

LIFE CYCLE OF INSECTS: UNIT A

Raquel Kellermann, Dec. 9, 2004

Subject: Science

Grade: 3

Age: approx. 9

Topic

Accessing Web sites to find information about insects' three life cycles.

The first of three units of a team-teaching unit.

Content

Life stages of insects, understanding concepts of dispersal, immature and adult stages, metamorphosis, moulting, invertebrate, exoskeleton

Goals

- Students learn how to access a pre-selected Web site on the Internet; they learn about hyperlinks, scrolling, and navigating a Web site; they learn how to collect and evaluate information on a Web site; they paraphrase information.
- Students learn about the three life cycles of the Monarch butterfly. They read about the topic on the Web site and print out photos/images of insects in the various stages.

Technological Objectives

- Students know how to locate a Web address by typing the URL into the browser's toolbar.
- Students know how to use the back and forward button on a browser.
- Students learn about basic Web page structure and navigation.

Topical Objectives

- Students learn about life cycles of insects
- Students locate photos/images of the stages and print them out

Materials/Aids:

- computer lab with Internet-access and printer
- 2 Web sites
- LCD and projector
- rubric

Introduction/Development: Teacher-led demonstration of accessing a Web URL using the example of the monarch butterfly on:

<http://www.saburchill.com/ans02/chapters/chap044.html>

1. Explanation of a URL by breaking it down into its components: http://, www, domain name, top-level domain, folder name, file format
2. Open Web browser, type URL into address bar. Press Enter.
3. Look at Web page, demonstrate scrolling, reading information on page.

4. Teacher shows how to use navigation links to get more information.
5. Teacher demonstrates how to use the back and forth button on the browser to navigate between pages.
6. Teacher shows how to print out an image to work with in Unit C either by printing out the entire page or by right-clicking the mouse and saving the image to the desktop before printing it out.

Practice

1. Each student receives a **rubric** and defines keywords and answers questions to check comprehension.
2. In small groups (2-3), students look up the Web site used in Introduction and find answers to questions and definitions for keywords on the rubric.
3. They look up another Web site to get additional information and photos:
<http://www.mesc.usgs.gov/resources/education/butterfly/life-cycle/butterfly-life-cycle.asp>
4. They save photos they want to use later onto their desktop or print out the entire page containing image. Each photo is accompanied with correct citation of URL.
5. Each student prints out images to use in follow-up unit with a team-teacher.

Independent Practice

As homework students look for a URL they come across on TV, billboards, newspapers, magazines, cereal boxes, etc. and bring it to class to access the Web site at school.

Accomodations

Teacher checks with groups to make sure they stay on course with looking up the information on the Internet and completing the tasks.

Checking for understanding

Teacher checks whether key words and questions on rubric were answered and clarifies if necessary.

Closure

Students compare the results of their rubrics and adjust and complement if necessary. Teacher collates students' technological and topical questions, writes them on the board and students answer them together with teachers.

Evaluation

Teacher collects rubrics of each student for individual evaluation and for follow-up in next class meeting.

Date: Dec 9, 2004

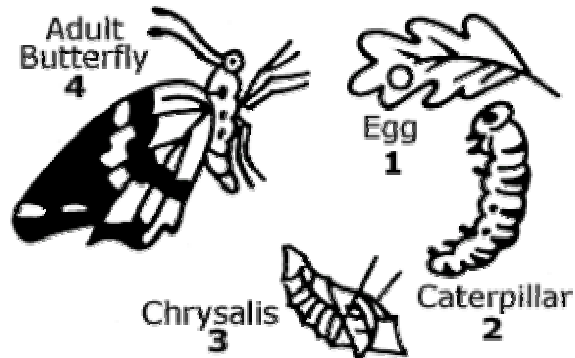
Grade: 3

Teacher Name: Jayanthi Srinath

Subject: Science

1. Topic-

Unit B: Understanding Life cycle of Insects through databases and concept maps



2. Content-

Monarch butterfly will be used as an example, to understand the life cycle of Insects. Databases and concept map will be used to reinforce their understanding, along with the research they conducted based on unit A.

3. Goals: Aims/Outcomes-

1. Students will recognize stages in the life cycle of butterfly
2. Create a concept map of the life cycle of butterfly
3. Students will setup database based on the research they conducted using unit A.

4. Objectives-

1. Students will learn about the life cycle of a butterfly.
2. Briefly know the stages in the lifecycle of a butterfly.
3. Will setup a database and concept maps about lifecycle of butterflies.

5. Materials and Aids-

Computer with internet connection, Kidspiration software application, excel, television, VCR, VHS tape on the life cycle of monarch butterfly, loads of creativity, answers to keywords from unit A

6. Procedures/Methods-

A. Introduction-

1. Students will watch the tape on the life cycle of monarch butterfly for better understanding.
2. Students will make notes upon watching the movie
3. Using their research skills from unit A, students can search for information to use it in constructing their databases and concept maps.
4. Instructor will take the students to http://www.kidspiration.com/productinfo/kidspiration/interactive_demo/dswmedia/intro.cfm3 to get a demo on Kidspiration.
5. Have a discussion after the demo to find out if all the students understood using different tools in kidspiration.
6. Students will then setup a database about lifecycle of butterflies.

B. Development-

1. Students will use their research from unit A.
2. Students will have the necessary information for making concept maps and creating database.
3. Students will create a concept map of the life cycle using kidspiration using their research.
4. Students will then save it.
5. Finally create a database on the lifecycle:
Start Microsoft Excel
Label the fields by clicking in the first cells of the column (vertical)-
Click on A1 and type "Name of the species".
Click on B1 and type "total number of days" (to complete the life cycle).
Click on C1 and type "time taken in each stage".
Click on D1 and type "habitat".
Fill in the worksheet with the information you have through your research.
Save file.

C. Practice-

1. Research the internet to learn the life cycle of another insect of their choice.
2. Create a concept map of the life cycle using kidspiration.

D. Independent Practice-

1. Students will have to go to the library and refer science books to study more about insects
2. Students will have to learn about life cycles of two different insects.
3. Then come up with concept maps for those insects.

E. Accommodations (Differentiated Instruction)-

1. Students who had any difficulty in creating concept maps or databases will take the instructor's help in building them.

F. Checking for understanding-

1. Review their Concept maps and database
2. Have a discussion in class on :
 - What are the differences and similarities between a caterpillar and an adult?
 - Name some different types of butterflies - How are they alike? How are they different?

G. Closure-

1. Students will print the concept maps and database
2. Use the concept maps to differentiate the life cycle of different insects.

7. Evaluation-

1. Students should be able to conduct their own research.
2. Comfortable using kidspiration and come up with the concept maps.
3. Check the database to see if they have proper headings and correct information in the respective columns
4. To test them on what they have learnt.
5. Use rubric to evaluate the databases and concept maps.

8. Teacher Reflection-

Students learnt how to research and compile their findings, by way of database and concept maps. This class was intended to expose students to research, organize information via concept maps (using kidspiration software) and databases (using excel) to understand concepts better.

Date: Dec 9, 2004

Grade: 3

Teacher Name: Ms. Bartolo

Subject: Science – Team Teacher

1. Topic-

Unit C: Illustrating The Life Cycle of Insects in MS Paint



2. Content-

MS Paint will be used as a mindtool to incorporate technology in the curriculum of science class. Students will create a scientific illustration based upon the research in **Unit A & B with Ms. Kellermann and Ms. Srinath**. Students will illustrate an insect's life cycle, a butterfly.

3. Goals: Aims/Outcomes-

1. Research from **Units A** will be brought to class of their butterfly to create an illustration.
2. A brief overview of MS Paint being used as a graphics tool.
3. Students will create a diagram using drawing tools to illustrate a butterfly's life cycle. using materials from **Unit A**.
4. Students will save their file with teacher's help and print their works.
5. Each student will label their printed diagram with: adult, larva, pupa, and egg.
6. Students will also color their diagrams with provided in class crayons.
7. Student's final works will be displayed in the school lobby.

4. Objectives-

1. Students will use the information gathered from **Units A & B**.
2. Students will learn to use a drawing/paint application such as MS Paint to create a scientific illustration.
3. This lesson uses the constructivist approach which allows students to reinforce what they have learned in the previous units using hands on approach and incorporation mindtool technology.

5. Materials and Aids-

Classes will take in place in school computer lab, with instruction by computer science teacher with overhead LCD projector; computers will have access to MS Paint and the Internet. Students will then finish their projects in the classroom.

6. Procedures/Methods-

A. Introduction-

1. Students are to bring in a printout of their butterfly; they will draw of its life cycle.
2. They are to then to use the tools reviewed in class in MS Paint to start drawing the 3 cycle process.
3. Students are to draw the life cycle using paint brush, pencil, and/or shapes.
4. Students will save the picture and print their paint document with teachers help.
5. Students will finish work in classroom; they will color and label their diagram.
6. Final picture will be display in lobby.

B. Development-

1. Click on Start>All Programs>Accessories>Paint.exe
2. Resize canvas to 8.5 x 11 through Image>Attributes W: 8.5 H:11
3. Refer to photo or information describing the insect life cycle.
4. Use the different drawing tools as in class to the all the different cycles.
5. Save the paint file – teacher will come around to each workstation and help.
6. Send picture to the printer.
7. Label the life cycles: Adult, Lava, Pupa, Egg.
8. Write your name on the top of your diagram.
9. Color your picture you created.
10. Completed picture will be passed into teacher, graded, and displayed in school lobby.

C. Practice-

Students will first watch the presentation of MS Paint by the instructor using the LCD projector. The instructor will go over the menu items, the toolbar, and tools. Students will then work at their computers practicing the tools they learned in MS Paint.

D. Independent Practice-

Students will be given one class period to play with MS Paint, trying out their new painting skills.

E. Accommodations (Differentiated Instruction)-

To accommodate a student that may not be able to access the computer they may work with the instructor to create their drawing by hand then learn how to use a scanner to scan their work and then print it out with teacher's assistance.

F. Checking for understanding-

Teacher will check each student's progress by observing their work on computer and answering questions.

G. Closure-

1. Students will learn about how to save an image.
2. Students will use this information as part of their studying in science class.
3. Students will have a print out for display in lobby.

7. Evaluation-

1. Student collaborated well with others in helping each other use MS Paint.
2. Illustration included each life cycle.
3. Student's Name printed clearly on paper.
4. Each life cycle was correctly labeled.
5. Spelling was correct.
6. Student was able to save their image.
7. Student was successful in printing out illustration.
8. Extra points will be given for neatly colored and labeled diagram.

8. Teacher Reflection-

Students were able to utilize the information learned from their science class: **Units A & B** and apply the information learned about insect life cycles using Paint as a mindtool. They learned how to use the many tools in MS Paint, save, and print. This lesson integrated technology into the science class, which utilized their research skills, creativity, higher level thinking, group collaboration, technology skills, and help reinforce "The Life Cycle of an Insect".