

## IST 663: LESSON PLAN

### GENERAL INFORMATION

**Student:** Stephanie Kosmerl

**Lesson Plan Title:** Monarch Metamorphosis: Life of a Butterfly



**Related Curricular Area:** Science, Technology

**Appropriate Grade Level(s):** Elementary: 3<sup>rd</sup> grade

**Required Time:** Three (3) 45-minute classes

**Collaborative Potential:** Classroom/science teacher

**Overview:** This lesson is designed to work with the New York State Mathematics, Science, Technology standards and curriculum for elementary students. As often occurs in elementary school, a third grade class will place several monarch butterfly caterpillars into a terrarium and watch their metamorphosis over time. The classroom teacher will introduce the topic and explain the life cycle of the monarch butterfly. The TL will introduce Our Story, an online collaborative timeline, as a tool to keep track of the progress of the butterflies' changes, working with students to add text, pictures, and dates to capture the life cycle.

**CONTENT TOPIC:** Life cycle of a monarch butterfly

**CONNECTION TO CONTENT STANDARD(S):**

**State: New York State**

**Standard(s):**

*Mathematics, Science, and Technology Standards*

Standard 1: Analysis, Inquiry, and Design

Students will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.

*Key Idea 1:* The central purpose of scientific inquiry is to develop explanations of natural phenomena in a continuing, creative process.

Standard 2: Information Systems

Students will access, generate, process, and transfer information using appropriate technologies,

*Key Idea 1:* Information technology is used to retrieve, process, and communicate information and as a tool to enhance learning.

**AASL STANDARDS FOR THE 21<sup>ST</sup> CENTURY LEARNER GOALS (Standards & Indicators)**

Standard 2: Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.

2.1.2 Organize knowledge so that it is useful.

2.1.4 Use technology and other information tools to analyze and organize information.

Standard 3: Share knowledge and participate ethically and productively as members of our democratic society.

3.2.3 Demonstrate teamwork by working productively with others.

## **ASSESSMENT & CRITERIA**

**Product (and related AASL indicators):** Students will create a timeline of the life of cycle of monarch butterflies that they raise in their classroom from caterpillars until they turn into butterflies. The timeline will be created using Our Story so that they can all contribute and add entries and pictures.

The students' contributions to the timeline will be graded on accuracy, completeness, and appropriateness.

Additionally, in their observation groups, students will fill out three Metamorphosis Observation handouts, which will be graded by the classroom teacher and TL.

The Metamorphosis Observation handouts will be graded on the same criteria as the timeline contributions, accuracy, completeness, and appropriateness.

Related AASL Indicators: 2.1.2, 2.1.4

**Process (and related AASL indicators):** All students will be observed by TL and classroom teacher during direct instruction, group work, and independent activity, in order to keep all students interested and on task so that they are actively participating and engaging in the activities.

The classroom teacher will watch the students while they do their observations in class, ensuring that they stay on task and do a proper amount of observation.

The process will be assessed on participation (Were students taking part? Were their actions, comments, and observations helpful for themselves and other students?).

Related AASL Indicators: 3.2.3

## **RESOURCES AND OTHER MATERIALS**

Computers  
Projector and screen  
Internet access

Digital camera  
Paper and pens or pencils  
Construction paper  
Crayons  
Scissors  
“Metamorphosis Observation” Handout  
Terrarium (in the classroom)  
Monarch butterfly caterpillars (in the classroom)

## **SOURCES/CREDITS**

### [Our Story](#)

[Life Cycle of a Monarch Butterfly](#) (video from TeacherTube.com)

[Microsoft Office Clip Art](#) (graphics used for lesson plan and handouts)

[Hurry and the Monarch](#), book by Antoine O Flatharta, illustrated by Meilo So.

## **INSTRUCTION AND ACTIVITIES**

### **Session 1:**

**Introduction/Direct Instruction:** Students sit at five round tables in groups. TL welcomes students to the library and asks students what interesting things they are doing in science, prompting a discussion about the monarch butterflies that they are watching. TL plays [Life Cycle of a Monarch Butterfly](#) video from TeacherTube. After viewing the short video, the TL asks students to recall the life cycle that their teacher taught them and introduces the idea of recording it with an online collaborative timeline (Our Story).

**Modeling and Guided Practice:** Using a computer, Internet access, and a projector, TL guides students through Our Story. Note: TL has already created an account specifically for this class so that these children (ages 8-9) do not need to put personal information on the page. TL introduces Our Story and shows a short sample of an interactive timeline. TL then introduces the point of the lesson, to create an online collaborative timeline to record the life cycle of the monarch butterflies the students have in their classroom. TL walks students through creating a timeline by creating a very short one as an example. TL then instructs students on the use of the digital camera that their teacher will be checking out of the library in order for them to take pictures of the metamorphosis. TL tells students that they will be taking pictures and keeping track of what happens to the monarch and that during the next few library classes they will add the pictures and text to the online timeline. Each group (there are five) is assigned a day of the week to record the progress of the butterflies.

**Independent Practice:** There will be two stations: a digital camera station and an Our Story station. Students will travel in their table groups to each station. At the digital camera station, all students will get a chance to use the digital camera so that they know

which buttons to press and are somewhat used to handling it. At the Our Story station, students will be guided by the librarian in the use of Our Story, adding to the example that the librarian created. TL gives Metamorphosis Observation handout to all students. Once students get back to the classroom, the Monday group will take pictures and record what they see. For the rest of the week, each group will do the same on given days.

### **Session 2:**

**Direct Instruction:** TL welcomes students to the library and asks the progress of the metamorphosis. TL tells students that they will be adding information to the timeline as groups. Each group, starting with the Monday group, will come to the front when called and will add the pictures and information that they recorded for their day.

**Modeling and Guided Practice:** Students, as groups, will add photographs and text (dates, descriptions, and comments) to the digital timeline with the guidance of the TL.

**Direct Instruction:** While groups are adding to the timeline, TL tells students that today they will be creating their own butterflies, on which they will paste the website so that they can take it home and share with their parents. TL hands out construction paper, scissors, butterfly shapes (one per table), and crayons.

**Independent Practice:** Students trace and cut out butterfly shapes and then decorate them to their liking. As a final step, they attach the website to the butterfly (TL provides it on a sticker for each student).

**Sharing and Reflecting:** Students will discuss the progress that they have seen on their given days of observation.

### **Session 3:**

**Direct Instruction:** TL asks students about the metamorphosis. By this point, the butterflies have emerged and students have released them.

**Independent Practice:** Students, in their groups, add photographs and text (dates, descriptions, and comments) to the digital timeline. TL will be available to answer questions if necessary.

**Direct Instruction:** As a wrap up to this lesson, TL reads *Hurry and the Monarch* by Antoine O Flatharta, a book about the life cycle and migration of the monarch. This is a fitting end, as the newly released butterflies will now begin their migration.

**Sharing and Reflecting:** TL asks the groups to report what they observed during all of their observation days and what they learned about monarch butterflies now that they have watched the metamorphosis and released the insects for their migration. Also, TL will lead the students in discussing the use of the online timeline and their favorite parts of the project.

<b>Supporting Material(s)</b>	<b>Description</b>
Metamorphosis Observation Handout (Appendix A)	This handout is developed by the TL and classroom teacher and is filled out by each group for each lesson.



# METAMORPHOSIS OBSERVATION



Names of Students:

What group are you? (Please circle):

Mon Tues Wed Thurs Fri



What week is this? (Please circle): Week 1 Week 2 Week 3



How many pictures did your group take this week?:



What did your group take pictures of?:



What did your group notice on your observation day?:



What has changed since your group's last observation?:



What stage is the monarch in during this observation?:

 What did each group member do this week?: