



TABE

MATH - D

Unit - 1

Lesson - 2

Order Whole Numbers

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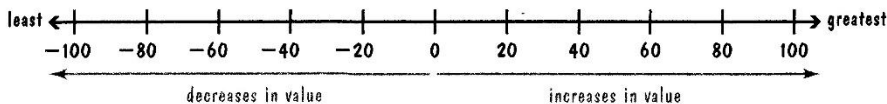
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Lesson 2

Compare and Order Whole Numbers

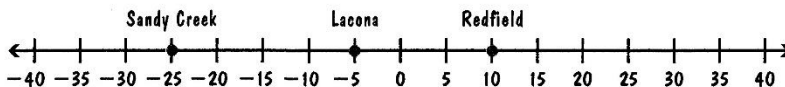
6.NS.7.b – Medium

You can use a number line to compare and order whole numbers. Positive numbers lie to the right of 0. Positive numbers increase in value as they move farther from 0. Negative numbers lie to the left of 0. Negative numbers decrease in value as they move farther from 0.



Example In Sandy Creek, the temperature is -25°F . In Redfield, the temperature is 10°F . In Lacona, the temperature is -5°F . How does the temperature of Redfield compare to the temperature in Lacona? How does the temperature in Sandy Creek compare to the temperature in Lacona?

1) Graph and label the temperatures of the three towns on a number line.



2) Look at the number line. How do the temperatures compare?

- The temperature in Redfield is warmer than the temperature in Lacona; therefore, the temperature in Redfield is greater than ($>$) the temperature in Lacona.
- The temperature in Sandy Creek is colder than the temperature in Lacona; therefore, the temperature in Sandy Creek is less than ($<$) the temperature in Lacona.

3) Model the comparisons with inequalities.

- $10 > -5$
- $-25 < -5$

1. Mackenzie and Brooke decide to have a race. Mackenzie can maintain a speed of 5 miles per hour. Brooke can maintain a speed of 6 miles per hour. Who is faster? Which inequality represents this situation?

- A. Mackenzie is faster; $5 \text{ mph} > 6 \text{ mph}$.
- B. Brooke is faster; $5 \text{ mph} > 6 \text{ mph}$.
- C. Mackenzie is faster; $6 \text{ mph} > 5 \text{ mph}$.
- D. Brooke is faster; $6 \text{ mph} > 5 \text{ mph}$.

1. D On a number line 6 is located to the right of 5, so 6 is greater than 5, which means that Brooke is faster than Mackenzie.

Strategy

Sketch a number line to help you. Compare digits beginning with the greatest place value and working toward the least place value.

– Read each question. Select the correct answer.

1 In a cooking class, each student needs 2 cups of butter for a recipe. Zander has 2 cups of butter. Gracie has 1 cup of butter. Who has enough butter to make the recipe?

- A. Zander has enough butter.
- B. Gracie has enough butter.
- C. Zander and Gracie both have enough butter.
- D. Neither Zander nor Gracie has enough butter.

2 Raymond plants four sunflowers in his garden and measures their heights (Height A). One month later, he measures their heights again (Height B).

Sunflower	Height A	Height B
1	3 inches	40 inches
2	3 inches	39 inches
3	4 inches	42 inches
4	5 inches	40 inches

Which of the following statements shows the sunflowers in the correct order from LEAST growth to GREATEST growth?

- A. 1, 3, 3, 4
- B. 4, 3, 2, 1
- C. 4, 2, 1, 3
- D. 4, 1, 2, 3

3 Two friends decide to have a race on their bikes. Maya goes 17 miles per hour. Victoria goes 16 miles per hour. Which inequality represents this situation? Who is faster?

- A. $17 \text{ mph} > 16 \text{ mph}$; Maya is faster.
- B. $17 \text{ mph} > 16 \text{ mph}$; Victoria is faster.
- C. $17 \text{ mph} < 16 \text{ mph}$; Maya is faster.
- D. $17 \text{ mph} < 16 \text{ mph}$; Victoria is faster.

4 In their savings accounts, Autumn has \$173, Jasmine has \$172, Ron has \$174, and Sally has \$177. Who has saved the most money? Who has saved the least money?

- A. Jasmine has saved the most money, and Sally has saved the least money.
- B. Autumn has saved the most money, and Jasmine has saved the least money.
- C. Sally has saved the most money, and Ron has saved the least money.
- D. Sally has saved the most money, and Jasmine has saved the least money.

5 The thermometer reads -12°F on Saturday and -8°F on Sunday. What does the inequality $-8^{\circ}\text{F} > -12^{\circ}\text{F}$ represent in this scenario?

- A. There was a decrease in temperature between Saturday and Sunday.
- B. The temperature on both days was the same.
- C. It was warmer on Saturday than it was on Sunday.
- D. It was warmer on Sunday than it was on Saturday.

6 Order the numbers from LEAST to GREATEST.

- A. $-15, -2, 2$
- B. $2, -2, -15$
- C. $-2, -15, 2$
- D. $2, -15, -2$

7 Order the numbers from GREATEST to LEAST.

- A. $-18, 16, 28$
- B. $-18, 28, 16$
- C. $16, -18, 28$
- D. $28, 16, -18$

- 8 The record low temperatures for Portland, Maine in January, February and March are shown in the table below.

Date	Temperature
January 1971	-26°F
February 1943	-39°F
March 1950	-21°F

Which comparison is true?

- A. $-26^{\circ}\text{F} < -39^{\circ}\text{F}$
 B. $-39^{\circ}\text{F} > -21^{\circ}\text{F}$
 C. $-21^{\circ}\text{F} < -26^{\circ}\text{F}$
 D. $-21^{\circ}\text{F} > -39^{\circ}\text{F}$

- 9 A group of friends wanted to see who could throw a ball the farthest. Dave threw the ball 8 meters, Sara 6 meters, Megan 7 meters, and Dustin 9 meters. Which inequality represents this situation?

- A. $8 < 6$; Sarah threw farther than Dave.
 B. $8 > 9$; Dave threw farther than Dustin.
 C. $9 < 7$; Dustin threw farther than Megan.
 D. $7 < 9$; Dustin threw farther than Megan.

- 10 In golf, scores are recorded relative to par. The lower a score is, the better it is. Five golfers recorded their score compared to par.

Golfer	Score
Keith	-5
Brianna	-2
Jessica	4
Russell	-3

Rank the players in the correct order from the BEST score to the WORST score.

- A. Keith, Russell, Brianna, Jessica
 B. Jessica, Keith, Russell, Brianna
 C. Jessica, Brianna, Russell, Keith
 D. Keith, Jessica, Russell, Brianna

- 11 Commercial jet airplanes fly at an average altitude of 35,000 feet. Private jets typically fly at an average altitude of 41,000 feet. Light aircraft usually fly at an average altitude of 10,000 feet. Rank the planes in the correct order from the LOWEST altitude to the HIGHEST altitude.

- A. Commercial, Private, Light
 B. Commercial, Light, Private
 C. Light, Commercial, Private
 D. Private, Light, Commercial

- 12 John needs a piece of wood longer than 16 inches but less than 20 inches for a project. Which length of wood meets his requirements?

- A. 25 inches
 B. 22 inches
 C. 20 inches
 D. 18 inches

- 13 Order the following numbers from LEAST to GREATEST.

-7 20 15 -18

- A. -7, 15, 20, -18
 B. -18, -7, 15, 20
 C. 15, 20, -18, -7
 D. 20, -18, -7, 15

- 14 Order the numbers from GREATEST to LEAST.

-6 -416 -15 64

- A. -6, -15, 64, -416
 B. -6, 64, -416, -15
 C. -416, -15, -6, 64
 D. 64, -6, -15, -416

Practice 2

Compare and Order Whole Numbers

6.NS.7.b – Medium

- 1** An organization will accept donations of hair that are at least 10 inches long. Kathryn has 11 inches of hair to donate. Nola has nine inches of hair to donate. Who meets the minimum requirement to donate hair?
- A. Nola can donate hair.
 - B. Kathryn can donate hair.
 - C. Kathryn and Nola can both donate hair.
 - D. Neither Kathryn nor Nola can donate hair.

- 2** The number of career wins for wrestlers are shown in the table.

Wrestler	Career Wins
Austin	188
Ty	154
Oscar	138
Denny	156

Which comparison is true?

- A. $154 > 156$; Ty won more matches than Denny.
 - B. $138 < 154$; Ty won more matches than Oscar.
 - C. $138 > 188$; Oscar won more matches than Austin.
 - D. $188 < 156$; Denny won more matches than Austin.
- 3** The temperature is -3°F at 1 PM and -7°F at 3 PM. What does the inequality $-7^{\circ}\text{F} < -3^{\circ}\text{F}$ represent in this situation?
- A. The temperature increased by 7°F between 1 PM and 3 PM.
 - B. The temperature decreased by 7°F between 1 PM and 3 PM.
 - C. It was warmer at 3 PM than at 1 PM.
 - D. It was colder at 3 PM than at 1 PM.

- 4** Order the numbers from LEAST to GREATEST.

2, 0, -1

- A. 0, -1, 2
- B. -1, 0, 2
- C. 2, 0, -1
- D. 2, -1, 0

- 5** Order the numbers from GREATEST to LEAST.

-13, -14, 17, 19, -21

- A. -13, -14, 17, 19, -21
- B. -14, -13, -21, 17, 19
- C. 19, 17, -13, -14, -21
- D. 19, 17, -21, -14, -13

- 6** The height of a player and the appropriate length of her field hockey stick are shown in the table.

Player Height	Hockey Stick Length
52 – 54 inches	32 inches
55 – 60 inches	34 inches
61 – 63 inches	35 inches
64 – 69 inches	36 inches

Andy wants to buy a field hockey stick for his daughter who is 56 inches tall. What length should he buy?

- A. 32 in.
- B. 34 in.
- C. 35 in.
- D. 36 in.

- 7** A hiking trail starts at base level. Hikers may travel to attractions at elevations above and below base level. Owl's Nest is 2,300 feet above base level. The Cove is 3,400 feet below base level. Robin's Egg is 2,700 feet above base level. Rank the attractions in order from GREATEST elevation to LEAST elevation.

- A. Robin's Egg, Owl's Nest, Cove
- B. Owl's Nest, Robin's Egg, Cove
- C. Cove, Robin's Egg, Owl's Nest
- D. Cove, Owl's Nest, Robin's Egg

- 8 Bindu has enough gas to travel 30 miles. From his current location, Greenville is 35 miles, Fairview is 84 miles, Hartland is 23 miles, and Springfield is 73 miles. Which city is close enough to reach with the amount of gas he has?

A. Greenville B. Fairview
C. Hartland D. Springfield

- 9 Lori wants to eat a snack with fewer than 175 calories. Her choices are pretzels (108 calories), a cookie (49 calories), crackers (143 calories), and an apple (72 calories). Which two snack combinations can Lori choose?

A. apple and cookie
B. crackers and apple
C. apple and pretzels
D. crackers and cookie
E. cookie and pretzels
F. pretzels and crackers

- 10 The following temperatures were recorded at the McMurdo Station in Antarctica: -1°F on Sunday, -7°F on Monday, -6°F on Tuesday, and 2°F on Wednesday. Which inequality accurately compares the temperatures?

A. $2^{\circ}\text{F} < -1^{\circ}\text{F}$ B. $-7^{\circ}\text{F} < -6^{\circ}\text{F}$
C. $-6^{\circ}\text{F} > -1^{\circ}\text{F}$ D. $-7^{\circ}\text{F} > 2^{\circ}\text{F}$

- 11 Brigitte wants to mulch her yard. She needs at least four cubic yards of mulch but does not want more than eight cubic yards. How much mulch should she order?

A. 1 yd^3 B. 2 yd^3
C. 7 yd^3 D. 12 yd^3

- 12 Order the numbers from LEAST to GREATEST.

84, -74, -17, -178, 71

A. -178, 84, 71, -17, -74
B. -17, -74, 71, 84, -178
C. -178, -74, -17, 71, 84
D. 84, 71, -17, -74, -178

- 13 A hospital is built over its parking garage. In the elevator, the ground floor is zero. The levels on which patients enter the elevator are shown in the table.

Patient	Level
Kaylee	0
Jonah	-3
Carlos	-2
Helene	1

The elevator travels from the LOWEST level to the HIGHEST level. Who enters the elevator first and who enters the elevator last?

A. Kaylee, first. Jonah, last.
B. Carlos, first. Helene, last.
C. Carlos, first. Kaylee, last.
D. Jonah, first. Helene, last.

- 14 Last week, it snowed four inches on Sunday, 12 inches on Tuesday, eight inches on Thursday, and five inches on Friday. Which inequality represents this situation?

A. $5 > 12$; More snow fell on Friday than on Tuesday.
B. $5 > 4$; More snow fell on Friday than on Sunday.
C. $8 < 4$; Less snow fell on Thursday than on Sunday.
D. $12 < 8$; Less snow fell on Tuesday than on Thursday.

- 15 An office has a contest to see who walks the most during the day. The results are shown in the table.

Employee	Steps
Dean	7,950
Sam	8,250
Laura	7,900
Cameron	8,500

Which three statements are true?

A. Dean walked less than Laura.
B. Sam walked more than Dean.
C. Cameron walked more than Laura.
D. Sam walked less than Cameron.
E. Laura walked more than Sam.
F. Cameron walked less than Dean.

Math-D Lesson-2 Key

Lesson 2

Compare and Order Whole Numbers

(6.NS.7.b)

1. A. Since $3 > 2$, Zander has enough butter to make the recipe.
2. C. For each set of heights, subtract Height A from Height B to determine the growth of each sunflower: $40 - 3 = 37$, $39 - 3 = 36$, $42 - 4 = 38$, $40 - 5 = 35$. Next, compare and order the numbers from least to greatest: 35 (4), 36 (2), 37 (1), 38 (3).
3. A. Since 17 is greater than 16, Maya goes faster than Victoria.
4. D. Order the amount saved by each person from greatest to least: 177 (Sally), 174 (Ron), 173 (Autumn), 172 (Jasmine). So, Sally has saved the most money and Jasmine has saved the least money.
5. D. Because -8°F represents the temperature on Sunday, and -12 represents the temperature on Saturday, and -12 is less than -8 , the inequality represents that the temperatures on Sunday is greater than the temperature on Saturday, which means that it was warmer on Sunday than it was on Saturday.
6. A. On the number line negative numbers are to the left of zero. -15 is less than -2 because it lies to the left of -2 on the number line. 2 is greater than -2 because it lies to the right of -2 .
7. D. On the number line positive numbers lie to the right of zero. 28 is greater than 16 because it lies to the right of 16 on the number line. -18 is less than 16 because -18 lies to the left of 16 on the number line.
8. D. Since -21 is to the right of -39 on the number line, $-21 > -39$.
9. D. 7 is less than 9 because it lies to the left of 9. Dustin threw farther than Megan.
10. A. When arranged on the number line, the order of the scores from left (least) to right (greatest) is -5 (Keith), -3 (Russell), -2 (Brianna), and 4 (Jessica). The lesser the score, the better the score is.
11. C. When arranged on a number line, the order of the altitudes from left (least) to right (greatest) is 10,000 (light aircraft), 35,000 (commercial jets), and 41,000 (private jets). The lesser the number the lower the altitude.
12. D. When arranged on a number line, 18 appears to the right of 16 (longer) and to the left of 20 (shorter), so it is greater than 16 but less than 20.
13. B. When arranged on a number line, the largest negative number appears farthest to the left and has the least value. The largest positive number appears farthest to the right and has the greatest value.
14. D. When arranged on a number line, the largest positive number appears farthest to the right and has the greatest value. The largest negative number appears farthest to the left and has the least value.

Math-D Practice-2 Key

Practice 2

Compare and Order Whole Numbers

pp. 4-5

(6.NS.7.b)

1. B. Because $11 > 10$ but $9 < 10$, only Kathryn can donate hair.
2. B. Because $154 > 138$, Ty won more matches than Oscar.
3. D. On a number line, -3 is located to the right of -7 , which means that the temperature was colder at 3 PM than 1 PM.
4. B. When arranged on a number line, the order from left (least) to right (greatest) is $-1, 0, 2$.
5. C. When arranged on a number line, the order from right (greatest) to left (least) is $19, 17, -13, -14, -21$.
6. B. When arranged on a number line, 56 is between 55 and 60 . So, Andy should buy a 34-in. stick.
7. A. Greatest to least is measured on a number line by moving right to left. So, Robin's Egg is the greatest elevation at $2,700$ ft, then Owl's Nest at $2,300$ ft, and the Cove at $-3,400$ ft.
8. C. $23 < 30$, so Bindu can travel to Hartland.
9. A, E. An apple and a cookie are 121 calories. A cookie and pretzels are 157 calories. Both 121 and 157 are less than 175 .
10. B. When arranged on a number line, -6 is to the right of -7 . So, $-7 < -6$.
11. C. $7 > 4$ and $7 < 8$; Brigitte should order 7 yd^3 of mulch.
12. C. When arranged on a number line, the order from left (least) to right (greatest) is $-178, -74, -17, 71, 84$.
13. D. From least to greatest, the numbers are $-3, -2, 0, 1$. So, Jonah entered the elevator first at the lowest level, and Helene entered last at the highest level.
14. B. Because $5 > 4$, more snow fell on Friday than on Sunday.
15. B, C, D. From least to greatest, the numbers are $7,900, 7,950, 8,250, 8,500$. So, Sam walked more than Dean but less than Cameron. Cameron walked more than Laura.