



# NCEA Math Lesson Plan

**Grade:** 1

**Subject:** Mathematics

<p><b>Domain:</b> Operations and Algebraic Thinking</p>
<p><b>Standard Number(s) and Description:</b> 1.OA.A Represent and solve problems involving addition and subtraction. 1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations, with a symbol, for the unknown number to represent the problem. 1.OA.B Understand and apply properties of operations and the relationship between addition and subtraction.</p>
<p><b>Vocabulary to be Highlighted:</b> Whole, part</p>
<p><b>Mathematical Practices (#):</b> 1. Make sense of problems and persevere in solving them 2. Reason abstractly and quantitatively 6. Attend to precision</p> <p><b>Essential Questions:</b> How accurate does the solution need to be? What information do I need to know to write a subtraction sentence?</p>
<p><b>Materials/Tools (include technology):</b> Book: <u>What's the Difference: An Endangered Animal Subtraction Story</u> by Suzanne Slade <a href="https://www.youtube.com/watch?v=2iu8bbntr80">https://www.youtube.com/watch?v=2iu8bbntr80</a> (Cosmo's World, Endangered Species) Paper for writing/illustrating a subtraction story Optional: Paper for children to draw pictures of the endangered animals in the story for a science/religion bulletin board display ("Protecting All of God's Creations")</p>
<p><b>Connections to Other Math Domains:</b></p>
<p><b>Connections to Other Subject Areas:</b> Science (Animals and their habitats, Endangered Animals) Social Studies (Careers: conservationist, zoo worker, biologist)</p>
<p><b>Catholic Identity Component:</b> Catholic Social Teaching-Care for God's Creation</p> <p>Genesis 2:15 Humans are commanded to care for God's creation. Matthew 6:25-34 God loves and cares for all of creation.</p> <p>Retrieved -from <a href="http://www.usccb.org/campus">www.usccb.org/campus</a></p>

**Resources (attachments):**

Back of book has many resources, sections include: Vocabulary, Food Chains and Webs, Habitats, Endangered Animals (with their scientific name), Fact Families

**Activities/Timeline:**

Whole group activity-options for set up may be to start at desks and then move to carpet/circle area when reading the story. Then students can go back to desk for follow up activity and discussion.

1. Discuss examples of careers – noting those that require working with animals
2. Explain what endangered means. Ask what word they hear in the word~danger. How does knowing the meaning of the word danger help in understanding the meaning of “endangered”?
3. Watch video, “Cosmo’s world.”
4. Post highlighted vocabulary-write a subtraction sentence and identify each part and the whole-
5. Next, “While we listen to the story, I want you to think about how the whole and parts are used in our number sentences. Think of what we learned about endangered animals. What happens to the species of an animal when it is endangered?”  
You will need to decide if you want to focus on the “math” passages of the book in the first read-and then the factual pieces in another reading-or to read all at once. It will depend on the make-up of each individual class.
6. Read the book-focus on the passage and the subtraction sentence. After several pages-ask a volunteer to write on the chart paper the subtraction sentence that would go with the passage.  
\*see formative assessment below
7. Name the whole and the parts (vocabulary)—rewrite as an addition sentence
8. Can children see any relationship between the subtraction and addition sentence? (fact family)
9. \*Read and discuss the factual piece on each page (see above)
10. Catholic Social Teaching-Why should we care if animals become extinct? What can we do as first graders today? Discuss.
11. Follow up-Children will make up their own math story with animals. They will also include a subtraction sentence and appropriate illustration. \*see formative assessment below
12. Optional: Students will draw pictures of animals from the story-label them, and add to a religion/science bulletin board display.
13. After reading the book, do they feel careers that focus on helping animals are important? Ask if anyone is now interested in a career that focuses on protecting/studying animals.
14. Ask each one of the essential questions-discuss

**Formative Assessment (what to look for, how/when to look):**

Can student/s develop a subtraction sentence from the given passage? (abstract to quantitative)  
Can student/s write a subtraction story that includes the subtraction sentence and an appropriate illustration?

**Summative Assessment:**

Can student/s label the parts/whole of a given subtraction sentence?  
Can student/s write a subtraction sentence from a given passage?