technology into the Classroom*

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**"How Does a Butterfly Grow?"**

Subjects: Bible, Math, Language Arts,  
Science, Social Studies, Technology  
Grades K-2

Description:

In this unit, the students will learn how a butterfly grows, starting from an egg and proceeding through the different stages into a butterfly. They will learn this information from different sources, including literature, CDs, videos, as well as pre-picked websites on the computer. They will share what they have learned through a wide range of different activities, including learning how to take pictures with a digital camera and how to make a caterpillar with bananas. Besides finding out the answer to "How Does a Butterfly Grow?" the students will learn other skills, such as how to make a graph on the computer, how to read a map to find out where monarchs migrate, what symmetry is, as well as participate in other types of representation of a butterfly and its life cycle through art projects, dramatic play and much more.

### Faith Integration:

The teacher will facilitate a discussion with: "Where do butterflies come from?" Students will share their ideas. Then she will read the verse found in John 1:3, "All things were made by him; and without him was not anything made that was made." Discussion on: "Does that mean then that God made the butterflies? Does anyone know when He made them?" Again, students will share their thoughts. Then the teacher will read the story of Creation, and point out that on Day 6, God made every kind of creature in this world, including butterflies and people. And when He was finished, the Bible says "And God saw that it was good." Just as God had a plan for the things He created during Creation, He has a plan for each one of us. And if we follow His plan for our lives, we will become the beautiful creatures He wants us to be, just like the caterpillar becomes a beautiful butterfly, because that's the way God designed it to be.

### Curriculum Benchmarks for Technology:

The students will:

- ✚ learn how to operate computers, VCRs, audiotapes and other technologies, with assistance as needed.
- ✚ learn developmentally appropriate technological terminology.
- ✚ use developmentally appropriate multimedia resources to support learning.
- ✚ demonstrate positive social and ethical behaviors when using technology.
- ✚ learn how to be responsible when using technological sources.
- ✚ learn how to use technology resources for problem solving, communication and illustration of thoughts, ideas and stories.
- ✚ gather information and share with others through the use of telecommunications (with assistance).

### Materials/Hardware/Software:

- ✚ Computer
- ✚ Printer
- ✚ Digital camera, program, connections
- ✚ Microsoft Word software
- ✚ Software/CD Rom Products, such as Big Bug Alphabet Book, by Patricia & Frederick McKissak; published by Milliken, 1993 (more listed in resource section)

- ✚ Video tapes on butterflies, especially The Very Hungry Caterpillar, by Eric Carle
- ✚ Audio cassettes with songs or stories about butterflies or insects, such as Songs About Insects, Bugs & Squiggly Things, by Jane Lawliss Murphy; published by Kimbo Educational, 1993
- ✚ Pattern blocks and other hands-on materials
- ✚ World map along with individual maps for each student
- ✚ Art supplies for projects, i.e. macaroni, glue, paper, crayons, etc.
- ✚ Worksheet of "The Life Cycle of the Butterfly" (CTP)
- ✚ Paper for various Language Arts activities
- ✚ Books such as The Very Hungry Caterpillar, by Eric Carle (more listed in resource section)
- ✚ Caterpillars for our "Butterfly House"

### Teacher Preparation:

- ✚ Check out the pre-selected web sites to make sure the information needed is there.
- ✚ Order the caterpillars and get the necessary supplies, including the "Butterfly House."
- ✚ Set up the different centers with the butterfly supplies, books, puzzles, listening materials, chart tablet, etc.
- ✚ Get the books from the library for the unit, including "The Very Hungry Caterpillar" by Eric Carle. Try to get it in Big Book form.
- ✚ Get the software/CD-Rom materials listed in the resource section.
- ✚ Get video tapes on butterflies; bring "The Very Hungry Caterpillar" from home.
- ✚ Get audio cassettes with read-along books on butterflies and other insects from the library. Also get the audio materials listed in the resource section.
- ✚ Get together the supplies, such as pattern blocks, materials for art projects, worksheets from CTP, paper for the Class Journal, etc.
- ✚ Post a world map on the wall and get the individual migration maps for each student (CTP).
- ✚ Make a shower curtain graph out with duct tape. Label it for the class graphing project; make the individual graphs for each student to color.
- ✚ Get a digital camera with the necessary equipment to use with the computer; learn how to use it!

- ✚ Plan a trip as follow-up to a zoo or museum to see butterflies. Check to see if there will be a special program on this subject at the Children's Museum.
- ✚ Ask around for someone who can come and talk with the students about butterflies and the raising of butterflies. Also check to see if anyone has a butterfly collection they'd like to share with the class.

### Student Preparation:

- ✚ Learn how to look up the pre-selected websites on the computer (with help).
- ✚ Learn how to use the digital camera and take pictures of our caterpillars/butterflies.
- ✚ Be able to sit quietly and watch as the teacher shows different things on the computer.
- ✚ Be able to follow directions and clean up after each activity.
- ✚ Be able to share with others and cooperate with each other.

### Activities/Procedures:

- ✚ Read "The Very Hungry Caterpillar" by Eric Carle. Facilitate a discussion that includes title, author and the parts they liked.
- ✚ Make a Class Big Book of "The Very Hungry Caterpillar" with each child drawing a picture of their favorite part of the book and a sentence or two, depending on their grade level.
- ✚ Using the "shower curtain graph" and appropriate labels, make a graph of each child's favorite part/page of the book "The Very Hungry Caterpillar." Make sure that each page is "marked" with a different color square beside it. Talk about which one had the most votes, or the least. Then have the children copy the graph onto individual graphs (already drawn). They will color in the number of squares just like on the floor graph.
- ✚ After the floor graph is finished and the individual ones have been done, then the teacher will show the class how to make a graph on the computer using Excel.
- ✚ Review the title and author of the book "The Very Hungry Caterpillar" and what it was about. As a group, write a letter to Eric Carle about his book, telling him what we liked about it. Write it first on chart paper.

- ✚ Visit the Eric Carle web site. Go to the home page and click on Guestbook. The teacher will model how to type the message the class wrote to Mr. Carle on the computer and send it.
- ✚ Show a Monarch caterpillar to the students. Ask the students what they know about a caterpillar, remember the book and predict what they think will be happening to the caterpillar. Visit the Stages of a Monarch Butterfly web site at: [http://www.geocities.com/wyllz/id178\\_m.htm](http://www.geocities.com/wyllz/id178_m.htm). Then read the book, "From Caterpillar to Butterfly" by Deborah Heiligman, HarperCollins Publishers.
- ✚ Make a caterpillar lunch treat, using one half of banana per child. Cut about five circles for each child. Dip in lemon or orange juice to keep color light. Put circles together and add raisin, nuts or candy eyes, and licorices for the antennae.
- ✚ On a daily basis, observe the caterpillars and record any changes in our Classroom Journal: The Monarch Butterfly. Put this on Microsoft Word on the computer and each child will have the opportunity to make an "entry" in the journal. In addition, assign each child to take a picture of the changes taking place in the Butterfly House with a digital camera. Put the pictures into a "Picture Folder" on the computer for the students to view later.
- ✚ Make a caterpillar using egg cartons, pipe cleaners and paint.
- ✚ When the caterpillar spins its chrysalis, visit the Monarch Butterfly Emergence from Chrysalis web site. <http://adver-net.com/Monemerg.html>
- ✚ After viewing the pictures and discussing them, make a chrysalis using empty toilet paper rolls, green tissue paper, some glue and a twig.
- ✚ Read "Monarch Butterfly" by Gail Gibbons, Holiday House Publishing. Then for dramatic play, wrap a child loosely in a bed sheet. Retell the life story of the monarch butterfly from the book, and as the teacher gets to the part about the butterfly crawling out of the case, the children will take turns crawling out from the sheet and "flying away."
- ✚ After the butterflies emerge, again record the changes in our Classroom Journal: The Monarch Butterfly. Then visit the Monarch Butterfly Lifecycle web site. <http://www.thewildones.org/Animals/monarch.html>  
The students will put together the Butterfly Life Cycle Sequence Activity Book (Creative Teaching Press).

- ✚ Show the students the difference between a male and a female butterfly at the web site: <http://adver-net.com/monpics.html>
- ✚ The students can make "pictures" of the butterflies using pattern blocks. Have pattern available for those who might need it (comes with blocks).
- ✚ Make a Pretzel Butterfly using two overlapping pretzels side-by-side, "glued together" with either peanut butter or caramel. Eat it!
- ✚ Make a "Pasta Life Cycle of a Butterfly" using cavatelli for the caterpillar, small circles for the eggs, shells for the chrysalis and bow ties for the butterfly. Glue these onto a piece of construction paper folded into 4 parts. Draw arrows to show the life cycle as well as draw where that particular stage takes place (i.e. on the leaf or hanging from the leaf). Younger ones may need help with this.
- ✚ Talk about how both sides of the butterfly are the same. Look at several different types of butterflies. Good websites for butterflies are: <http://butterflywebsite.com/Gallery/gallery5.htm> and <http://www.dec.state.ny.us/website/education/kits/Monarch25B.jpg>
- ✚ Then do the worksheet on symmetry where you draw the other side of the butterfly to look like the side they've already drawn. Worksheet found at: <http://projects.edtech.sandi.net/brooklyn/butterflies/images/butterflysider...>
- ✚ Review the sequence of a butterfly's life and make predictions about what will happen next (migration). Watch the video on migration at: [http://www.ss-tours.com/guad\\_mich.html](http://www.ss-tours.com/guad_mich.html)
- ✚ Read the book "The Great Monarch Butterfly Chase" by R.W.N. Prior, Bradbury Press: New York, 1993. Discuss the different routes taken by the butterflies; then with wax pencil show on the large world map the migration routes. The children will then mark their Migration Map (Creative Teaching Press) to look the same. A website showing the migration patterns is: <http://student.biology.arizona.edu/honors2002/group10/Monarchmigration.htm>

**NOTE:** There are probably more activities listed in this unit than there will be time for. That is something that the teacher will have to work out, based on equipment available, class size, etc.

### Management Plan:

- ✚ The teacher will develop a time schedule for use of the computers to view the pre-selected websites. The schedule will include enlisting the assistance of either parent volunteers or two older students to take turns helping the "little ones" with the computers.
- ✚ The teacher will also develop a time schedule for the students who are assigned to make an entry in the "Class Journal" on the computer.
- ✚ The students will complete all activities with the help of parent volunteers, older students, and the teacher.
- ✚ The unit will take approximately 4 weeks, meeting two times a week for about one hour.
- ✚ Most of the work will be done as a group or individually as time allows, using centers for some of the activities.

### Ethics Plan:

- ✚ The teacher will check all materials to make sure that all activities, worksheets and art projects are copyright friendly and/or given credit to the source.
- ✚ The teacher will teach the students about the proper use of the information that is acquired off the Internet.
- ✚ The teacher will teach the students about the proper use of the computer and the need to always have parent supervision.

### Assessment/Evaluation:

- ✚ In addition to informal assessment throughout the unit, a rubric will be used. It is attached.

### Follow-up Activities:

- ✚ Set the butterflies free
- ✚ Introduce other Eric Carle books, including:
  - The Very Busy Spider* (1985)
  - The Very Quiet Cricket* (1990)
  - The Grouchy Ladybug* (1977)
  - The Very Lonely Firefly* (1995)
- ✚ Visit a zoo that has a live butterfly exhibit.
- ✚ Visit a Children's Museum that has an insect exhibit.
- ✚ Invite a guest to "Show & Tell" about butterflies.

## Resources:

### Literature:

- ✚ Brown, Ruth. 1983. *If at First You Do Not See*. Henry Holt & Co.: New York. A reading rainbow book of a caterpillar's search for food in strange places.
- ✚ Carle, Eric. 1991. *The Very Hungry Caterpillar*. Putnam Pub. Group: New York. A wonderful standard.
- ✚ Deluise, Dom. 1990. *Charlie the Caterpillar*. Simon & Schuster: NY.
- ✚ French, Vivian. 1993. *Caterpillar, Caterpillar*. Candlewick Pr.: London. Story of several kinds of caterpillars that eat nettle. Covers life cycle.
- ✚ George, Jean Craighead. 1993. *The Moon of the Monarch Butterflies*. Harper Collins Publishers: New York. The spring migration from Mexico and the hazards faced by one female monarch. Great art.
- ✚ Haque, Mary Baca, Lancaster-Jones, Francisco, & duHoux, Emily. *Madalynn the Monarch Butterfly and Her Quest to Michoacan*.
- ✚ Heiligman, Deborah. *From Caterpillar to Butterfly*. Harper Collins Pub.
- ✚ Prior, R.W.N. 1993. *The Great Monarch Butterfly Chase*. Bradbury Press: New York. Two boys follow a monarch to Mexico.
- ✚ Ryder, Joanne. 1989. *Where Butterflies Grow*. E.P. Dutton.
- ✚ Trimble, Marcia. 1999. *Malinda Martha Meets Mariposa, A Star is Born*. Images Press, Los Altos Hills, CA. 32 page children's book.
- ✚ Waddington, Margaret M. 1984. *Caterpillar to Butterfly*. Academy Press: Rutland, VT.
- ✚ Zappler, Lisbeth. 1987. *A Day in the Life of a Monarch Butterfly*. Eakin Press: Austin, TX.

### CD's, DVD's or Videos:

- ✚ Carter, David. *How Many Bugs in a Box?* CD-ROM. Simon & Schuster Interactive, 1995. Includes counting, sorting, sequencing, memory skills, hand-eye coordination, visual perception.
- ✚ Carle, Eric. *The Very Hungry Caterpillar*. Video.
- ✚ *Eyewitness Encyclopedia of Nature*. CD-ROM. DK Multimedia, 1995. The essential multimedia reference guide to the natural world.
- ✚ *Kids Work 2* software. Students wrote short creative stories with the help of it.
- ✚ McKissak, Patricia & Frederick. *Big Bug Alphabet Book*. Milliken, 1993.

### Audio Cassettes:

- # Hayes, Joe. Mariposa Mariposa. Trails West Publishing. 1988.
- # Murphy, Jane Lawliss. Songs About Insects, Bugs & Squiggly Things. Kimbo Educational. 1993.

### Internet Sites:

- # Bruce Ithier's World of Insects  
<http://www.worldbutterfly.com>
- # Eric Carle Website  
<http://www.eric-carle.com>
- # Monarch Picture Story  
[http://kidzone.ws/animals/monarch\\_butterfly.htm](http://kidzone.ws/animals/monarch_butterfly.htm)
- # Monarch Watch : Rearing Monarchs : Overview  
<http://www.monarchwatch.org/rear/index.htm>
- # A Butterfly Optical Illusion Activity  
<http://www.sci.mus.mn.us/sln/tf/n/nowyouseeit/nowyouseeit/html>
- # Teachers.Net Lesson Exchange: Butterfly Unit-----lesson ideas  
<http://www.teachers.net/lessons/posts/87.html>
- # Caterpillar Coloring Book Page  
<http://www.kidzone.ws/animals/color-caterpillar.htm>
- # Monarch Butterfly Chrysalis Coloring Book Page  
<http://www.kidzone.ws/animals/color-chrysalis.htm>
- # Monarch Butterfly Coloring Book Page  
[http://www.kidzone.ws/animals/monarch\\_color.htm](http://www.kidzone.ws/animals/monarch_color.htm)
- # National Geographic Coloring Book: Monarch Butterfly Picture  
[http://www.nationalgeographic.com/coloringbook/sketch\\_butterflies.html](http://www.nationalgeographic.com/coloringbook/sketch_butterflies.html)
- # Where Are Monarch Butterflies Found?  
<http://student.biology.arizona.edu/honors2002/group10/Monarchmigration.htm>
- # Monarch Butterfly Emergence From Chrysalis  
<http://adver-net.com/Monemerg.html>
- # The Stages of a Monarch Butterfly  
[http://www.geocities.com/wyllz/id178\\_m.htm](http://www.geocities.com/wyllz/id178_m.htm)
- # Journey North: A Global Study of Wildlife Migration: Monarch Butterfly  
<http://www.learner.org/jnorth/>
- # Video on the Migration of Butterflies  
[http://www.ss-tours.com/guad\\_mich.html](http://www.ss-tours.com/guad_mich.html)

Other:

- ✚ Coloring Book: Caterpillar to Butterfly by Margaret M. Waddington. 1984. C.E. Tuttle: Rutland, VT.
- ✚ Purchase Milkweed Seeds online from the Butterfly Farm. <http://www.butterflyencounters.com/store/products.php>
- ✚ Butterfly Life Cycle Sequence Activity. Creative Teaching Press.
- ✚ Migration Map. Creative Teaching Press.
- ✚ Order Butterfly Larva. Insect Lore-P.O. Box 1535, Shafter, CA 93263. 1-800-LIVEBUG [www.insectlore.com](http://www.insectlore.com)
- ✚ Monarch Butterflies (grades pre-K -3). Teacher Resource Kit <http://www.dec.state.ny.us/website/education/5rreskit.html>

## Multimedia Project : How to Properly Use the Computer

Teacher Name: **Mrs. VandeVere**

Student Name: \_\_\_\_\_

CATEGORY	4 - Excellent	3 - Good	2 - Satisfactory	1 - Needs Improvement
Listening to Directions	Listens closely to the teacher as she gives directions on how to look up pre-selected websites.	Listens to the teacher, but is a little distracted as the teacher gives directions on how to look up pre-selected websites.	Has to be asked once or twice to pay attention as the teacher gives directions on how to look up pre-selected websites.	Pays little or no attention to the teacher as she gives directions on how to look up pre-selected websites.
Showing Understanding	Is able to answer 3 questions correctly about how to look up the websites.	Is able to answer 2 questions correctly about how to look up the websites.	Is able to answer 1 question with a little help about how to look up the websites.	Is unable to correctly answer any questions about how to look up the websites.
Looking Up Websites	Is able to look up all of the websites without help and spends some time with each one.	Is able to look up most of the websites with some help and spends some time on each one.	Is able to look up a few of the websites with help and spends some time on each one.	Is unable and/or disinterested in looking up the websites, even when offered help.

The Class Journal	Listens carefully and follows directions, writing 2 or 3 sentences for his journal entry.	Listens, but needs a little help with the journal entry. Writes 1 or 2 sentences.	Listens a little, but needs a lot of help with the journal entry. Needs help writing 1 sentence.	Does not listen to directions. Is unable to do a journal entry.
Shows Interest	Shows a lot of interest in the different websites the teacher shows the class. Asks questions after raising hand.	Shows some interest in the websites shown by the teacher. Listens while others ask questions.	Shows a little interest in the websites. Is distracted some. Asks no questions.	Doesn't listen or show any interest in the websites the teacher shows the class. Distracts others.

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