

4



Lesson Plan

Addition and Subtraction of Whole Numbers

for

All Language Learners

in the

Fourth Grade

Lesson Overview

Grade Level:	Fourth
Language Level:	All
Content Category:	Math
Content Subcategory:	Number and Operation
Materials Needed:	Computer connected to the Internet
Technology Tool:	See the Lesson Tools section for this lesson in the Teacher Management Area of the K to 8 technology curriculum
Lesson Summary:	This lesson teaches students to solve word problems using addition and subtraction.
Lesson Objectives:	At the end of the lesson, the student will be able to: <ul style="list-style-type: none">• read a word problem and decide whether to add or subtract• use information from a web site to create a word problem
Academic Content:	This lesson covers: <ul style="list-style-type: none">• addition and subtraction of whole numbers• word problems
Technology Skills:	See the following sections of the lesson plan for a detailed list of skills covered in this lesson: <ul style="list-style-type: none">• Standards: NETS - Performance Indicators• Activity Instructions & Rubric

Lesson Plan

Lesson and Student Activity Details:

1. The web lesson begins by telling students that they will be using information from a web site about the 50 states to solve word problems involving addition and subtraction.
2. In order to solve addition and subtraction problems students need to know their addition and subtraction facts. Students practice addition and subtraction facts with an interactive game.
3. Students are given a subtraction word problem with information from the 50 state website.
4. They are shown how to solve the problem.
5. There is another example of an addition word problem. Students are told key words to look for in the problem that tell them to add.
6. They are shown the solution to this problem.
7. Next they take a quiz to solve more word problems.
8. There is an assessment at the end of the lesson.
9. There is an activity at the end of the lesson.

Lesson Plan

Extension Activities:

1. Students can visit the 50 states website to learn more about their state.
2. Students can choose an interesting fact from the website to write about and illustrate.

Multiple Intelligences

- Bodily/Kinesthetic
- Intrapersonal
- Logical/Mathematical
- Verbal/Linguistic
- Visual/Spatial

Questions & Answers

Lesson Assessment

Wyoming contains the first National Park. It is called Yellowstone and was designated as a National Park in 1872. If the year is 2003, how many years ago was Yellowstone designated a National Park?

131

129

132

135

The highest point in the state of Wyoming is 13, 804 feet. The highest point in the state of Maryland is 3, 360. What is the difference in elevation between the two states?

10, 444

9, 444

10,450

10,000

The U.S. Naval Academy was founded in Annapolis, Maryland in 1845. If the year is 2004, how many years ago was the Naval Academy founded?

159

148

168

147

Questions & Answers

Wyoming leads the country in coal production. They produce 3 million tons of coal per week. How many tons of coal do they produce in 2 weeks?

6 million

4 million

9 million

2 million

The first school in the United States opened in Maryland in 1696. It was called King Williams School. If the year is 2004, how many years ago did King Williams School open?

308 years

207 years

703 years

307 years

Standards

NETS - Technology Foundation Standards for Students

(From the International Society for Technology in Education)

1. Basic operations and concepts

- Students demonstrate a sound understanding of the nature and operation of technology systems.
- Students are proficient in the use of technology.

2. Social, ethical, and human issues

- Students understand the ethical, cultural, and societal issues related to technology.
- Students practice responsible use of technology systems, information, and software.
- Students develop positive attitudes toward technology uses that support lifelong learning, collaboration, personal pursuits, and productivity.

3. Technology productivity tools

- Students use technology tools to enhance learning, increase productivity, and promote creativity.
- Students use productivity tools to collaborate in constructing technology-enhanced models, prepare publications, and produce other creative works.

4. Technology communications tools

- Students use telecommunications to collaborate, publish, and interact with peers, experts, and other audiences.
- Students use a variety of media and formats to communicate information and ideas effectively to multiple audiences.

5. Technology research tools

- Students use technology to locate, evaluate, and collect information from a variety of sources.
- Students use technology tools to process data and report results.
- Students evaluate and select new information resources and technological innovations based on the appropriateness for specific tasks.

Standards

6. Technology problem-solving and decision-making tools

- Students use technology resources for solving problems and making informed decisions.
- Students employ technology in the development of strategies for solving problems in the real world.

Standards

NETS - Performance Indicators

(From the International Society for Technology in Education)

Grade 3 to Grade 5

1. Use keyboards and other common input and output devices (including adaptive devices when necessary) efficiently and effectively. (1)
2. Discuss common uses of technology in daily life and the advantages and disadvantages those uses provide. (1, 2)
3. Discuss basic issues related to responsible use of technology and information and describe personal consequences of inappropriate use. (2)
4. Use general purpose productivity tools and peripherals to support personal productivity, remediate skill deficits, and facilitate learning throughout the curriculum. (3)
5. Use technology tools (e.g., multimedia authoring, presentation, Web tools, digital cameras, scanners) for individual and collaborative writing, communication, and publishing activities to create knowledge products for audiences inside and outside the classroom. (3, 4)
6. Use telecommunications efficiently and effectively to access remote information, communicate with others in support of direct and independent learning, and pursue personal interests. (4)
7. Use telecommunications and online resources (e.g., e-mail, online discussions, Web environments) to participate in collaborative problem-solving activities for the purpose of developing solutions or products for audiences inside and outside the classroom. (4, 5)
8. Use technology resources (e.g., calculators, data collection probes, videos, educational software) for problem solving, self-directed learning, and extended learning activities. (5, 6)

Standards

9. Determine when technology is useful and select the appropriate tool(s) and technology resources to address a variety of tasks and problems. (5, 6)
10. Evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources. (6)

Standards

Mathematics Standards

(From the National Council of Teachers of Mathematics)

1. Number and Operation

Mathematics instructional programs should foster the development of number and operation sense so that all students-

- Understand numbers, ways of representing numbers, relationships among numbers, and number systems;
- Understand the meaning of operations and how they relate to each other;
- Use computational tools and strategies fluently and estimate appropriately.
- Use visualization and spatial reasoning to solve problems both within and outside of mathematics.

6. Problem Solving

Mathematics instructional programs should focus on solving problems as part of understanding mathematics so that all students-

- Build new mathematical knowledge through their work with problems;
- Develop a disposition to formulate, represent, abstract, and generalize in situations within and outside mathematics;
- Apply a wide variety of strategies to solve problems and adapt the strategies to new situations;
- Monitor and reflect on their mathematical thinking in solving problems.

8. Communication

Mathematics instructional programs should use communication to foster understanding of mathematics so that all students-

Standards

- Organize and consolidate their mathematical thinking to communicate with others;
- Express mathematical ideas coherently and clearly to peers, teacher, and others;
- Extend their mathematical knowledge by considering the thinking and strategies of others;
- Use the language of mathematics as a precise means of mathematical expression.

9. Connections

Mathematics instructional programs should emphasize connections to foster understanding of mathematics so that all students-

- Recognize and use connections among different mathematical ideas;
- Understand how mathematical ideas build on one another to produce a coherent whole;
- Recognize, use, and learn about mathematics in contexts outside of mathematics.

10. Representation

Mathematics instructional programs should emphasize mathematical representations to foster understanding of mathematics so that all students-

- Create and use representations to organize, record, and communicate mathematical ideas;
- Develop a repertoire of mathematical representations that can be used purposefully, flexibly, and appropriately;
- Use representations to model and interpret physical, social, and mathematical phenomena.