# Is it More or Less?

**Strand:** Number and Number Sense

**Topic:** Comparing and ordering numbers between 0 and 120

**Primary SOL:** **1.NS.2 The student will represent, compare, and order quantities up to 120.**

e) Compare two numbers between 0 and 120 represented pictorially or with concrete objects using the terms *greater than*, *less than*, or *equal to*.

f) Order three sets, each set containing up to 120 objects, from least to greatest, and greatest to least.

**Related SOLs:** 1.NS.2a, 1.NS.2b, 1.NS.2c, 1.NS.2d, 1.CE.1i

**Materials**

Part A

- Small resealable bags (class set)
- Manipulatives (e.g., cubes, tiles, beans, buttons, pennies)
- Sticky notes (one per student)
- 10 frames
- White boards (one for each student)
- Dry erase marker (one for each student)
- Dry eraser (one for each student)
- Deck of digit cards (one for each set of partners)
- Greater Than/Less Than Recording Sheet

Part B

- Large picture number cards (attached)
- Bags with various amounts of objects for comparing (from Part A)
- Sticky notes (one per student)
- 10 frames
- Greatest To Least Recording Sheet (attached)
- Least To Greatest Recording Sheet (attached)

**Vocabulary**

*compare, equal to, fewer, greater than, greatest, least, less than, more than, than, order, sets*

**Student/Teacher Actions: What should students be doing? What should teachers be doing?**

**Part A: Comparing Two Numbers**

*Note: Prepare the bags of manipulatives before beginning this lesson. Make sure the amounts vary for the students. Each student should get one bag of manipulatives to count in this activity. Adjusting the number of objects per bag could provide opportunities for differentiation.*

1. Pass out a bag of manipulatives to each student. Have students empty the bag onto their desk. Each student should count their pile and remember their number (or write it on a sticky note, if needed). Encourage students to use what has recently been learned about groups to help organize and count.
2. As students are working, the teacher should walk around observing students and should engage in discussions about what students are discovering. Once the students have finished counting, ask them to share how many they have. Ask, *"Do we each have an equal or same amount of manipulatives? Does (student name) have more than or less than you? How do you know?"* Call on several more pairs of students and ask them to tell who has more and who has less and to justify their reasoning. Write an equation on the board to such as 25 = 25 saying, "*twenty-five is equal to twenty-five*" and help students understand that they can use the equal sign to show when amounts are the same.
3. Tell students, *"Today we are going to look at and compare numbers using words such as greater than, less than and equal to."* Ask: *"Does the word 'greater' mean the quantity is bigger or smaller?" "How about 'less'?" "What does it mean to be 'equal to'?"* The teacher should write two numbers (use single digits) on the board along with the phrase "___ is greater than___." Ask, *"Which number is the biggest number? How do you know?" "Where do you think we would write the biggest number in this phrase?"* Write the number in the phrase. *"Which number is the smallest number?" "How do you know?"* Write the number in the phrase. Then write "___ is less than ____." on the board. Ask students what is different about this phrase. Using the same numbers, ask students where they think the numbers would go in this phrase. Ask, *"Why did we have to put the smaller number first?"* Once the numbers have been placed, read both phrases and have the students repeat the phrases. Practice a few additional examples together and then give students two new numbers and ask them to complete the phrases on a dry erase board. The teacher should walk around and observe students working.
4. Show students two groups of objects and label each group with the numeral. (Use quantities greater than 10, but make sure that the amounts are different enough that students can tell which is greater without counting.) Ask: *"Which pile of objects has more? Which group has fewer (less)?"* Call on students to use the "___ is greater than___" and "___ is less than ___" phrases with the two groups of objects. Remove the groups and use two piles that are closer in number, but not equal, so they cannot tell right away (e.g., use 14 objects and 16 objects). Ask, *"Which pile has the greater quantity or the largest amount? Which pile has the least or the smallest amount?"* It should be difficult for students to know without counting.

5. Ask, *"What should we do to find out?"* Discuss different ways to count and organize groups. Use multiple 10 frames to help count the group of objects. Place the items on the 10 frame as items are being counted together as a class; write the total underneath. Ask, *"Do we know which pile has more?"* Do the same for the other group of objects and count together as a class. Ask: *"Which pile has more? Which pile has fewer (less)? How do you know?"* Have students answer these questions by using the phrases "___ is greater than ____" and ___ is less than ___."
6. Project two numbers on the board, just like before (this time use a single-digit number and a double-digit number). Have students look at the numbers and think about which one is greater and which one is less. What model or representation could you use to show which is greater and which is less (e.g., hundreds chart, ten frames, number path, math rack, or various manipulatives)? Ask students to explain how they decided which is greater and which is less. Have students answer using the phrase, "___ is greater than ____" and "___ is less than ___." Repeat this step to assess student understanding of comparing numbers. Make sure to include two numbers that are the same, so students get used to seeing 20 = 20 and saying, *"Twenty is equal to twenty,"* as well. Also include three-digit numbers up to and including 120.
7. Pass out a whiteboard, a dry erase maker, and a dry eraser to each student. Start with comparing two numbers. Students should use 10 frames and manipulatives to model numbers. Allow students to work with a partner and have a deck of primary number cards. Each student will turn over two cards and make a two-digit number. Using manipulatives and 10 frames, students will model their number and then compare it with their partner's number. Allow students to use a recording sheet (attached) using the phrases "___ is greater than___", "___ is less than ___", and "___ is equal to ___" to record their answers. Each student should have their own sheet to record. As students are working, the teacher should walk around and observe, meeting with partners that may need additional support.
8. Call students back together as a class to provide closure. Ask the following questions: *"When you have two numbers, how did you decide which number was greater and which number was less?" "If we have the phrase '___ is greater than ____,' where do we write the greater number?" "If we have the phrase '____ is less than ____,' where do we write the greater number?"*

**Part B: Comparing and Ordering Three Numbers (to be done on a different day after students are comfortable with comparing two numbers)**

*Note: Use the bags of objects from Part A with different amounts of manipulatives. Put students in groups of three, and give each student one bag.*

1. Have a class discussion about what was learned in the previous lesson about comparing two numbers. Encourage students to discuss using the 10 frames and manipulatives to help visualize which number is the greatest and which number is the least or when two amounts are equal.
2. Explain to students, *"We can use what we know about comparing numbers to put three numbers in order from least to greatest or from greatest to least."* Select three students

to come to the front, and hand each student a large picture card with numbers grouped in 10 frames (attached). Ask the students to line up from greatest to least. Review what greatest and least mean and ask, *"Should we start with the largest number or the smallest number?"*

3. Write the words "Greatest to Least" in large print on the board. As the three students are working on putting their large picture cards in order, discuss with the class, *"How can we use our '___ is greater than___' and '___ is less than ___' to check to see whether they are correct? The sentence frames can be used to compare the numbers to make sure we have the numbers arranged correctly from greatest to least."* Guide students to use the "___ is greater than___" phrase for ordering numbers from greatest to least.
4. Once the students have finished putting themselves in order from greatest to least, start with the first student. Ask that student to use the sentence frame " ____ is greater than ____" to compare their number to the second number. Ask the class: *"Do you agree? Why or why not?"* Engage in a class discussion. Compare the next number in line. Have the second student compare this number to the last number in line using the sentence frame "_____ is greater than _____." Ask, *"Do you agree? Why or why not?*" Write these numbers in order from greatest to least on the board.
5. Ask these students to sit down. Select another group of three students and change the words "Greatest to Least" to "Least to Greatest." Give these students the same set of large number cards organized in 10 frames (attached). Ask these students to organize their cards so that go in order from least to greatest. As the three students are working on putting their large picture in order, ask, *"How can we use our '___ is greater than___' and '___ is less than ___' to check to see whether they are correct? The sentence frames can be used to compare the numbers to make sure the numbers are arranged correctly from least to greatest."* Guide students to use the "___ is less than___" phrase for ordering numbers from least to greatest. Ask, *"What do you notice about the numbers from greatest to least and least to greatest?"*
6. Once the students have finished putting themselves in order from least to greatest, start with the first student. Ask that student to use the sentence frame "____ is less than ____" to compare their number to the second number. Ask the class, *"Do you agree? Why or why not?"* Engage in a class discussion. Compare the next number in line. Have the second student compare this number to the last number in line using the sentence frame "_____ is less than _____." Ask the class, *"Do you agree? Why or why not?"*
7. Inform students that they will work in groups of three. Each student will be given a bag with manipulatives in it. Once they have determined how many objects are in the bag, using 10 frames, they can write the total for their bag on a sticky note. Ask students to put their sticky notes under their collection of objects and order the sets from greatest to least. Have students use the sentence frame "____ is greater than ____" to confirm they have them ordered correctly. Students will record their answer on the recording sheet. As students are working, the teacher should be walking around and observing.
8. Have students switch baggies with students from a different group. Now each student will have a new bag to count and compare and order. Students should again complete

the process of determining the total number of objects in their bag and write that total on a sticky note. Ask students to put their sticky notes under their collection of objects and order the sets from least to greatest. Have students use the sentence frame "____ is less than ____" to confirm they have them ordered correctly. Students will record their answer on the recording sheet. As students are working, the teacher should be walking around and observing.

9. Ask students to clean up and go back to their seats. Engage in a class discussion and ask, *"How is lining up from greatest to least and least to greatest alike and different? If I have the collections (sets) lined up from greatest to least, what is a way I can get them in order from least to greatest quickly?"* Encourage students to recognize that the numbers could be reorganized starting with the last one and working their way backward.

**Assessment**

- **Questions**
  - If I wanted to write "nine equals nine," what would I write? Can I write 14 = 9? Why or why not?
  - Are 61 and 16 the same? Which is greater? Which is less? How do you know? What sentence can you use to compare them?
  - Show a set of numbers: 14, 21, 37. How can we compare these numbers using a model or representation?
- **Journal/writing prompts**
  - Put the following numbers in order from least to greatest: 72, 91, 29. What model or representation could you use to figure out the smallest number and largest number? Now put them in order from greatest to least. How are the two ways alike and different?
  - Try a story problem. "At the arcade, Samantha won 88 tickets, Billy won 43 tickets, and Jackie won 39 tickets. Write the numbers of tickets in order from least to greatest using a model or representation. Use the phrase "____ is greater than ____" and "____ is less than ____" to compare Jackie's tickets to Billy's tickets."
  - Have students think of a time when it would be important to compare a set of numbers or put a set of numbers in order from greatest to least or least to greatest? Why would it be important to know who has the most or who has the least?
- **Other Assessments**
  - Pull a group of 3–6 students. Give each student a dry erase board, dry erase marker, eraser, and a bag of numbers 0 – 120. (Cut up a 120 chart.) Have students pull two numbers and complete the phrase "___ is greater than ____" and "___ is less than ___." Encourage students to build a concrete or pictorial model to justify their thinking.
  - Give each student a number between zero and 120. Put students in groups of 2–3. Have students model their number using manipulatives and 10 frames to

compare their numbers. Have them put themselves in order from least to greatest or greatest to least. Have students rotate around to other students for more practice.

**Extensions and Connections (for all students)**

- Create two sets of number cards 0–120, with each set a different color. Have two laminated sentence strips: one with the comparison phrase "___ is greater than ____" and another one with "___ is less than ___" written on them. Working as partners, each student will have a set of 0–120 number cards and either the greater than or less than phrase. Each student selects one number from their pile. Students will compare their number with their partner's number and choose the comparison phrase that correctly states the number relationship. Students will read their sentence to their partner and discuss whether they both agree.
- Using what they know about comparing numbers, set up a measuring and weighing station. Allow students to compare the different weights, volumes, and lengths of different objects and record their answers using the greater than, less than, and equal to symbols.

**Strategies for Differentiation**

- Extend the lesson by comparing two-digit numbers to three-digit numbers.
- Provide students with concrete models to use during each phase of the lessons.

**Note: The following pages are intended for classroom use for students as a visual aid to learning.**



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# 10 Frames

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## Greater Than/Less Than Recording Sheet

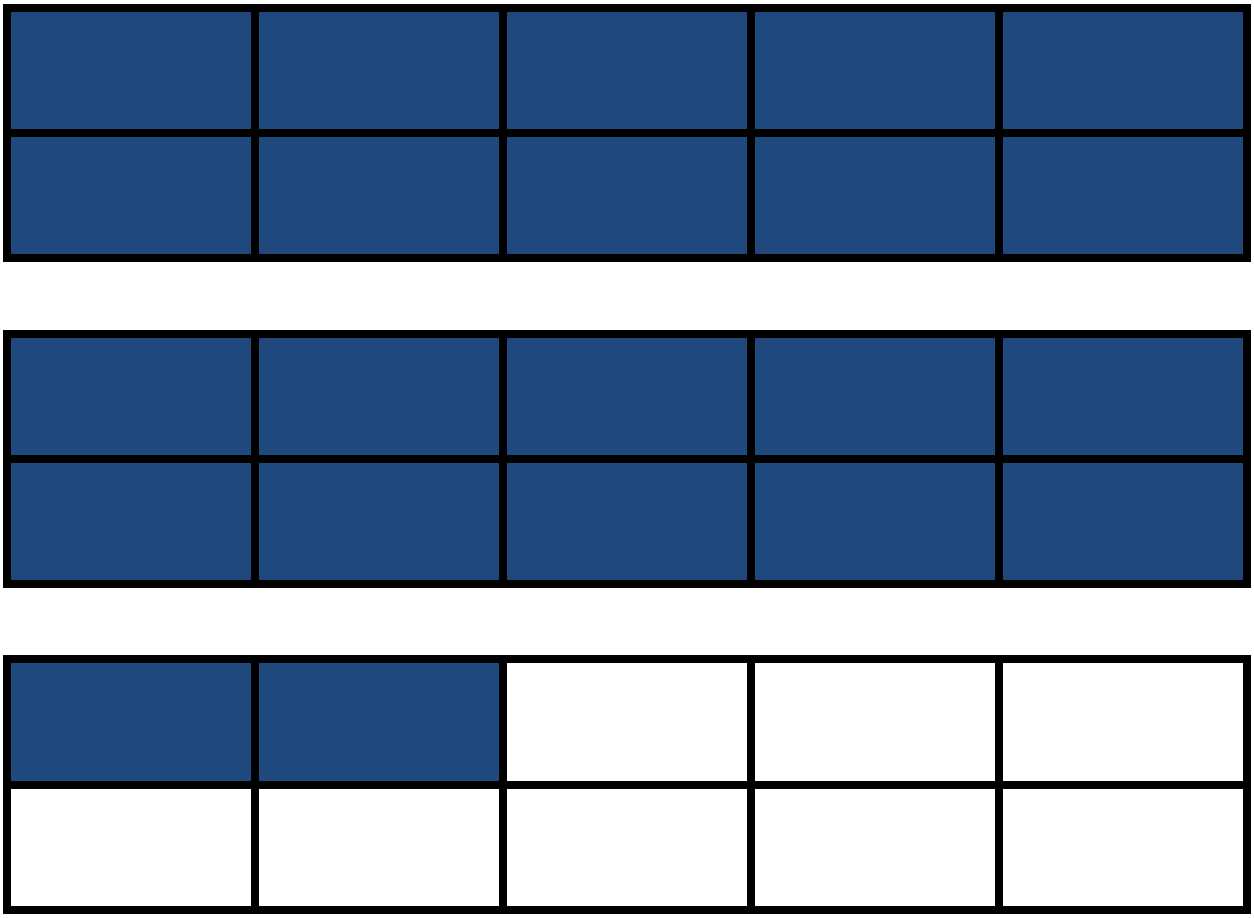
**Directions: Use models or manipulatives to build and compare the numbers. Record the pairs of numbers below. Circle the phrase that completes the sentence.**

| | | | |
|---|---|---|---|
| **1.** | | is **greater** than<br>is **less** than<br>is **equal** to | |
| **2.** | | is **greater** than<br>is **less** than<br>is **equal** to | |
| **3.** | | is **greater** than<br>is **less** than<br>is **equal** to | |
| **4.** | | is **greater** than<br>is **less** than<br>is **equal** to | |
| **5.** | | is **greater** than<br>is **less** than<br>is **equal** to | |

## Digit Cards

| | | | | |
|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 | 9 |
| 0 | 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 | 9 |

## Large Picture Cards
## Card 1



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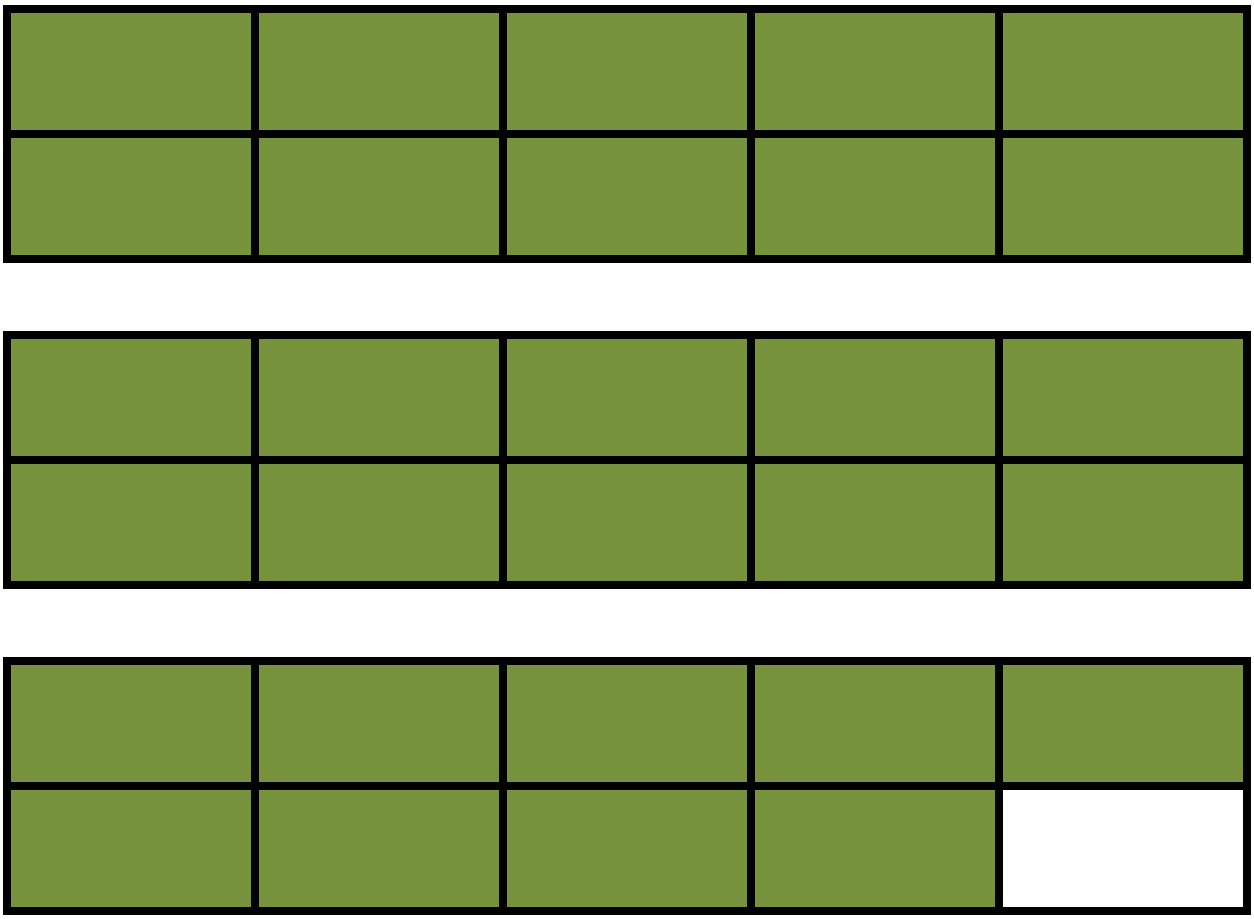
## Large Picture Cards
## Card 2



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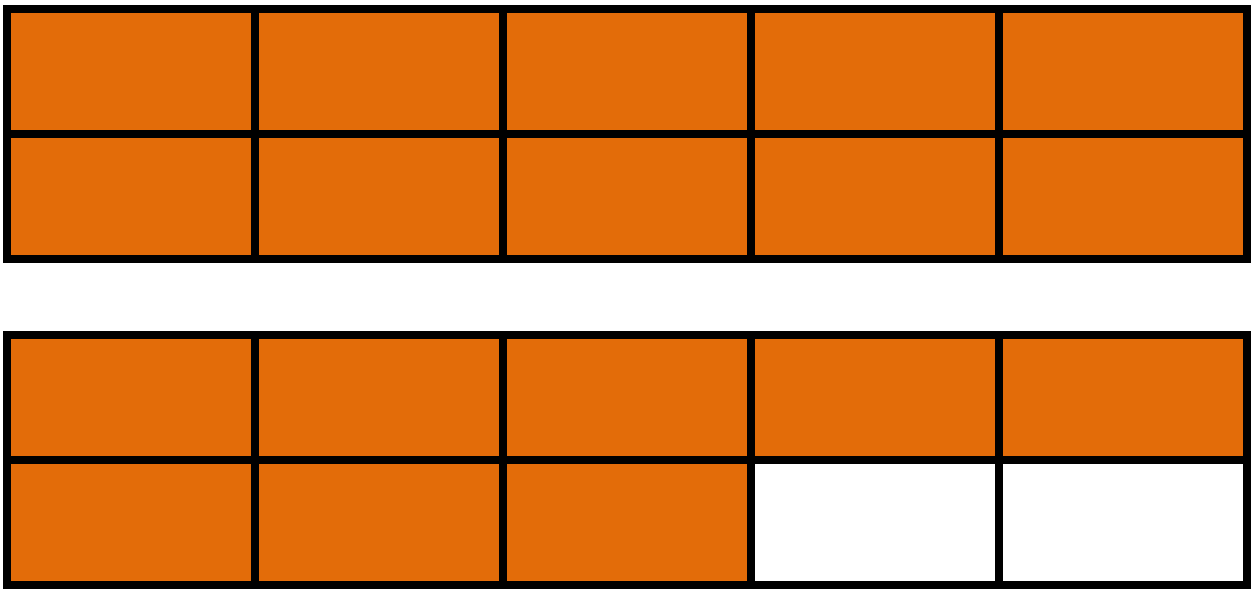
## Large Picture Cards
## Card 3



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## Greatest To Least Recording Sheet

| Bag 1 | Bag 2 | Bag 3 |
|---|---|---|
| **Draw it** | **Draw it** | **Draw it** |
| | | |
| **Write the Number** | **Write the Number** | **Write the Number** |
| | | |

## Write the numbers from greatest to least.

_____, _____, _____

**Greatest** **Least**

## Least To Greatest Recording Sheet

| Bag 1 | Bag 2 | Bag 3 |
|---|---|---|
| **Draw it** | **Draw it** | **Draw it** |
| | | |
| **Write the Number** | **Write the Number** | **Write the Number** |
| | | |

## Write the numbers from least to greatest.

_____, _____, _____

**Least** **Greatest**