

Animal Race Rates

Mission: The nature center measured how far animals ran in different amounts of time. That makes them hard to compare! Find each unit rate (meters per 1 second), predict distances, then race them to check.

Big question: How do unit rates help us compare and predict?

★ Warm-up: Number talk

Solve in your head and explain.

150 m in 5 s is how many meters in 1 s? ✓ **30 m.**

6 apples for \$3. Price of 1? ✓ **\$0.50.**

Key vocabulary

Rate	A ratio comparing two different units, like meters and seconds.
Unit rate	A rate for 1 unit, like 30 meters per second.
Per	For each one.
Predict	Use a pattern to tell what will happen.

1 Box 1

Predict the winner

PREDICTION Using only the data, who do you think is faster: the horse (84 m in 6 s) or the rabbit (72 m in 4 s)?

☐ Horse (it ran farther) ☐ Rabbit ☐ Tie

Find unit rates

Find each racer's unit rate.

Racer	Meters per 1 second (m/s)
Cheetah (150 m in 5 s)	30
Horse (84 m in 6 s)	14
Rabbit (72 m in 4 s)	18
Sixth grader (42 m in 7 s)	6

2 Box 2

Race for 10 seconds

In the simulator: Run a 10-second race.

You predicted: _____. Who beat whom between the horse and rabbit?

☐ The rabbit (18 m/s beats 14 m/s) ☐ The horse ☐ Tie

✓ **The rabbit (18 m/s beats 14 m/s)**

3 Box 3

Use the rate

Predict: how far does the sixth grader run in 10 seconds?

Answer: _____ m ✓ 60

Show your thinking:

Check predictions

In the simulator: Race for 3 seconds.

How far did the cheetah run in 3 seconds?

Answer: _____ m ✓ 90

4 Box 4

Head start

The sixth grader gets a 100 m head start in a 10-second race against the rabbit. Who is ahead at the end, and by how many meters? (Type the gap.)

Answer: _____ m ✓ 20

Show your thinking:

5 Box 5

Legend: time to finish 🏆 Legend only

How many seconds does the horse need to run 350 m?

Answer: _____ s ✓ 25

Show your thinking:

6 Box 6

Why unit rates?

Explain why comparing "84 m in 6 s" to "72 m in 4 s" is tricky, and how unit rates help.

Look for: Different times make it tricky; Unit rate compares per 1 second



Exit ticket: answer the big question in your own words

How do unit rates help us compare and predict?

Look for: A unit rate tells how much for ONE unit (meters per 1 second). Divide the distance by the time. Unit rates let you compare fairly and predict: distance = unit rate × time.

Completion codes

Students see a code like **ABC-I3** when they finish. The first part must match below. The letter is the level (E = Explorer, I = Investigator, L = Legend), and the number at the end is how many stars they earned.

Level	Code starts with
 Explorer	NA3-E
 Investigator	K7N-I
 Legend	1N1-L

! Watch for these misconceptions

- "Ratio order doesn't matter." 3:2 and 2:3 are different comparisons.
- "Add the same number to both parts to make equivalent ratios." You must multiply or divide.
- "Percents can never be more than 100." 150% of something is more than the whole.