

Grade 4

Teacher Guide Sample

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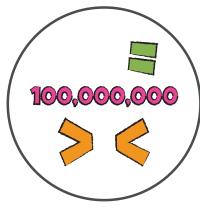
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Scope Introduction

SCOPE SUMMARY



Students build on their prior knowledge of comparing and ordering whole numbers to master comparing and ordering whole numbers up to 1,000,000,000. Students use concrete and visual supports such as place value charts and place value disks to make comparisons. They use comparative language (greater than, less than, or equal to) and symbols (>, <, or =) to make comparisons. Students also order numbers from greatest to least and from least to greatest.

Student Expectations

4.2C

 Compare and order whole numbers to 1,000,000,000 and represent comparisons using the symbols
 , <, or =.

VERTICAL ALIGNMENT



Background Knowledge

Between first and third grades, students use their understanding of place value, and they work with concrete models and/or number lines to plot, order, and compare whole numbers by using both comparative language (greater than, less than, or equal to) and symbols (>, <, or =). First graders make comparisons up to 120, second graders make comparisons up to 1,200, and third graders make comparisons up to 100,000.

Future Expectations

Fifth grade students extend that knowledge to compare and order decimals to the thousandths place. Students use the same basic strategies that they applied to comparing and ordering whole numbers. They not only check place value but also compare the digits in order from left to right—starting to the left of the decimal and continuing to the right of the decimal.

ENGAGE ACTIVITIES



Accessing Prior Knowledge

Students independently examine Texas city maps to determine the order of city populations from greatest to least using place value reasoning. Each student selects a map that they believe correctly represents the city populations and stands by it, leading to a class discussion. This activity assesses their prior knowledge of numerical comparison and place value, encouraging them to support their choices and clarify misconceptions about population sizes and comparison symbols.

If your students are struggling with previously taught concepts, use the Foundation Builder activity in this scope to reinforce ideas presented in the APK.

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In this activity, students act as sales representatives, writing down sales amounts on sticky notes. Initially, they write a six to nine-digit number representing their sales for the year. Later, students are grouped to compare these amounts to determine the top sellers using place value knowledge. They order these numbers from least to greatest, applying comparison symbols appropriately, and engage in discussions about place value and comparison strategies. This activity fosters understanding of numerical order and enhances collaborative skills.





EXPLORE ACTIVITIES

ore

Compare Numbers

In this activity, students engage in comparing whole numbers up to the billions using place value reasoning and comparison symbols (> < =). They use tools like place value mats, movie ticket sales data, and place value disks in groups to construct and compare numbers, visualizing and aligning each digit correctly. The process involves revealing numbers progressively, prompting students to revise their comparisons as more digits are shown. This hands-on approach reinforces understanding of place value and numerical comparisons.

plore 2

Order Numbers

In this group activity, students use place value reasoning to order whole numbers up to the hundred millions. They work with Spacecraft for Sale Posters, using sticky notes to reveal and compare digits sequentially, helping them determine which spacecraft costs the most. The process engages students in critical thinking as they uncover each digit, compare numbers, and align them from greatest to least. This exercise not only reinforces their understanding of numerical order but also enhances their collaborative and decision-making skills.

Notes



Accessing Prior Knowledge

ACTIVITY PREPARATION



Students use place value reasoning to compare and order multi-digit numbers up to 100,000.

Materials

Printed

- 1 Set of Texas City Maps (per class)
- 1 Student Handout (per student)

Reusable

 1 Projector or document camera (per class)

Preparation

- Plan to have students work independently to complete this activity.
- Print a set of Texas City Maps for the class. Post the maps in different locations around the classroom.
- Print a Student Handout for each student.

PROCEDURE AND FACILITATION



FACILITATION TIP

Engage students by projecting the population sizes of Texas cities for students to read through before you distribute the Student Handout.

FACILITATION TIP

Rather than hanging the 4 maps in different locations around the classroom, consider projecting the inequality statements so that students can see them all at one time.

- 1. Distribute a Student Handout to each student.
- 2. Instruct students to silently read about the population sizes of some Texas cities and choose the correct order of the city populations from greatest to least.
- 3. Have students stand next to the map they think correctly represents the Texas city populations from greatest to least.
- 4. Facilitate a class discussion about student choices. This provides an opportunity to gather an understanding of prior student knowledge before beginning the lessons. Encourage students to support their answers, and check for understanding and misconceptions. Sample student responses include the following:
 - a. I chose Georgetown > Cedar Park > Missouri City > Baytown because Georgetown has the smallest population size and Baytown has the greatest population size. The symbol > means "less than."
 - b. I chose Cedar Park < Georgetown < Baytown < Missouri City because Cedar Park ends with a 0 and Missouri City ends with a 9. Zero is less than nine, so Cedar Park should go first and Missouri City should go last. The symbol < means "greater than."
 - c. I chose Baytown > Missouri City > Cedar Park > Georgetown because Baytown and Missouri City both have a 5 in the thousands place. Baytown has a 9 in the hundreds place, and Missouri City has a 7 in the hundreds place. That makes Baytown's population greater than Missouri City's population. Georgetown and Cedar Park both have the same digits until the hundreds place. Cedar Park has a 9, and Georgetown has a 1. That means Cedar Park's population is greater than Georgetown's population. The > means "greater than."
 - d. I chose Missouri City < Baytown < Georgetown < Cedar Park because Missouri City has 729 after the comma and Baytown has 916. That means Missouri City's population is smaller than Baytown's. The symbol < means "less than." Baytown's population is greater than Georgetown's population because Baytown has a 5 in the thousands place and Georgetown has a 4 in the thousands place. The symbol > means "greater than." Cedar Park's population is less than Georgetown's population because the number ends in a 0.
- 5. If students are struggling to complete this task, do the Foundation Builder to fill the gap in prior knowledge before moving on to other parts of the scope.

















Notes



Hook: Sales Comparisons

ACTIVITY PREPARATION



Students compare and order whole numbers up to 1,000,000,000 using the symbols >, <, or =.

Materials

Printed

• 1 Student Handout (per student)

Reusable

- 1 Phenomena (per class)
- 1 Projector (per class)

Consumable

• 1 Sticky note (per student)

Preparation

- · Plan to show the Phenomena.
- · Part I
 - o Be prepared to provide a sticky note to each student.
- · Part II
 - o Plan to have students work in groups of 5 to complete this activity.
 - Be prepared to hand back the sticky notes with the amount of money in sales from Part I.
 - o Print a Student Handout for each student.

PROCEDURE AND FACILITATION



Part I: Pre-Explore

- 1. Introduce this activity toward the beginning of the scope. The class will revisit the activity and solve the original problem after students have completed the corresponding Explore activities.
- 2. Distribute a sticky note to each student.
- 3. Instruct students to write a number that has at least six digits but no more than nine on their sticky note. Have them each write the number across the center of the sticky note and record their name along the bottom of the note. Collect their sticky notes. The students will use these sticky notes again in Part II.
- 4. Show the Phenomena. Ask students the following questions: What do you notice? Where can you see math in this situation? Allow students to share all ideas.
- 5. Explain the scenario to the class: You are on a team of sales representatives. The number you just wrote down represents the amount of money in sales you have made so far this year. The boss wants to analyze the sales on your team. To help with the process, you are going to compare the sale amounts and determine the top sales representatives on your team by ordering the top three sales from least to greatest.
- 6. Allow the students to ask questions and clarify the context as needed. Encourage them to share their thoughts and experiences with the class using the following questions:
 - a. Have you ever sold anything or participated in a school fundraiser where you competed to collect the most money?
 - b. If so, what did you do to compare how many sales you needed to beat your competition?
 - c. What does it mean to compare numbers?

FACILITATION TIP

As an alternative to sticky notes, three by five cards might be easier to handle and students could easily write six digit numbers and their names legibly. In addition, it will be easier to store cards to use again after both of the Explores.



















7. Discuss the following questions with the class:

- a. DOK-2 Which concepts and skills will we need to apply when ordering the numbers? We will need to apply our knowledge of place value to compare
- **b. DOK-2** When you are comparing two numbers, which place value do you look at first? You should look at the place value farthest to the left. This is the digit with the greatest value.
- **c. DOK-2** What do you do if two digits in the same place value are the same? You look at the next place value to the right. (It is okay if students do not remember this from third grade. It will be addressed in the Explore activities).
- 8. Move on to complete the Explore activities.

Part II: Post Explore

- 1. After students have completed all the Explore activities for this topic, show the Phenomena again, and repeat the scenario.
- 2. Divide the class into groups of 5 students. Redistribute the sticky notes with the amount of money in sales from Part I.
- 3. Discuss the following questions with the class:
 - a. DOK-2 Which concepts and skills will we need to apply when ordering the numbers? We will need to apply our knowledge of place value to compare
 - **b. DOK-2** When comparing two numbers, which place value do you look at first? You should look at the place value farthest to the left. This is the digit with the greatest value.
 - c. DOK-2 What do you do if two digits in the same place value are the same? You look at the next place value to the right.
- 4. Distribute a Student Handout to each student.
- 5. Explain to students they will use the sticky notes with their amount of money in sales to record comparison statements and identify the top three sales representatives on their team. If none of the student sales are the same number, they are to leave the row with the equal to symbol blank.
- 6. Instruct students to order the top three student sales on their team from least to greatest and use the correct comparison symbol between each value.
- 7. Monitor and talk with students as needed to check for understanding.
- 8. Discuss the following questions with the class:
 - **a. DOK-1** Give an example of a greater-than comparison. Answers will vary.
 - **b. DOK-1** Give an example of a less-than comparison. Answers will vary.
 - c. **DOK-1** Were any sales of equal value? If so, which ones? Answers will vary.
 - d. DOK-2 What do you notice about the comparison symbols when ordering the student sales from greatest to least? I notice that we used the greater than symbols to order the student sales from greatest to least.
 - e. **DOK-2** How can you use the order to determine which student had the most amount of money in sales? I know that the student sales that come first in the order are the greatest because the value is greater than the following student sales. The middle student sales are less than the first but greater than the last. The last student sales are less than all the student sales.
- 9. As an extension, ask students to compare and order their top sales with another team of sales representatives. Have students verbalize the new comparisons using the correct number names and comparison words.

FACILITATION TIP

Consider reviewing the use of a masking tool to support focus on one place value column at a time to compare digits.

FACILITATION TIP

Take time to clarify how students are to order the top three values (least to greatest vs greatest to least). Read the directions on the Student Journal with students. A common error is to correctly sequence the numbers but place them in the wrong order.



Explore 1: Compare Numbers

ACTIVITY PREPARATION



Students compare whole numbers and represent these comparisons using the symbols >, <, and =.

Mathematical Process Standards

- (A) Apply mathematics to problems arising in everyday life, society, and the workplace.
- **(B)** Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution and evaluating the problem-solving process and the reasonableness of the solution.
- **(C)** Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.
- **(D)** Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.
- (E) Create and use representations to organize, record, and communicate mathematical ideas.
- **(F)** Analyze mathematical relationships to connect and communicate mathematical ideas.

Materials

Printed

- 1 Student Journal (per student)
- 1 Place Value Mat (per group)
- 1 Set of Movie Ticket Sales (per group)
- 1 Exit Ticket (per student)

Reusable

- 1 Set of place value disks (per class)
- 1 Sheet protector (per group)
- 1 Dry-erase marker (per group)

Consumable

- 18 Index cards (per class)
- 1 Roll of tape (per class)

Preparation

- Plan to have students work in groups of 3–4 to complete this activity.
- Print the Student Journal and Exit Ticket for each student.

Part I

- Write the following two numbers on the index cards, one digit per card: \$630,269,241 and \$580,173,506. Draw a place value chart on the board, and use the index cards to build both numbers by taping them into the chart with the digits facing the board. Students should not be able to see the digits. Label the numbers in the place value chart as shown:
 - o Backyard Adventures: \$630,269,241
 - o Fish Tales: \$580,173,506

Part II

- Print a Place Value Mat for each group. Place the mat in a sheet protector to create an erasable surface.
- Print a set of Movie Ticket Sales for each group.
- Gather a set of place value disks and a dry-erase marker for each group.
- For students who need more support in recalling information, please see our Place Value Chart and Open Number Lines Supplemental Aids elements in the Intervention section.
- **Go Digital!** Have students explore or present their solutions using virtual manipulatives! The manipulatives used for support in this lesson can be found in the Explore drop-down menu and can be digitally assigned to students. (Place Value Disks and Number Lines)

Notes





















PROCEDURE AND FACILITATION

Part I: The Big Reveal!

- 1. Distribute the Student Journal to each student.
- 2. Read the following scenario to the class: It's the final tally for box office sales for the top two movies of the year! Who will win? Who will have the most sales?
- 3. Help students access the task by using the following guiding questions:
 - a. How would you describe a final tally?
 - b. How does a movie earn box office sales?
 - c. What does it mean to have the most sales?
 - d. What do you remember about comparing numbers?
- 4. Explain that on the board are the box office sales for the top two movies and that you will reveal those sales one digit at a time starting in the place with the least value.
- 5. Instruct students to record the digits of each number in the place value chart on Part I of their Student Journals as you reveal them.
- 6. Reveal the digits in the ones place.
 - a. **DOK-1** What do you notice? There is a 1 and a 6.
 - **b. DOK-1** Which number do you think is greater? The number with the 6, Fish Tales.
- 7. Place a check mark by Fish Tales. Then reveal the next place value, the tens
 - **a. DOK-1** What do you notice? There is a 4 and a 0 in the tens place. Now it looks like 41 and 6.
 - **b. DOK-1** Which number do you think is greater? *Backyard Adventures* looks greater now!
- 8. Erase the check mark by Fish Tales, and place a new check mark by Backyard Adventures. Reveal the next place value, the hundreds place.
 - **DOK-1** What do you notice? There is a 2 and a 5! Now it looks like 241
 - **b. DOK-1** Which number do you think is greater? Now it looks like *Fish* Tales has more again!
- 9. Change the check mark again, and continue until all the digits are revealed.
- 10. After revealing all the numbers, discuss the following questions with the class:
 - a. **DOK-1** How many digits are in each of these numbers? Each number has 9 digits.
 - **b. DOK-1** What did you notice when we were comparing the places with less value? We went back and forth on which number we thought was greater. Every time we uncovered a new place, it made us change our minds on which one was greater.
 - c. DOK-2 Which place values are more helpful when comparing two numbers? The places with greater value are more helpful for figuring out which number is greater or less. In these numbers, the hundred millions place helped us find which number was greater.

FACILITATION TIP

Engage students by starting on Step 3 before reading the scenario.

FACILITATION TIP

Consider printing and projecting the hidden digits of the sales for Backyard Adventures: \$630,269,241 Fish Tales: \$580,173,506 under a document camera to make them easier for the teacher to reveal one digit at a time as noted in step 4.



Explore 1: Compare Numbers

FACILITATION TIP

Model careful use of the place value chart for a few values. Some students may need support tracking the digits and columns while transferring the numbers.

- 11. Challenge students to use the place value chart on the Student Journal to determine and record two comparison statements and then answer the two questions at the end of Part I.
- 12. Monitor and talk with students as needed to check for understanding by using the following guiding questions:
 - **a. DOK-2** How can the place value chart support you in comparing these two values? The place value chart helps us line up the digits in each place.
 - b. DOK-2 What process could you follow to compare numbers? We could look at the greatest place value first. If the digits are different, we can tell which number is greater based on that digit. If they are the same, we have to look at the next place value and use those digits to compare.
 - **c. DOK-2** Explain which number comes first in the comparison statement when using the greater than symbol. The greatest number comes first when using the greater than symbol because the statement reads \$630,269,241 is greater than \$580,173,506.
 - **d. DOK-2** Explain which number comes first in the comparison statement when using the less than symbol. The least number comes first when using the less than symbol because the statement reads \$580,173,506 is less than \$630,269,241.
- 13. Allow students enough time to record their comparisons and solutions on their Student Journals and check for understanding and accuracy.

Part II: Movie Ticket Sales!

- 1. Distribute a Place Value Mat, a set of Movie Ticket Sales, place value disks, and a dry-erase marker to each group.
- 2. Students will continue to use their Student Journals for Part II of this Explore.
- 3. Give students a few moments to look over the materials and discuss what they notice.
- 4. Explain to students that they are going to be comparing all-time movie ticket sales. They will compare two at a time until they find the movie that earned the most.
- 5. Have students collaborate to look at each pair of movies indicated on their Student Journal. Using their dry-erase markers, students should write both numbers, one right under the other, on their Place Value Mat.
- 6. Have students use the place value disks to build each number for extra support in comparing the movie ticket sales, if desired.
- 7. Challenge students to work together to determine which movie had the greatest sales and record two comparison statements on their Student Journals.

Notes

FACILITATION TIP

To encourage students to carefully record digits on their place value charts, project the two values they are to compare in Part II rather than distributing the Movie Ticket Sales handout to them.



















8. Monitor and talk with students as needed to check for understanding by using the following guiding questions: (Answers will vary.)

- a. **DOK-1** What do you notice about these numbers? They have the same amount of digits, but the digits vary in each place value.
- **b. DOK-2** Why is it important to place the digits in the correct location on the Place Value Mat? If the digits are in the wrong spot on the Place Value Mat, then we won't be able to accurately compare the quantities.
- c. DOK-2 How can the place value disks support you in determining which value is greater? The place value disks provide a visual support for how large or small the ticket sales costs represent.
- d. DOK-2 How do the comparison statements help you determine a solution? The comparison statements are read like sentences, which we read from left to right. The statement may say 478,306,490 is greater than 478,305,485 or 478,305,485 is less than 478,306,490. When reading the statement, we know that the greater movie ticket sales will be the movie that earned the most money.
- 9. Allow students enough time to record their responses for each movie ticket sale comparison. Then challenge students to work together to answer the reflection questions at the end of the Student Journal.
- 10. After the Explore, invite the class to a Math Chat to share their observations and learning.

Math Chat

- o **DOK-2** What could you do if you didn't have a pace value mat to help you compare the values? I could draw my own place value chart. I could write the two numbers on top of each other and just make sure I lined up the digits.
- o Choose a Structured Conversation routine to facilitate the following question: DOK-2 Why is place value important when comparing numbers? Place value helps you know the values of the digits in a number. You have to know what the greatest place values are to compare two numbers.
- o **DOK-2** What helped you determine which movie made the greatest amount of money? Looking at the digits in the greater place values helped. The values of the digits helped me determine which movie made more money.

Post-Explore

- 1. Have students complete the Exit Ticket to formatively assess their understanding of the concept.
- 2. Complete the Anchor Chart as a class.
- 3. Have each student complete their Interactive Notebook

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Provide students feedback for accuracy on the Student Journal before the Math Chat.

FACILITATION TIP

For Explore 1 Exit Ticket, provide reading support as needed for the movie titles. Some students may need an opaque or translucent masking tool to help them read each place value left to right one at a time.

Notes



Explore 2: Order Numbers

ACTIVITY PREPARATION



Students order whole numbers through the hundred millions place.

Mathematical Process Standards

- (A) Apply mathematics to problems arising in everyday life, society, and the workplace.
- **(G)** Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.

Materials

Printed

- 1 Student Journal (per student)
- 1 Set of Spacecrafts for Sale Posters (per class)
- 1 Place Value Mat (per group)
- 1 Set of Scenario Cards (per group)
- 1 Exit Ticket (per student)

Reusable

- 1 Pad of sticky notes (per class)
- 1 Sheet protector (per group)
- 1 Dry-erase marker (per group)
- 1 Set of place value disks (per group)

Consumable

· 3 Sentence strips (per class)

Preparation

- Plan to have students work in groups of 4 to complete this activity.
- · Print the Student Journal and Exit Ticket for each student.

Part I

- Gather 3 sentence strips, and write *Spacecraft 1: 438,433,199* on the first sentence strip, *Spacecraft 2: 483,433,907* on the second sentence strip, and *Spacecraft 3: 483,433,102* on the third sentence strip.
- Print a set of Spacecrafts for Sale Posters, and attach each poster to its corresponding sentence strip.
- Cover each digit in each number with a sticky note, and display the posters and covered quantities on the board. It may be necessary to trim the width of the sticky note so all digits fit on the sentence strip.

Part II

- Choose how to implement the activity in the classroom:
 - o Print a set of Scenario Cards for each group of students.
 - Print two sets of Scenario Cards, and have groups rotate between each set, like stations.
- Print the Place Value Mat on card stock for durability for each group. Place the Place Value Mat in a sheet protector to create an erasable surface.
- Gather a set of place value disks and a dry-erase marker for each group of students.
- For students who need more support in recalling information, please see our Place Value Chart, Open Number Lines, and Grid Paper Supplemental Aids elements in the Intervention section.
- **Go Digital!** Have students explore or present their solutions using virtual manipulatives! The manipulatives used for support in this lesson can be found in the Explore drop-down menu and can be digitally assigned to students. (Place Value Disks and Number Lines)

Notes























PROCEDURE AND FACILITATION

Part I: Which Spacecraft to Buy?

- 1. Distribute the Student Journal to each student.
- 2. Read the following scenario to the class: Mateo loves video games! His favorite video game, Simulated Universe, allows him to create a universe that includes different worlds, people, and buildings. He earns points when everything in his universe is healthy and thriving, but he loses points when there are problems in his universe. He recently noticed that he is losing points because he has no way to transport people from one world to the other. Mateo wants to purchase a spacecraft that will take people from one planet to another, but he can't decide which one to buy. He thinks the spacecraft that costs the most points might be the best spacecraft, but he is not sure. We need to list the spacecrafts in order from greatest to least to help Mateo make his decision.
- 3. Help students access the task by using the following guiding questions:
 - a. How would you describe the universe in Mateo's game?
 - b. What is the problem and solution that Mateo must solve?
 - c. What is a spacecraft, and why is it important to Mateo?
 - d. What do you already know about ordering numbers?
- 4. Explain to students that on the board are the three spacecrafts Mateo has the option of purchasing. Have students work together to use the amount of points for each spacecraft to help determine which one Mateo should purchase.
- 5. Under the posters, draw three horizontal lines side by side. Label the farleft one "greatest" and the far-right one "least."
- 6. Allow students to come up with a plan for how they would order the numbers.
 - a. DOK-1 We can only uncover one place value at a time. Where should we start? We should start with the greatest place value, the hundred millions place!
- 7. Instruct students to record the digits of each number in the place value chart on Part I of their Student Journal as you reveal them.
- 8. Uncover the hundred millions place.
 - **a. DOK-1** What do you notice? The digits are all the same. We need to uncover the ten millions place to see if those digits are the same or different.
- 9. Uncover the ten millions place.
 - a. What do you notice? Spacecraft 1 has a 3 in the ten millions place, while the other quantities have an 8. Spacecraft 1 is the cheapest spacecraft.
 - b. Do we need to keep uncovering digits for Spacecraft 1? No, we already know it's the least.
 - c. If we were listing our numbers from greatest to least, where would Spacecraft 1 go? At the very end. It is the least.
- 10. Move the poster and sentence strip for Spacecraft 1, and retape it above the "least" line on the board.
 - a. What should we do next? We should keep uncovering one place value at a time until we see digits that are different in the other two numbers.

FACILITATION TIP

Prior to reading the scenario, engage students with some questions about their favorite video games where they gain and lose points and can buy tools with points.

FACILITATION TIP

To make it easier to reveal the digits as students record them in step 4-7, consider displaying the Spacecraft prices under the document camera rather than on sentence strips.

Spacecraft 1: 438,433,199 Spacecraft 2: 483,433,907 Spacecraft 3: 483,433,102

FACILITATION TIP

For clarity, print the prices on the Spacecrafts for Sale Posters.



Explore 2: Order Numbers

- 11. Continue uncovering one place value at a time until the hundreds place is uncovered.
 - a. What do you notice? Spacecraft 2 has a 9 in the hundreds place, while Spacecraft 3 has a 1 in the hundreds place.
 - b. What does this tell you about the order we are trying to place our numbers in? Spacecraft 2 is the most expensive spacecraft, so it should go first in our list. Spacecraft 3 is the next greatest, so it is listed next. Spacecraft 1 is already listed as our least.
- 12. Move the posters and sentence strips so Spacecraft 2 is on the "greatest" line and Spacecraft 3 is in the middle.
- 13. Uncover the remaining numbers for each spacecraft.
- 14. Challenge students to use the order of the spacecrafts on the board to support them in representing the cost of the spacecrafts in order from greatest to least and drawing the correct comparison symbol in between each quantity.
- 15. Have students work together to answer the questions at the end of Part I.
- 16. Monitor and talk with students as needed to check for understanding by using the following guiding questions:
 - **a. DOK-1** What do you notice about the comparison symbols when ordering the quantities from greatest to least? I notice that we used the greater than symbols to order the quantities from greatest to least.
 - **b. DOK-2** How can you use the order to determine which spacecraft costs the most? I know that the quantity that comes first in the order is the greatest, because its value is greater than the following quantities. The middle quantity is less than the first quantity, but greater than the last quantity. The last quantity is less than all the quantities.
 - c. DOK-3 Describe your process for placing numbers in order from greatest to least or least to greatest. First, I place the numbers in a place value chart. Then I look at the digits in the greatest place value. If they're different, then I can tell which one is the greatest or least. I keep looking at the next place values until I've placed all the numbers in order.
- 17. Allow students enough time to record their solutions and responses on their Student Journals and check for understanding and accuracy.

Part II: Explore the New Universe

- 1. Distribute a set of Scenario Cards, a Place Value Mat, place value disks, and a dry-erase marker to each group.
- 2. Students will continue to use their Student Journals for Part II of this Explore.
- 3. Have students work as a group to order their numbers on the Place Value Mat first. Remind students to label each quantity, so they know which one goes with which planet, month, or season from the scenarios.
- 4. Students may also use the place value disks to build each number for extra support in ordering the quantities.
- 5. Have students answer the corresponding questions and record how the numbers are ordered on the Student Journal.

FACILITATION TIP

Consider projecting the three colorful Scenario cards rather than distributing them all at once to students. Alternatively, the scenarios could be given to students one at a time as they finish each one successfully.



















6. Monitor and talk with students as needed to check for understanding by using the following guiding questions: (Answers will vary.)

- **a. DOK-1** What do you notice about these numbers? They have the same amount of digits, but the digits vary in each place value.
- **b. DOK-2** Why is it important to place the digits in the correct location on the Place Value Mat? If the digits are in the wrong spot on the Place Value Mat, then we won't be able to accurately compare the quantities.
- **c. DOK-2** How can the place value disks support you in determining which quantity is greater? The place value disks provide a visual support for how large or small the quantities represent.
- d. DOK-2 What strategy helps you determine the order of numbers? Looking at the numbers by their place value helps me see which number is greatest, which number is least, and which numbers are between those two numbers.
- e. **DOK-2** What do you need to do when writing the symbols between these numbers? I need to make sure they are all either greater than or less than symbols and that they show all the numbers are ordered from greatest to least or least to greatest.
- f. DOK-2 Why did you choose to order these numbers from greatest to least instead of least to greatest? I needed to list the seasons in order from when the planet was the farthest from its sun to when it was the closest. If the planet was farthest from the sun, the number of miles between it and the sun would be greater than the number of miles when the planet was closest to the sun, so I needed to order the number of miles from greatest to least.
- **g. DOK-1** What symbol do you use when numbers are the same? The equal symbol
- 7. Allow students enough time to record their responses for each scenario. Then challenge students to work together to answer the reflection question at the end of the Student Journal.
- 8. After the Explore, invite the class to a Math Chat to share their observations and learning.

Math Chat

- o **DOK-2** How is place value helpful when ordering numbers? The place value of a digit helps you know the value of the digit. The greatest place values in a number can tell you if it's greater or less than other numbers.
- Choose a Structured Conversation routine to facilitate the following question: **DOK-2** How did you know how to order the numbers in the various scenarios? Describe the process you used. We used the Place Value Mat. We looked at the digits and considered their value in each number. We circled the first digit from the left that was different from the other digits. We also used place value disks to build numbers and easily see the values of the given digits.
- o DOK-3 How would ordering numbers be helpful in real-world situations? Answers may vary. Ordering numbers is helpful if you are trying to save money and want to spend the least amount on an item. It can also be helpful when determining who won a race with who had the least time and who had the greatest time.

Post-Explore

- 1. Have students complete the Exit Ticket to formatively assess their understanding of the concept.
- 2. Complete the Anchor Chart as a class.
- 3. Have each student complete their Interactive Notebook.
- 4. Return to the Hook and instruct students to use their newly acquired skills to successfully complete the activity.

FACILITATION TIP

Print some selected questions from 6a-g and project them before students begin collaborating. Encourage students to focus their discussions on these topics and to be prepared to respond to them during the Math Chat.

FACILITATION TIP

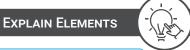
Consider allowing students to show you their place value mat work, take a photo of it, or select one scenario to record rather than show their work for every scenario.

FACILITATION TIP

For Exit Ticket for Explore 2, emphasize careful reading of "least to greatest". A common error is to get the numbers in correct sequence, but list them in the wrong order.



Additional Scope Resources



	ELEMENT USE KEY	Can be assigned digitally		Contains printa	able handouts	★ Can be done independently	
	Picture Vocabulary A slide presentation of imperiod picture and definition	ortant vocabulary terms along with a		**************************************	Compare Number	ou Know, Part 1 ers ctice assignment that gives students an emonstrate their learning	
	Anchor Chart A guide to facilitating the ceach scope.	reation of a chart with students for		\$\frac{\(\frac{\(\frac{\) \}}{\}}}}}}{\(\frac{\(\frac{\(\frac{\(\frac{\(\frac{\) \}}{\}}}}}}{\) \} \\ \equiction \\ \equiction \} \\ \equiction \\ \equiction \} \\ \equiction \\ \equiction \} \\	Order Numbers Independent prac	ou Know, Part 2 ctice assignment that gives students an emonstrate their learning	
• I	My Math Thoughts A collection of journal pronexplain their thinking and re	npts designed to allow students to eflect on their learning			knowledge to sup		lary, and
*	Interactive Notebook A cut-and-glue activity to pour a notebook for future reference.	rocess learning that can be added to ence					
			Not	es			

















Intervention







ELABORATE ELEMENTS

ELEMENT USE KEY

Can be assigned digitally

Contains printable handouts

★ Can be done independently



Spiraled Review

National Donut Day

A quick story to engage student interest along with four problems over previously learned skills.



Fluency Builder

Compare Numbers within 1,000,000

Independent and partner games and other activities that provide students with an engaging way to practice the new concept



Math Story

The Perfect Day

Reading passage that supports literacy and expands the students' ability to identify the information they need to solve problems



Career Connections





STEM careers come to life with these career exploration videos and student guides designed to take the learning further.



Problem-Based Task

College Trip Around Texas

Independent or collaborative task that allows students to solve a challenging, meaningful problem in a real-world context



Interactive Practice

Space Academy

A game to practice the skills established by the standards in the

Notes	



Intervention and Assessment

STUDENT INTERVENTION



Depending on available time and your teaching style, use the resources provided in our Explain, Elaborate, Intervention, and Acceleration sections of this scope to move forward. Use the space below to organize next steps while keeping the needs of your students in mind. Some suggested resources have been listed. (Look online to see the full menu.)

	Resources	Students	Notes & Comments
Students who are still acquiring the concept and need remediation	☐ Fluency Builder ☐ Small-Group Intervention		
Students who are approaching mastery and need review	☐ Career Connections☐ Interactive Practice		
Students who have mastered the concept and need extension	□ Problem-Based Task □ Math Today □ Create Your Own		





















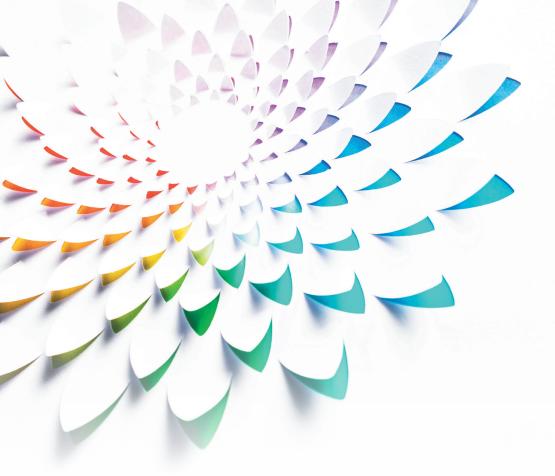
ASSESSMENT PLANNER

Evaluate	Resources	
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- $\ \ \, \square \quad \textit{Standards-Based Assessment}$
- Decide and Defend
- □ Skills Quiz□ Technology-Enhanced Questions
- ☐ Heat Map

Use this template to decide how to assess your students for concept mastery. Depending on the format of the assessment, you can identify prompts and intended responses that would measure student mastery of the expectation. See the beginning of this scope to identify standards and grade-level expectations.

Fundamental Questions	What prompts will be used?	What does mastery look like?
I can compare and order whole numbers.	what prompts will be used:	what does mastery look like?
l can use symbols to compare whole numbers.		









MADE FOR TEXAS

Our lessons and resources:

- Prioritize ease of use.
- Cater to the unique needs of Texas classrooms.
- Prepare students to become successful STEM leaders.

Everything you need is all in one place.



ASSESSMENTS AND REPORTING

- Make data-driven instructional decisions with various TEKSaligned assessments and report types.
- Provide meaningful insight and feedback.



PROVEN RESULTS

The data speaks for itself.

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- User testimonials reveal that Texas teachers and students love us.

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