

Division

Unit 5 Overview: 9 lessons

Students divide tens, hundreds and thousands with a basic fact ($4,200 \div 7$ is $42 \text{ hundreds} \div 7$) and learn what a remainder is. Then they divide 3- and 4-digit numbers by a 1-digit number four ways: sharing base-ten blocks, area models, partial quotients and long division, with a 0 in the quotient where a place has no groups. They estimate quotients with numbers that divide easily, check by multiplying, decide what a remainder means in a story, and divide to compare two amounts with times as many. Ask “how many groups of the divisor fit?” every day: every method in the unit takes away equal groups, place by place.

THE UNIT, DAY BY DAY

Day 1	Pre-Check	What students already know, before the first lesson.
Day 2	5.1 Divide tens, hundreds and thousands	I can divide tens, hundreds and thousands with a fact.
Day 3	5.2 Remainders	I can find the quotient and what is left over.
Day 4	5.3 Divide with blocks and area models	I can divide with an area model.
Day 5	5.4 Partial quotients	I can divide with partial quotients.
Day 6	5.5 Long division	I can divide with long division.
Day 7	5.6 Zeros in the quotient	I can write a zero in the quotient when I need one.
Day 8	5.7 Estimate quotients	I can estimate a quotient and check by multiplying.
Day 9	5.8 What the remainder means	I can decide what a remainder means in a story.
Day 10	5.9 Divide to compare	I can divide to find how many times as many.
Day 11	Unit Review	The review, to go over together.
Day 12	Unit Test	Form A; Form B (other numbers) is for a retest.

GET READY FOR THE UNIT

- Base-ten blocks, counters and paper plates for each pair
- Grid paper (1 centimeter) for the long division bracket and for area models
- Whiteboards and dry erase markers, and connecting cubes
- Multiplication charts for students who need the facts at hand
- Chart paper for anchor charts: divide with a fact, partial quotients, divide, multiply, subtract, bring down

HOW EACH LESSON GOES

- 1. Warm up** (5 min)
 - 2. Teach** (10 min)
 - 3. Try it together** (10 min)
 - 4. Practice** (15 min)
 - 5. Exit ticket** (5 min): a quick check on the lesson.
- Each lesson page ends with the Animal Math sheets, makers, tools and quizzes for it. “Sheet 3” is the third worksheet of a pack; a color pack prints each sheet again in black and white.

CHECKING AS YOU GO

PRINTABLE	Pre-Check: Day 1, with a key	EXIT TICKET	Exit Tickets: one a lesson, four to a page
PRINTABLE	Unit Review: the day before the test	PRINTABLE	Unit Test: Forms A and B, with keys



Division

Lesson 5.1: Divide tens, hundreds and thousands

GOAL Students divide tens, hundreds and thousands with a basic fact ($4,200 \div 7$ is 42 hundreds $\div 7$, so 6 hundreds) and divide by 10, 100 and 1,000, every digit moving one place to the right for each 10.

About 45 minutes

I can divide tens, hundreds and thousands with a fact.

THE LESSON

- 1 Warm up** (5 min) Quick facts: $42 \div 7$, $35 \div 5$ and $40 \div 8$. Then 6×700 and 5×80 .
- 2 Teach** (10 min) Write $4,200 \div 7$ and read the dividend in hundreds: 42 hundreds $\div 7 = 6$ hundreds, so 600. Check: $7 \times 600 = 4,200$. Then $350 \div 5$: 35 tens $\div 5 = 7$ tens, 70. Then $4,000 \div 8 = 500$: the fact $40 \div 8$ uses one of the zeros. Last, $5,800 \div 10 = 580$: every digit moves one place to the right.
Say: "I read the dividend in tens, hundreds or thousands and use a fact: $42 \text{ hundreds} \div 7$ is 6 hundreds."
- 3 Try it together** (10 min) Pairs write a fact family (5, 8, 40), then divide 40, 400 and 4,000 by 5 and say each in units. Then find the missing numbers in $\square \div 3 = 500$ and $2,500 \div \square = 500$.
- 4 Practice** (15 min) Students do sheets 4-5 of Multiplying and Dividing by 10, 100 and 1,000: divide with a fact and in units, by 10, 100 and 1,000, then missing numbers and short stories.
- 5 Exit ticket** (5 min) Students do **Exit Ticket 5.1** and circle a face beside the "I can" line. On question 1, look for 90, 800 and 900; 9 or 80 means a zero was lost, so ask how many tens or hundreds the dividend is. On question 2, look for 1,800 and 8; 50 means 300 was divided by 6.

Ready for more? Write three different divisions with a quotient of 700.

GET READY

- A place value chart for each student
- Base-ten blocks to show
- Whiteboards and markers

WORDS TO USE

dividend: the number being divided

quotient: the answer to a division

fact family: the $\times$ and $\div$ facts made from the same three numbers

ASK

- How many hundreds is 4,200?
- Which fact helps with $350 \div 5$?
- How can you check by multiplying?

WATCH FOR

Writes 60 for $4,200 \div 7$. Say it in units: 42 hundreds $\div 7$ is 6 hundreds. Check: 7×60 is only 420.

Writes 50 for $4,000 \div 8$. The fact $40 \div 8$ already uses one zero: 40 hundreds $\div 8$ is 5 hundreds.

Need help? Show 42 hundreds as flats and share them into 7 equal groups.

ON ANIMAL MATH

PRINTABLE

Multiplying and Dividing by 10, 100 and 1,000: sheets 4-5

MAKER

Division Fact Drills: Times Tables: Multiples of 10, 100 and 1,000

QUIZ

Long Division Quiz: the Divide with a Fact level

EXIT TICKET

4th Grade Division Exit Tickets: Exit Ticket 5.1

Division

Lesson 5.2: Remainders

GOAL Students divide when the groups do not come out even: they make equal groups, count what is left over, write it after R, and see that the remainder is always less than the divisor.

About 45 minutes

I can find the quotient and what is left over.

THE LESSON

- 1 Warm up** (5 min) Share 12 counters on 4 plates, then 14 counters on 4 plates. What is different?
- 2 Teach** (10 min) Make groups of 4 from 22 counters: 5 groups and 2 left over, so $22 \div 4 = 5 \text{ R } 2$. Draw it as an array: 5 full rows of 4 and a short row of 2. Then $38 \div 6 = 6 \text{ R } 2$. Last, write $50 \div 7 = 6 \text{ R } 8$ and ask what is wrong: 8 left over is enough for one more group, so it is $7 \text{ R } 1$.
Say: "Make as many equal groups as you can. What is left is the remainder, and it is always less than the divisor."
- 3 Try it together** (10 min) Pairs take 29 counters and make groups of 3, then 4, 5 and 6, writing each division with R. Which group size leaves the most? Check each one by multiplying and adding the remainder.
- 4 Practice** (15 min) Students do sheets 1-2 of Division with Remainders (counters, plates and arrays, then is it right?). Early finishers make a maker sheet and check each answer by multiplying and adding the remainder.
- 5 Exit ticket** (5 min) Students do **Exit Ticket 5.2** and circle a face beside the "I can" line. On question 1, look for four groups of 4 circled and $4 \text{ R } 3$. On question 2, look for $5 \text{ R } 1$ and $8 \text{ R } 5$; $4 \text{ R } 8$ or $7 \text{ R } 11$ means the remainder is bigger than the divisor, so another group fits.

Ready for more? Find a number that leaves a remainder of 1 when you divide it by 2, by 3 and by 4.

GET READY

- Counters and paper plates for each pair
- Grid paper for arrays
- Whiteboards and markers

WORDS TO USE

remainder: what is left over after making equal groups

divisor: the number you divide by

R: the letter written before the remainder

ASK

- How many full groups did you make?
- Is your remainder less than the divisor?
- How can you check by multiplying?

WATCH FOR

Writes a remainder bigger than the divisor.

Ask: can you make one more group with what is left?

Writes the leftover as the quotient. The groups are the quotient; the leftover goes after R.

Need help? Deal the counters onto plates one at a time and stop when a full round is not possible.

ON ANIMAL MATH

PRINTABLE

Division with Remainders: sheets 1-2

MAKER

Column Math Equations: Division, Range Within 100; in Advanced Options No Remainders off, Number Overrides First Number 20 to 50, Second Number 4 to 9

QUIZ

Long Division Quiz: the Remainders level

EXIT TICKET

4th Grade Division Exit Tickets: Exit Ticket 5.2



Division

Lesson 5.3: Divide with blocks and area models

GOAL Students divide a 3-digit number by sharing base-ten blocks, trading a hundred for 10 tens when they need to, and record it in an area model: the divisor is one side, and the parts of the other side add up to the quotient.

About 45 minutes

I can divide with an area model.

THE LESSON

- 1 Warm up** (5 min) Show 3 flats, 7 rods and 2 cubes. What number is it? How many tens is it in all?
- 2 Teach** (10 min) Share 372 among 3 plates: 1 flat each. Then 2 rods each, with 1 rod left: trade it for 10 cubes, so 12 cubes, 4 each. Each plate has 124: $372 \div 3 = 124$. Then draw an area model for $728 \div 4$: side 4, the area split into 400, 320 and 8, so the other side is $100 + 80 + 2 = 182$.
Say: "I share the biggest place first. If a piece is left, I trade it for ten of the next place and keep sharing."
- 3 Try it together** (10 min) Pairs share 255 among 5 with blocks (trade 2 flats for 20 rods: 51 each). Then they draw the area model for $846 \div 6$ and check it: $6 \times 141 = 846$.
- 4 Practice** (15 min) Students share the blocks and find the sides of the area models on sheet 1 of Long Division with Remainders.
- 5 Exit ticket** (5 min) Students do **Exit Ticket 5.3** and circle a face beside the "I can" line. On question 1, look for 200, 10 and 4 above the model and 214. On question 2, look for $300 + 12 = 312$; 15 means $900 \div 3$ was written as 3.

Need help? Use plates and real blocks, and say each trade out loud.

Ready for more? Find a 3-digit number that 4 shares with no trades, and one that needs two trades.

GET READY

- Base-ten blocks and paper plates for each pair
- Grid paper and colored pencils
- Whiteboards and markers

WORDS TO USE

share: give each group the same number

trade: swap 1 hundred for 10 tens, or 1 ten for 10 ones

area model: a rectangle with the divisor as one side and the dividend as its area

ASK

- Which place do you share first? Why?
- What do you do with a rod that is left over?
- How do the parts of the area model make the quotient?

WATCH FOR

Shares the ones first. Start with the biggest place, as in long division.

Does not trade a leftover hundred. A hundred left over is 10 tens: trade it and share the tens.

Adds the areas to find the quotient. The quotient is the side: $100 + 80 + 2$, not the areas.

ON ANIMAL MATH

PRINTABLE

Long Division with Remainders: sheet 1

TOOL

Base Ten Blocks

QUIZ

Long Division Quiz: the 2- and 3-Digit $\div$ 1-Digit level

EXIT TICKET

4th Grade Division Exit Tickets: Exit Ticket 5.3

Division

Lesson 5.4: Partial quotients

GOAL Students divide 3- and 4-digit numbers by a 1-digit number with partial quotients: they take away easy multiples of the divisor, add the partial quotients and write what is left as the remainder.

About 45 minutes

I can divide with partial quotients.

THE LESSON

- 1 Warm up** (5 min) List easy multiples of 6: 6×1 , 6×10 , 6×100 and 6×5 .
- 2 Teach** (10 min) Divide $789 \div 6$. Take away 100 groups of 6 (600): 189 left. Take away 30 groups (180): 9 left. Take away 1 group (6): 3 left. Add the partial quotients: $100 + 30 + 1 = 131$, remainder 3. So $789 \div 6 = 131 \text{ R } 3$. Any easy multiples work; bigger ones mean fewer steps.
Say: "How many groups of 6 can I take away easily? I subtract, write the partial quotient, and stop when less than 6 is left."
- 3 Try it together** (10 min) Solve $1,634 \div 3$ two ways on the board: one student takes away 500, 40 and 4 groups, another 300, 200, 40 and 4. Both get $544 \text{ R } 2$. Then partners try $2,075 \div 4$.
- 4 Practice** (15 min) Students divide with partial quotients on sheet 2 of Long Division with Remainders. Early finishers make a maker sheet and solve it with partial quotients.
- 5 Exit ticket** (5 min) Students do **Exit Ticket 5.4** and circle a face beside the "I can" line. On question 1, look for $239 \text{ R } 2$ with partial quotients that add to 239 (200, 30 and 9 is one way). On question 2, look for $145 \times 6 + 5 = 875$; 870 means the remainder was left out.

Need help? Write the easy multiples of the divisor (1, 2, 5, 10, 20, 50 and 100 groups) in a list before starting.

Ready for more? Solve $4,321 \div 7$ in as few steps as you can.

GET READY

- Grid paper
- A list of easy multiples of the divisor
- Whiteboards and markers

WORDS TO USE

partial quotient: one part of the quotient, like 100 or 30

easy multiple: the divisor times 1, 10, 100 or another friendly number

remainder: what is left when no more groups fit

ASK

- What easy multiple can you take away first?
- How do you know when to stop?
- Did you add the partial quotients?

WATCH FOR

Stops with more than the divisor left. Is what is left 6 or more? Then take away more groups.

Adds the amounts taken away. Write the number of groups beside each subtraction and add those.

ON ANIMAL MATH

PRINTABLE

Long Division with Remainders: sheet 2

MAKER

Column Math Equations: Division, Range 100 to 1,000, No Remainders off

QUIZ

Long Division Quiz: the 2- and 3-Digit $\div$ 1-Digit level

EXIT TICKET

4th Grade Division Exit Tickets: Exit Ticket 5.4

Division

Lesson 5.5: Long division

GOAL Students divide with the standard algorithm (divide, multiply, subtract, bring down), write the remainder after R and, in some classes, as a fraction of the divisor, and check by multiplying.

About 45 minutes

I can divide with long division.

THE LESSON

- 1 Warm up** (5 min) Solve $647 \div 3$ with partial quotients.
- 2 Teach** (10 min) Now $647 \div 3$ in the bracket. $6 \div 3 = 2$: write 2 over the 6, $2 \times 3 = 6$, subtract, 0. Bring down 4: $4 \div 3 = 1$, $1 \times 3 = 3$, $4 - 3 = 1$. Bring down 7: $17 \div 3 = 5$, $5 \times 3 = 15$, $17 - 15 = 2$. So 215 R 2, as with partial quotients. As a fraction: 215 and $\frac{2}{3}$.
Say: "Divide, multiply, subtract, bring down. Then do it again until no digits are left."
- 3 Try it together** (10 min) Solve $893 \div 6$ together, a step a student, saying the four steps out loud (148 R 5). Check: $148 \times 6 + 5 = 893$. Then partners do $579 \div 4$ and check each other.
- 4 Practice** (15 min) Students do the example and problems 1 and 2 on sheet 3 of Long Division with Remainders, then sheet 3 of Division with Remainders (the remainder after R and as a fraction).
- 5 Exit ticket** (5 min) Students do **Exit Ticket 5.5** and circle a face beside the "I can" line. On question 1, look for 134 R 2; a remainder of 4 or more means a quotient digit is too small. On question 2, look for $153 \times 4 + 3 = 615$.

Need help? Keep the partial quotients beside the bracket and match each quotient digit to a partial quotient.

Ready for more? Find a 3-digit number that leaves a remainder of 5 when you divide it by 6.

GET READY

- Grid paper for the bracket
- A chart: divide, multiply, subtract, bring down
- Whiteboards and markers

WORDS TO USE

bring down: move the next digit down beside what is left

remainder as a fraction: the remainder over the divisor: 2 left out of 3 is $\frac{2}{3}$

ASK

- What do you divide in the first step?
- What do you do after you subtract?
- How can you check your answer?

WATCH FOR

Forgets to bring down a digit. Point to each digit of the dividend and check it came down.

Leaves a remainder bigger than the divisor. The quotient digit is too small: try one more.

Writes the fraction over the dividend. It is the remainder over the divisor: 2 out of 3, so $\frac{2}{3}$.

ON ANIMAL MATH

PRINTABLE

Long Division with Remainders: sheet 3, the example and problems 1 and 2

PRINTABLE

Division with Remainders: sheet 3

MAKER

Column Math Equations: Division, Range 100 to 1,000, No Remainders off

QUIZ

Long Division Quiz: the 2- and 3-Digit $\div$ 1-Digit level

EXIT TICKET

4th Grade Division Exit Tickets: Exit Ticket 5.5



Division

Lesson 5.6: Zeros in the quotient

GOAL Students divide 4-digit numbers by a 1-digit number and write a 0 in the quotient whenever the divisor does not fit into a place, so every digit keeps its place value.

About 45 minutes

I can write a zero in the quotient when I need one.

THE LESSON

- 1 Warm up** (5 min) Can 3 thousands be shared among 8? Then how many hundreds is 3,248?
- 2 Teach** (10 min) Divide $3,248 \div 8$. The 3 thousands are too few, so start with 32 hundreds: 4 hundreds, nothing left. Bring down the 4 tens: 8 does not fit in 4, so write 0 in the tens and $0 \times 8 = 0$. Bring down 8: $48 \div 8 = 6$. The quotient is 406, not 46. Then $5,127 \div 3 = 1,709$, with the 0 in the tens.
Say: "If the divisor does not fit, I write 0 in that place and bring down the next digit."
- 3 Try it together** (10 min) Pairs estimate, then solve $7,236 \div 9$ (804) on whiteboards and check by multiplying: $804 \times 9 = 7,236$. Then $4,520 \div 5$ (904).
- 4 Practice** (15 min) Students do problems 3 to 5 on sheet 3 of Long Division with Remainders (four-digit dividends), then a maker sheet, circling every quotient with a 0 in it.
- 5 Exit ticket** (5 min) Students do **Exit Ticket 5.6** and circle a face beside the "I can" line. On question 1, look for 609; 69 means the 0 in the tens was left out. On question 2, look for $208 \times 4 = 832$.

Need help? Write each place's name over the dividend and fill in every place of the quotient.

Ready for more? Find a 4-digit number that gives a quotient with two zeros when you divide it by 3.

GET READY

- Grid paper for the bracket
- The divide, multiply, subtract, bring down chart
- Whiteboards and markers

WORDS TO USE

placeholder zero: a 0 in the quotient when the divisor does not fit

place value: what a digit is worth by where it is

ASK

- Where do you start when the first digit is too small?
- Why do we need the 0 in 406?
- Does your answer match your estimate?

WATCH FOR

Writes 46 for $3,248 \div 8$. Estimate: $3,200 \div 8$ is 400, so the answer has three digits.

Writes a 0 at the start of the quotient. Start over the first place the divisor fits.

ON ANIMAL MATH

PRINTABLE

Long Division with Remainders: sheet 3, problems 3 to 5

MAKER

Column Math Equations: Division, Range 1,000 to 10,000

QUIZ

Long Division Quiz: the 4-Digit $\div$ 1-Digit level

EXIT TICKET

4th Grade Division Exit Tickets: Exit Ticket 5.6



Division

Lesson 5.7: Estimate quotients

GOAL Students estimate a quotient with numbers that divide easily ($4,183 \div 6$ is about 4,200 $\div$ 6, or 700), decide whether an answer is reasonable, and check a quotient by multiplying.

About 45 minutes

I can estimate a quotient and check by multiplying.

THE LESSON

- 1 Warm up** (5 min) Which divides easily by 6: 4,000, 4,200 or 4,500? How do you know?
- 2 Teach** (10 min) Estimate $4,183 \div 6$: 4,183 is near 4,200, and $42 \div 6 = 7$, so about 700. Is $2,544 \div 6 = 424$ reasonable? $2,400 \div 6 = 400$, so yes; check: $424 \times 6 = 2,544$. Is $2,516 \div 4 = 69$ reasonable? $2,400 \div 4 = 600$, so no: a place slipped. The answer is 629.
Say: "I find a number near the dividend that my fact divides. The estimate tells me how many digits to expect."
- 3 Try it together** (10 min) Show answer cards; pairs estimate and hold up yes or no: $3,192 \div 7 = 456$, $1,415 \div 5 = 28$ and $1,692 \div 9 = 188$. Check the right ones by multiplying.
- 4 Practice** (15 min) Hand back sheet 2 of Long Division with Remainders: students write an estimate beside each problem and check each answer by multiplying. Then they estimate, divide and check on a maker sheet.
- 5 Exit ticket** (5 min) Students do **Exit Ticket 5.7** and circle a face beside the "I can" line. On question 1, look for $2,100 \div 7 = 300$ and Yes, as 305 is close to 300. On question 2, look for $3,600 \div 6 = 600$; $3,500 \div 6$ does not divide easily.

Need help? Write the multiples of the divisor by hundreds (600, 1,200, 1,800 and so on) and pick the closest.

Ready for more? Write a division whose estimate is 500 but whose answer is not reasonable, and swap with a partner.

GET READY

- Answer cards with right and wrong quotients
- Multiplication charts
- Whiteboards and markers

WORDS TO USE

compatible numbers: numbers close to the real ones that divide easily

estimate: a close answer from easier numbers

check: multiply the quotient by the divisor, then add the remainder

ASK

- What number near the dividend does your fact divide?
- How many digits should the quotient have?
- How do you check by multiplying?

WATCH FOR

Rounds to the nearest thousand: $4,000 \div 6$. Pick a number your fact divides: 42 hundreds.

Checks by multiplying but forgets the remainder. Quotient times divisor, then add the remainder.

ON ANIMAL MATH

PRINTABLE

Long Division with Remainders: sheet 2

MAKER

Column Math Equations: Division, Range 1,000 to 10,000, No Remainders off

QUIZ

Long Division Quiz: the 4-Digit $\div$ 1-Digit level

EXIT TICKET

4th Grade Division Exit Tickets: Exit Ticket 5.7

Division

Lesson 5.8: What the remainder means

GOAL Students solve division stories and decide what the remainder means: one more group is needed (round up), only full groups count (drop it), the remainder is the answer, or it is shared as a fraction.

About 45 minutes

I can decide what a remainder means in a story.

THE LESSON

- 1 Warm up** (5 min) Act it out: 9 students, 4 to a table. How many tables do we need? How many are full?
- 2 Teach** (10 min) Write $58 \div 4 = 14 \text{ R } 2$ and ask three questions. 58 pencils go in packs of 4: how many full packs? 14 (drop it). How many packs hold them all? 15 (round up). How many pencils are left? 2 (the remainder is the answer). Then 9 sandwiches shared by 4 friends: each gets 2 and $\frac{1}{4}$.
Say: "The division is the same. The question tells me what to do with the remainder."
- 3 Try it together** (10 min) Pairs sort story cards by what the remainder means, then solve one of each: 75 people, 8 to a van; 75 beads, 8 to a bracelet; 75 stickers in rows of 8, how many are left over?
- 4 Practice** (15 min) Students answer one division four ways on sheet 4 of Division with Remainders, then solve the story sets on sheet 5.
- 5 Exit ticket** (5 min) Students do **Exit Ticket 5.8** and circle a face beside the "I can" line. On question 1, look for 11 cars; 10 means the remainder was dropped, but 2 people still need a ride. On question 2, look for 7 bracelets; 8 means the student rounded up, but there are not enough beads for an eighth.

Need help? Act each story out with counters before deciding what the remainder means.

Ready for more? Write a story for $43 \div 5$ for each meaning of the remainder.

GET READY

- Story cards
- Counters
- Whiteboards and markers

WORDS TO USE

round up: add one more group so nothing is left out

drop it: count only the full groups

the remainder is the answer: the question asks how many are left

ASK

- What does the question ask for?
- Does a part of a group count here?
- Would your answer work in real life?

WATCH FOR

Writes 14 R 2 as the answer to a story. Read the question again and answer with a whole number and the unit.

Always rounds up. Ask: is a group that is not full any use here?

ON ANIMAL MATH

PRINTABLE

Division with Remainders: sheets 4-5

QUIZ

Long Division Quiz: the What the Remainder Means level

EXIT TICKET

4th Grade Division Exit Tickets: Exit Ticket 5.8

Division

Lesson 5.9: Divide to compare

GOAL Students divide to compare: they find how many times as many one amount is, or the smaller amount from the larger one and how many times as many, with strip diagrams, and tell times as many from how many more.

About 45 minutes

I can divide to find how many times as many.

THE LESSON

- 1 Warm up** (5 min) Build a train of 4 cubes and a train of 20 cubes. How many 4-trains make the 20-train?
- 2 Teach** (10 min) Read: A whale is 80 feet long. A dolphin is 10 feet long. How many times as long is the whale? Cut the whale's bar into dolphin bars: $80 \div 10 = 8$ times. Then: A bridge is 72 meters long, 3 times as long as a boat. Draw 3 equal bars making 72: $72 \div 3 = b$, so 24 meters. The whale is 70 feet longer: that is how many more.
Say: "The larger amount is made of equal copies of the smaller one. I divide to find how many copies, or how big one copy is."
- 3 Try it together** (10 min) Pairs solve two stories with strip diagrams and equations: a pumpkin weighs 91 pounds, 7 times as much as a melon ($91 \div 7 = 13$ pounds); a book has 90 pages and a comic has 15 (6 times as many).
- 4 Practice** (15 min) Students do sheets 2 and 4 of Multiplicative Comparison Word Problems. For a step back, sheet 1 of Times as Many counts groups in pictures.
- 5 Exit ticket** (5 min) Students do **Exit Ticket 5.9** and circle a face beside the "I can" line. On question 1, look for $84 \div 6 = r$ and 14 inches; 504 means 84 was multiplied by 6. On question 2, look for 9; 16 means the student subtracted (how many more).

Need help? Build both amounts with cube trains and break the long train into copies of the short one.

Ready for more? Write a times as many story where you divide and a how many more story with the same two numbers.

GET READY

- Connecting cubes
- Strip diagram cards
- Whiteboards and markers

WORDS TO USE

times as many: the larger amount is made of that many copies of the smaller

how many more: the difference, found by subtracting

strip diagram: bars that show how amounts compare

ASK

- Which amount is larger?
- Do you know the number of copies or the size of one copy?
- Is it times as many or how many more?

WATCH FOR

Multiplies 72×3 for the boat. Draw it: the bridge is the long bar, made of 3 boat bars. Divide.

Subtracts to find times as many. Ask how many copies of the short bar fit in the long one.

ON ANIMAL MATH

PRINTABLE **Multiplicative Comparison Word Problems:** sheets 2 and 4

PRINTABLE **Times as Many:** sheet 1, a step back

QUIZ **Factors and Multiples Quiz:** the Times as Many level

EXIT TICKET **4th Grade Division Exit Tickets:** Exit Ticket 5.9