Title:	Vertebrates or Invertebrates
Grade(s):	4
Subject(s):	Science
Author:	
Overview:	During this lesson, students navigate the Internet to discover facts about vertebrates and invertebrates. They use the facts they learn to participate in several class activities.
Content Standards:	SC (4) 6. Classify animals as vertebrates or invertebrates and as endotherms or ectotherms.
	TC2 (3-5) 1. Use input and output devices of technology systems.
	TC2 (3-5) 2. Use various technology applications, including word processing and multimedia software.
	TC2 (3-5) 8. Collect information from a variety of digital sources.
Local/National Standards:	
Primary Learning Objectives:	Students will correctly identify vertebrates and invertebrates. Students will compare and contrast characteristics of vertebrates and invertebrates.
Additional Learning Objectives:	
Approximate Duration of Lesson:	3 days (2 hours) Day 1- 30 minutes- Present Topic, Show Prezi, Divide Students into Groups Day 2- 45 minutes- Research Topics Day 3- 45 minutes- Research Topics, Present Prezi, Discuss Findings
Materials and Equipment:	
Technology Resources Needed:	Computers with Internet access, Prezi account
Background/ Preparation:	Students should be familiar with how to use Prezi and how to navigate the Internet to research the topics assigned.
Procedures/Activities:	Step 1. Ask students what they know about vertebrates and invertebrates. Show the students the attached Prezi and explain that they will be creating something similar to the one shown to them.
	Step 2. Divide the students into four groups. Take the students to the computer lab and have them research information in their groups about vertebrates and invertebrates and save pictures on their jump drives of vertebrates or invertebrates they find interesting. Have students find at least 3 facts about vertebrates, 3 facts about invertebrates, and 3 animals in each category with brief descriptions of each. Each student in the group

Lesson Plan format is adapted from the Alabama Learning Exchange (ALEX). Lessons were developed by staff of the UAB NSF project "Integrating Computing Across the Curriculum: Incorporating Technology into STEM Education Using XO Laptops."

1

should write down the facts that they find and save pictures. Students may use the hyperlinked kidport.com websites below to research information, and also use the Google search engine to find images.

[Animal Index-Vertebrates](#)
[Animal Index-Invertebrates](#)

Step 3. During the next class period, send the students back to the computer lab to finish their research and have them work in groups to create a Prezi with the information they learned. Each Prezi must include at least one picture for each animal described (for a total of 6 pictures).

Step 4. The students will present their Prezi on the Promethium Board to the class. After completing all of the presentations, have the students discuss the similarities and differences between vertebrates and invertebrates by drawing a Venn diagram on the board and filling it in with students' answers.

Attachments: Rubric
[Prezi](#)

Assessment Strategies: Students will be graded based on their Prezi presentations. See attached rubric.

Extension: Students may draw a picture of a vertebrate animal and one of an invertebrate animal, and write about the differences between the two animals underneath the pictures. If this is done correctly, the student will receive bonus points or have their picture posted on the wall for the remainder of the year.

Remediation: Students may visit:
[Enchanted Learning: Invertebrates](#) and [Enchanted Learning: Vertebrates](#) for review sheets to help learn about vertebrates and invertebrates.

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2

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Rubric for Multimedia Project: Vertebrates and Invertebrates

Student Name: _____

CATEGORY	4	3	2	1
Content	Covers topic in-depth with details and examples. Subject knowledge is excellent.	Includes essential knowledge about the topic. Subject knowledge appears to be good.	Includes essential information about the topic but there are 1-2 factual errors.	Content is minimal OR there are several factual errors.
Requirements	All requirements are met and exceeded.	All requirements are met.	One requirement was not completely met.	More than one requirement was not completely met.
Attractiveness	Makes excellent use of font, color, graphics, effects, etc. to enhance the presentation.	Makes good use of font, color, graphics, effects, etc. to enhance to presentation.	Makes use of font, color, graphics, effects, etc. but occasionally these detract from the presentation content.	Use of font, color, graphics, effects etc. but these often distract from the presentation content.
Workload	The workload is divided and shared equally by all team members.	The workload is divided and shared fairly by all team members, though workloads may vary from person to person.	The workload was divided, but one person in the group is viewed as not doing his/her fair share of the work.	The workload was not divided OR several people in the group are viewed as not doing their fair share of the work.