

Chapter 2
Lesson 10

Comparing and Ordering Decimals

You will need

- number lines
- counters
- a decimal place value chart



GOAL

Compare and order decimals up to decimal thousandths.

The students in Tyler's Grade 5 class organized a cotton-ball toss for Olympics Day at their school. They measured and recorded the distances of the tosses for Ali's kindergarten class.

Cotton-Ball Toss

Student	Distance (m)
Ali	1.15
Erica	0.45
Travis	0.92
Conor	0.77



How can you compare the tosses?



Tyler's Comparison

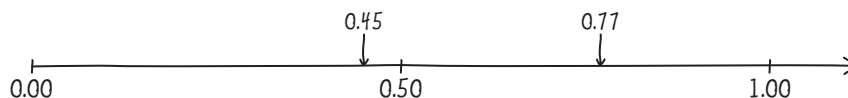
I'll start by comparing Erica's distance with Conor's distance using a **benchmark** of 0.50.

Erica's distance was less than 0.50.

Conor's distance was greater than 0.50.

benchmark

A familiar value that can be used to compare one number with another number



$$0.77 > 0.45$$

Conor's distance is greater than Erica's distance.



Jolie's Comparison

I'll start by comparing Erica's distance with Conor's distance. I'll use place value charts.

Erica's Distance

Hundreds	Tens	Ones	Tenths	Hundredths
			4	5

Conor's Distance

Hundreds	Tens	Ones	Tenths	Hundredths
			7	7

7 tenths is greater than 4 tenths.

$$0.77 > 0.45$$

Conor's distance is greater than Erica's distance.

- A. Sketch a number line like Tyler's. Use benchmarks to place the four distances on your number line.
- B. Use place value charts to compare the distances of the other tosses.
- C. Arrange the distances in order from least to greatest. Who tossed the cotton ball the farthest?

Reflecting

- D. How do benchmarks help you compare decimals?
- E. How do place value charts help you compare decimals?

Penny-Flicking

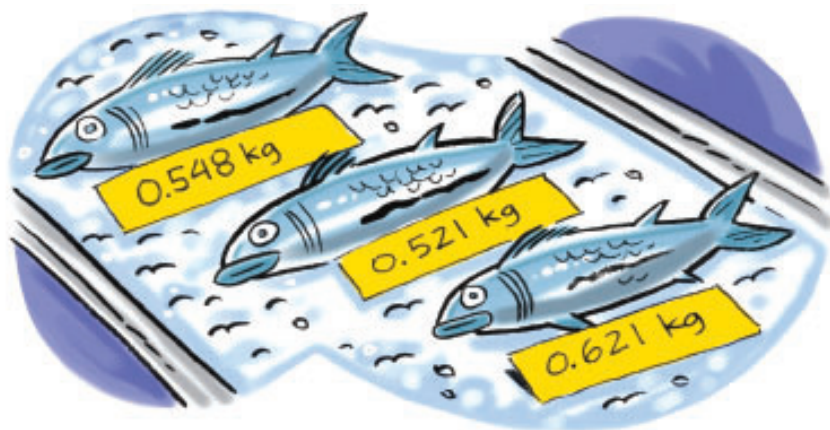
Student	Distance (m)
Ali	1.02
Erica	1.20
Travis	0.99
Conor	1.15

Checking

- Mateo measured the distances at the left for the penny-flicking event on Olympics Day.
 - Place all the distances on the same number line. Then write the distances in order from least to greatest.
 - Which student flicked the penny the farthest?

Practising

- For a craft, Jacqui needed 1.6 m of string, 1.2 m of wool, 0.9 m of wire, and 0.1 m of ribbon. Write these lengths in order from least to greatest.
- Which salmon has the greatest mass? Explain your strategy.



Bake Sale

Item	Price (\$)
muffins	1.80
cookies	1.25
pie slice	1.90
date square	1.75
banana bread	0.95

- Benjamin's hockey team had a bake sale to raise money for the team. Place the items at the left in order from the least price to the greatest price.
- Compare each pair of numbers using $<$, $>$, or $=$.
 - 0.70 \square 0.700
 - 0.982 \square 1.027
 - 0.76 \square 0.09
 - 0.10 \square 0.099
- Arrange the numbers in each set in order from least to greatest.
 - 1.024, 0.30, 1.3, 0.035, 0.72
 - 2.1, 1.22, 1.20, 1.222, 1.201
 - 3, 3.03, 3.1, 3.755, 3.20, 3.220
- Explain why $2.\square\square\square$ is greater than $1.9\square\square$ no matter what numbers go in the boxes.