

Envision Grade 5, Topic 1

Lesson 1.1 Place Value

Aim: How can you read and write large numbers?

Objective: SWBAT write the standard, expanded, and word forms of whole numbers in the billions and identify the value of digits in whole numbers.

Vocabulary: Digits, Value, Standard Form, Expanded Form, Word Form

5th Grade Envision Math

Interdisciplinary Connections:

(1a: Demonstrating Knowledge of Content and Pedagogy)

Reading Comprehension and Problem Solving

Use Reading Comprehension Strategies

A good reading comprehension strategy to use in math is to **represent information from the text in different ways such as in an outline, timeline, or graphic organizer.**

Relevance/Rationale: *Why are the lesson outcomes important in the real world?*

(1b: Demonstrating Knowledge of Students)

Mathematical Practices

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

Outcomes/Objectives: *What will students know and be able to do as a result of this lesson?*

(1c: Setting Instructional Outcomes)

Assessment 1-1 Quick Check. I can use place value to read and write whole numbers in various forms.

Content Standard(s) and/or Common Core Learning Standard(s):

(1c: Setting Instructional Outcomes)

CCLS: 5.NBT.A.1 Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.

Use of Formative Assessment to Inform Planning:

(1f: Designing Student Assessments)

Quick Check 1.1

Class Information:

(1b: Knowledge of Students)

Place groups here

Technologies and Other Materials /Resources:

(1d: Demonstrating Knowledge of Resources)

Textbook, Student Notebook, Quick Check, Teaching Tool 4

Grouping Strategy:

(1e: Designing Coherent Instruction)

Assessment: Quick Check, and monitoring during lesson.

Academic Vocabulary:

(1a: Knowledge of Content and Pedagogy; 1b: Knowledge of Students)

Vocabulary: Digits, Value, Standard Form, Expanded Form, Word Form

Lesson Procedures:

(1a: Demonstrating Knowledge of Content and Pedagogy; 1e: Designing Coherent Instruction)

Lesson sequence below

Teacher Actions	Student Actions
<p>Intro/Model (15-20 minutes) Introduction, purpose, explanations, think-alouds, visual or worked models, small steps working toward mastery, etc.:</p> <p>Set the Purpose: “<i>You know how to read and write numbers to one million (assess first to see if correct). Today you will learn how to read and write numbers greater than one million.</i>”</p> <p>Connect: “Can you describe a situation in which you have seen or heard a very large number?”</p> <p>Student Discovery/Pose the Problem: Review place value through millions. Give students a copy of Teaching Tool 4. Also, write a place value chart on the chalkboard. <i>How many millions does it take to make one billion? (1000) “Have students work together to solve. Tell students to compare ones to one thousand and one thousand to one million”</i>. Have students work in pairs.</p> <p>Instruct in Small Steps: One the chalkboard, draw a place value chart with place values through 100 billion including periods. <i>What is the place value to the left of the hundred millions place? Explain that a period is a group of three digits, separated by commas, starting at the right.</i> Write 1,246,065,702 on the chalkboard. <i>Let’s fill in the place value chart with the digits from the number I wrote on the chalkboard.</i> Have students tell me where to write each digit using commas to separate each set of 3 digits in a period. Emphasize that the place of a digit in a number tells you its value. <i>Now, let’s read the number together.</i></p> <p>Small Group Interaction: <i>On the recording sheet, write a 10 digit number and a 12 digit number. Discuss with your partner how to read each number. Use the place value chart to help you. Write each number in word form.</i></p> <p>Extend: Rearrange the digits in 4,605,800,000 to make the greatest</p>	<p>Connect: Students TTYP (Talk To Your Partner) and come up with examples of a situation in which you have seen or heard a very large number.</p> <p>Pose the Problem: Have students work together to discover the answer. Have them explain to a partner how they were able to figure the answer out.</p> <p>Extend: TTYP and come up with the greatest number</p>

number possible.	possible.
<p>Visual Learning/Teaching Point: How are we getting the kids to get it?</p> <p>Set the Purpose: Call the students' attention to the Visual Learning Bridge at the top of the page. <i>In this lesson, you will learn to write the standard, and word forms of whole numbers.</i></p> <p><i>"If the first digit of a number is in the billions place, how many digits are in the number? [10] Which digits are used in the number of quarters that could make a ring around Earth at the equator? [0,1, and 6]</i></p> <p><i>"In the number shown, which digit has the greatest value? [1] Why does the 1 have a greater value than the 6? [The 1 is in the billions place and has a greater value than the 6 in the hundred millions place.]</i></p> <p>Guided Practice (20 minutes): Teacher will guide students with problems on p. 6.</p> <p>Exercise 4 Look for Patterns: Discuss with students patterns between the amount of money each person has. Then encourage them to come up with their own sentences describing the patterns using the phrase 1/10 as much as.</p> <p>Teacher will circulate and assist.</p>	TTYP
<p>Adjust instruction/reteach/additional guided practice/Anticipated Difficulties (10 minutes)</p> <p>Error Intervention:</p> <p>If: students don't know how to find the pattern.</p> <p>Then reteach another example and more practice, assign Reteaching Set A on p.22.</p>	
<p>Independent Practice/Extension/Connections (30 minutes) Practice, extend, and apply the skills/concepts (inclusive of work that Requires higher-level thinking skills):</p> <p>Pg 7</p> <p>Remind students not use the word "and" when they write whole numbers in word form. Remind the to double check their place values when writing expanded forms.</p> <p>Pg 7 Problem Solving</p> <p>Students use underlying processes and mathematical tools for Exercises 14-18. Remind students to</p>	

check for reasonableness when solving each problem.

Exercise 18

Critique the Reasoning of Others: Remind students to look for important words. Ask: “*Do the place values in the standard form match the place value in the word form of the number? How can you tell?*”

Early Finishers: “For exercise 17, describe the relationship between the place values of the two 2s in the number 22,000,000. [Teacher will check students’ work]”

Extension: Enrichment Master

Closure (*10 minutes*) Explicitly connect ideas, concepts, and skills together, and clearly connect to the lesson objective(s):

Essential Understanding Number can be used to tell how many. Our number system is based on groups of ten. Whenever we get 10 in one place value, we move to the next greater place value.

What did you learn in today’s lesson? What I can statement can you now make?

“I can use place value to read and write whole numbers in various forms.”

Differentiation/Assessment Criteria for Success: *Describe how you will differentiate instruction for a variety of learners, including students with special needs, English Language Learners, and high achieving students to ensure that all students have access to and are able to engage appropriately in this lesson. Be specific.*

(1e: Designing Coherent Instruction)

ELL Students: Rephrase: For students who need extra language support, read the word problem together. Encourage students to rephrase word form and expanded form in their own words. Assist and model as necessary.

Prescription for Differentiated Instruction;

Use student work on the Quick Check to prescribe differentiated instruction.

0-4 Intervention, 5-6 On-level, 7 Advanced

Reflections: *List at least three questions you will ask yourself after the lesson is taught.*

(4a: Reflecting on Teaching)

“What problems are the students still having?”

What went well?

For the students who are having problems, what gap do they still have that they are not able to master this lesson and how do I fix the gap?”