Flying With The Monarchs

Grade Cluster - 3-5

NETS-S - 2 - Communication and Collaboration

Quick Look:

Students participate in the yearlong "Journey South and Monarch Watch" program, tracking Monarch butterflies from Vermont to the butterfly sanctuaries in Mexico, while collaborating with other students around North America.

Scenario:

The butterflies outside the classroom window have captured the interest of the students. The teacher decides to create a unit on the migration of the Monarch butterflies from Vermont to Mexico, by collaborating with children around the US.

The beginning of the school year starts with students learning how to identify a monarch butterfly by its distinctive field marks and unique characteristics. Students use a class _wiki_ to keep track of monarchs they see around their community, noting location, time of day, and weather. (6a) The collected information is put into a graphing program, so the students can examine the data. (6a, 6b)

Next, the butterfly sightings are reported in Journey South's Monarch Migration Sighting site http://www.learner.org/jnorth/monarch/index.html, which is viewed in Journey South's real-time Migration Maps. (2a, 2b, 2d, 6a, 6d) These maps show active sightings from around North America and allow the students to read other observers' comments. (2a) Students continue to monitor the migration of the butterflies to Mexico throughout the fall.

During the sighting process, students collect monarch caterpillars and chrysalises from milkweed plants around their community. They document the collection process and caterpillar metamorphosis with _digital cameras_ and _camcorders_. (6b) Using their pictures, students create digital stories in _Photo Story_ and create paper books that will be published in _Issuu_, an online publishing site, to show the different stages of the metamorphosis. They publish their issue stories on their class _blog_, and later in the year send their _digital stories_ to share with students in Mexico who do not get to see the metamorphosis of the butterflies. (2b, 2d, 6b)

Meanwhile, the teacher joins the Monarch Watch http://www.learner.org/cgi-bin/jnorth/jn-sightings and purchases monarch tags that the students will use to tag their butterflies. When the butterflies hatch, students learn how to properly tag a monarch butterfly. Small groups of students create short _multimedia_ presentations about tagging the monarch for use in other classrooms. (6b) The students make predictions on the survival rate of their butterflies and the length of time the migration will take. During the

fall the students track their butterflies to Mexico using the Monarch Watch Tag Recovery Database. (6a, 6d) To manage this, a small group of students will use Google Calendar to develop a weekly schedule when each group will access the Monarch Watch Database website. (6a, 6b) Students will create a *Google Earth* journey to document the butterflies' migration path from VT to Mexico. (6a, 6b, 6d)

To learn more about Mexico, students partake in a *Webquest,* http://www.madison.k12.ky.us/ms/webquest/Mexico/Mexico.htm. (6a, 6d) They learn about the butterfly sanctuaries, Mexican life, and some basic Spanish words. Students participate in the online Symbolic Monarch Migration by creating butterflies in *Gimp*, an open-source program for digital image composition. (2a, 6a, 6d) They use an online translator to translate their messages into Spanish. (2b, 6a, 6d) Journey South then distributes the butterflies to schools throughout Mexico. When the butterflies are sent out, the class fills in the Symbolic Migration Map, so their school will appear on the online tracking map. (2a, 6b) They see other classes participating in the journey. (2a)

In the spring, students receive student-created digital butterflies from classes around North America. To end the yearlong project, students create a "Flying With the Monarchs" *multi-media presentation*. They include the pictures and videos they took during the butterfly collection process and caterpillar metamorphosis, graphs they created from the data they collected in the *wiki*, *Google documents*, and their butterflies created in *Gimp* and the ones they received back, to show the migration process from view of the northern butterfly flight. (6b) The video is then shared with the classes on Journey North and shared with local senior citizens at a special presentation at the town library. (2a, 2d)

Student Standards- The following NETS-S are noted in the Scenario:
   2. Communication and Collaboration- A, B, C, D
   6. Technology Operations and Concepts- A, B, C, D

Teacher Standards- Teachers who teach this unit address the following NETS-T:
   1. Facilitate and Inspire Student Learning and Creativity- B, C, D
   2. Design and Develop Digital-Age Learning Experiences and Assessments- A, B, C, D
   3. Model Digital-Age Work and Learning- A, B, C, D
   4. Promote and Model Digital Citizenship and Responsibility- A, B, C, D
   5. Engage in Professional Growth and Leadership- A, C, D

Content Grade Expectations

The scenario writer has identified the following content grade expectations that s/he felt might be assessed in this scenario. In most of these scenarios, there may well be opportunities to assess other or additional content grade expectations across a variety of disciplines. If you are interested in developing a unit or lessons based on the following scenario, and you don't see any grade expectations in your content area, we encourage you to capture the ideas presented in the scenario and make it your own by adding components that address the grade expectations you are most interested in assessing.

Standard 1.6: Writing Conventions, Grades 3, 4, 5
W4: 2 In independent writing, students demonstrate command of appropriate English conventions by…
- Identifying grammatical errors
- Applying basic capitalization rules
- Using end punctuation correctly in a variety of sentence structures

Standard 7.9: Data, Statistics, and Probability Concepts

M4: 28 In response to a teacher - or student-generated question or hypothesis, collects appropriate data, organizes the data, displays/represents the data, analyzes the data to draw conclusions about the questions or hypothesis being tested.

S3-4:30 Life Science - Students demonstrate their understanding of Structure and Function-Survival Requirements by…
- Explaining how the physical structure/characteristic of an organism allows it to survive and defend itself

H&SS 3-4:14 Civics, Government and Society -Students act as citizens by…
- Demonstrating positive interaction with group members.
- Identifying problems, planning and implementing solutions in the classroom, school or community.