



Lesson Plan for Implementing NETS•S—Template I (*More Directed Learning Activities*)

Template with guiding questions

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Grade Level(s)	2 nd Grade
Content Area	Science
Time line	2 weeks

Standards (What do you want students to know and be able to do? What knowledge, skills, and strategies do you expect students to gain? Are there connections to other curriculum areas and subject area benchmarks?) Please put a summary of the standards you will be addressing rather than abbreviations and numbers that indicate which standards were addressed.

Content Standards: **Science Standards:** S2L1. Obtain, evaluate, and communicate information about the life cycles of different living organisms.
Ask questions to determine the sequence of the life cycle of common animals in your area: a mammal such as a cat, dog or classroom pet, a bird such as a chicken, an amphibian such as a frog, and an insect such as a butterfly.
Develop models to illustrate the unique and diverse life cycles of organisms other than humans.

NETS*S Standards: **Empowered Learner:** Students use technology to seek feedback that informs and improves their practice and demonstrate their learning in a variety of ways.
Creative Communicator: Students publish or present content that customizes the message and medium for their intended audiences.

Overview (a short summary of the lesson or unit including assignment or expected or possible products)

I will start the lesson off by showing students the content standards. Next, the students will help me unpack the standards (into student-friendly language). Using [Brainpop Jr.](#), the class will first start by focusing on the following vocabulary words: larva, pupa, metamorphosis, chrysalis, life cycle. I will then show students the video about the life cycle of butterflies. Following the movie, students will take a review quiz, using Brainpop Jr, whole group. The next day, I will use [Plickers](#) to review the stages of a butterfly's life cycle with students. I will then inform students that they will have the opportunity to learn about tigers, flamingos, salamanders, or honeybees using a [WebQuest](#). As they complete the WebQuest, they will gather information about one of those animals' life cycle and create a PowerPoint presentation to present to the class. Before letting students start on the WebQuest, I will go through the [rubric](#) with them. Next, I will explain that they will be working with a partner to complete the task and that they should decide which animal they would like to research. Once they have decided on an animal, they will go to the [google document](#) and sign up for an animal. Next, they will use a [Research Guide](#) (graphic organizer) to fill out the information about their animal using [blendspace](#). Students will then begin the WebQuest. Once students have had the opportunity to create their [PowerPoint](#), they will present their presentations to the class. Presentations must include the following: must cover the topic in-depth with details and examples (content), the presentation should be well rehearsed with a smooth delivery that holds audience's attention (presentation), and presentation has to make excellent use of font, color, graphics, effects, etc. to enhance the presentation (attractiveness).

Essential Questions (What **essential question** or learning are you addressing? What would students care or want to know about the topic? What are some questions to get students thinking about the topic or generate interest about the topic? Additionally, what questions can you ask students to help them focus on important aspects of the topic? (Guiding questions) What background or prior knowledge will you expect students to bring to this topic and build on?) Remember, essential questions are meant to guide the lesson by provoking inquiry. They should not be answered with a simple "yes" or "no" and should have many acceptable answers.

How does a living thing go through a life cycle? How does an animal grow and change throughout a life cycle? How are life cycles different between animals? How do seasons affect the life cycles of living things? Do all living things have a life cycle? Are all offspring's like their parents? Do all offspring's look like their parents when they are born or change as they grow?

Assessment (What will students do or produce to illustrate their learning? What can students do to generate new knowledge? How will you assess how students are progressing (*formative assessment*)? How will you assess what they produce or do? How will you differentiate products?) You must attach copies of your assessment and/or rubrics. Include these in your presentation as well.

For students to illustrate their learning, students will create a PowerPoint presentation that will tell the sequence of the life cycle of the animal they researched and other facts about their animal. Students will generate this new knowledge through a WebQuest, which will allow students to use inquiry. This particular part of the lesson will serve as a formative assessment. Finally, students will log into our class blog, [kid blog](#). In the blog, students will pick two animals that their peers presented and compare and contrast their life cycle. The blog post will serve as a summative assessment.

Resources (How does technology support student learning? What digital tools, and resources—online student tools, research sites, student handouts, tools, tutorials, templates, assessment rubrics, etc—help elucidate or explain the content or allow students to interact with the content? What previous technology skills should students have to complete this project?)

A WebQuest is the primary technology component used in this lesson. WebQuests are great tools that are used to support learning because it allows students to learn through experience. This particular WebQuest, Life Cycles at the Zoo, was designed for second-grade students in Georgia. This WebQuest will enable students to gather information about an animals' life cycle and create a PowerPoint presentation to present to the class. [Brainpop Jr.](#), [Plickers](#), along with [blendspace](#) were some of the technology used within this lesson. Students used a [google document](#) (sign-up sheet), [Research Guide](#) (graphic organizer), and [rubric](#) handouts, tools, and rubrics used throughout the WebQuest. This WebQuest should be implemented after standards are taught. This will also require students to work independently. It is imperative for students to know already how to create a PowerPoint and navigate blendspace.

Instructional Plan

Preparation (What student **needs, interests, and prior learning** provide a foundation for this lesson? How can you find out if students have this foundation? What difficulties might students have?)

Before this lesson, students have had exposure to using technology such as computers, laptops, and iPads. Students also have had experiences with using a shared document, blendspace, Pebblego, Sway, PowerPoint, Microsoft Word, KidPix, Graph Club, researching, and more. Students love using technology and learning about animals. Students' interest was made known because of their excitement as well as results of the assessment from the life cycle of plants and frogs. Students will work with a partner to complete the WebQuest. Doing so will allow students to share responsibility as a group, and communicate and share information, all while using critical thinking skills to create a final product. Students might struggle with summarizing the life cycle of their animal or additional facts.

Management Describe the classroom management strategies will you use to manage your students and the use of digital tools and resources. How and where will your students work? (Small groups, whole group, individuals, classroom, lab, etc.) What strategies will you use to achieve equitable access to the Internet while completing this lesson? Describe what technical issues might arise during the Internet lesson and explain how you will resolve or **trouble-shoot** them? Please note: Trouble-shooting should occur prior to implementing the lesson as well as throughout the process. Be sure to indicate how you prepared for problems and work through the issues that occurred as you implemented and even after the lesson was completed.

Students will be working with a partner to complete a WebQuest. During the WebQuest, students will gather information about an animals' life cycle and to create a PowerPoint. Since my classroom is only equipped with five desktop computers, the WebQuest will be completed in the computer lab. The same rules and expectations that I expect from my students in the classroom will be exhibited in the computer lab. If the computer lab is not available for some reason, students will use the iPad or laptop cart. Students can log on to the computer, iPad, and laptops, so there should not be any problems in that area. I would make sure that my students were familiar with navigating the blendspace website, login into PebblGo, and can create a PowerPoint presentation. If there happens to be a problem with the internet, I will make sure that I have articles about each animal printed out ahead of time, so that students can use them in case there is a problem with the internet. To ensure equitable access to the internet while implementing the WebQuest, I would make sure that students are paired and that each pair has access to the WebQuest.

Instructional Strategies and Learning Activities – Describe the research-based instructional strategies you will use with this lesson. How will your learning environment support these activities? What is your role? What are the students' roles in the lesson? How can you ensure **higher order thinking at the analysis, evaluation, or creativity levels of Bloom's Taxonomy**? How can the technology support your teaching? What authentic,

relevant, and meaningful learning activities and tasks will your students complete? How will they build knowledge and skills? How will students use digital tools and resources to **communicate and collaborate** with each other and others? How will you facilitate the collaboration?

WebQuests are great tools that are used to support learning because it allows students to learn through experience. The great thing about this WebQuest is the fact that it allows students to work in groups. When students work together, it will enable them to share responsibility and communicate. It also allows them to share information, all while using critical thinking skills to create a final product. Also, this WebQuest offers multiple ways for students to gather information about their animal, which is a core principle of Universal Design for Learning (UDL). My job is to be a facilitator as help guide students and providing resources, monitor their progress, and encourage them to problem solve.

Differentiation (How will you differentiate **content and process** to accommodate various learning styles and abilities? How will you help students learn independently and with others? How will you provide extensions and opportunities for enrichment? What assistive technologies will you need to provide?)

There are many aspects of differentiation within this WebQuest. First off, students will be put into flexible groups. Secondly, students will be given a choice in deciding what animal they would like to research. Thirdly, the blend space created for this WebQuest offers multiple ways for students to gather information about their animal, which is one of the core principles of Universal Design for Learning (UDL). Students will be given Multiple Means of Representation (MMR) through videos, articles, and search engines. The WebQuest also features Assistive Technology (AT) for students who need repeated direction or support with listening comprehension. To differentiate this lesson, even more, teachers could have students create a model to go along with their presentation or chose another way to represent their research (Sway, Prezi, or PowToon).

Reflection (Will there be a closing event? Will students be asked to reflect upon their work? Will students be asked to provide feedback on the assignment itself? What will be *your process* for answering the following questions?

- Did students find the lesson meaningful and worth completing?
- In what ways was this lesson effective?
- What went well and why?
- What did not go well and why?
- How would you teach this lesson differently?)

There are many aspects of differentiation within this WebQuest. First off, students will be put into flexible groups. Secondly, students will be given a choice in deciding what animal they would like to research. Thirdly, the blend space created for this WebQuest offers multiple ways for students to gather information about their animal, I was not able to implement this project due to an unforeseen medical reason, but if I were, I would implement this project in the computer lab for a few days. I would also make sure that my students were familiar with navigating the blendspace website, logging in to PebblGo, and can create a PowerPoint presentation.

Closure: Anything else you would like to reflect upon regarding lessons learned and/or your experience with implementing this lesson. What advice would you give others if they were to implement the lesson? Please provide a quality reflection on your experience with this lesson and its implementation.

Although I did not have the chance to implement this lesson this school year, I plan on doing so next school year. I am seriously considering developing a WebQuest on locating and comparing the geographic regions of Georgia: Blue Ridge, Piedmont, Coastal Plain, Ridge and Valley, and Appalachian Plateau. Having students complete a WebQuest will allow students to learn through inquiry and give them an opportunity to complete WebQuests earlier in the school year.