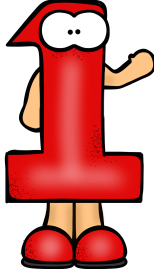




Grade 3

Everyday Math:

Unit 

Math Tools, Time,
and Multiplication

Study Guide



Thank you!

Catherine Wiist @ Abc 123is4me

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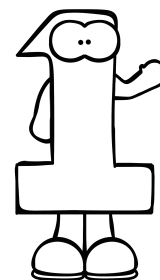


Name: _____

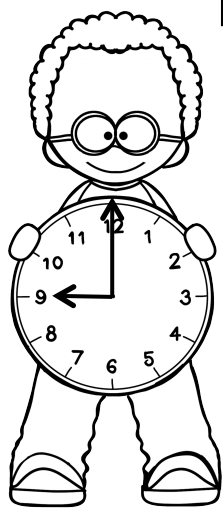
Test Date: ____ - ____ - ____

Grade 3

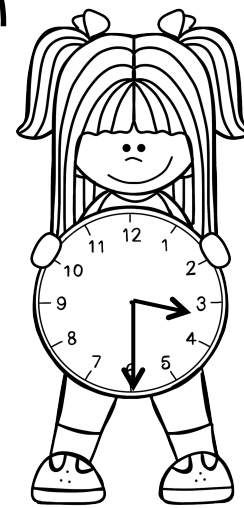
Everyday Math: Unit



Math Tools, Time, and Multiplication



Study Guide



Unit Vocabulary:

array, bar graph, close-but-easier numbers, column, data, difference, division, division symbol, elapsed time, equal grouping, equal groups, equal shares, equal sharing, essay, estimate, fact family, factors, Fact Triangle, gram, kilogram, length of day, mass, masses, mathematical model, multiplication, multiplication symbol, number grid, open number line, pan balance, precise, product, Quick Looks, round, row, strategy, weight, zero.

Lesson 1.1:

How do you add and subtract multi-digit numbers?

Use the number grid.

81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120

- The difference between 84 and 116 is _____.
- The difference between 98 and 111 is _____.
- Explain how you used the number grid to solve problem 1b.

Lesson I.2:

How do we use the Student Reference Book and play *Number-Grid Difference*?

Becky and Aaron played *Number-Grid Difference*.
The object of the game is to have the lower sum of 5 scores.

Becky picked 2 and 5 and made the number 25.

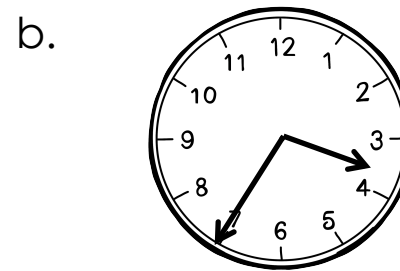
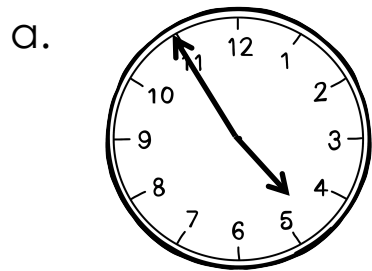
Aaron picked 7 and 5. What number should Aaron make?

Explain your answer. _____

Lesson I.3:

What are the tools we use in math, and how are they used to solve math problems?

Write the time shown on each clock.
You may use your toolkit clocks to help you.



Lesson 1.4:

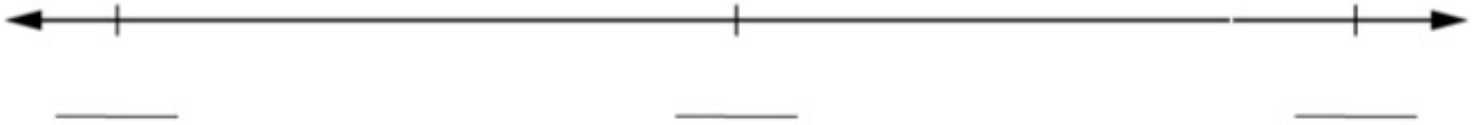
How do you round numbers to the nearest 10 or 100?

Round each number to the nearest 10. You may use open number lines to help.

a. 79 rounded to the nearest 10 is _____.



b. 53 rounded to the nearest 10 is _____.



Round each number to the nearest 100. You may use open number lines to help.

a. 763 rounded to the nearest 100 is _____.



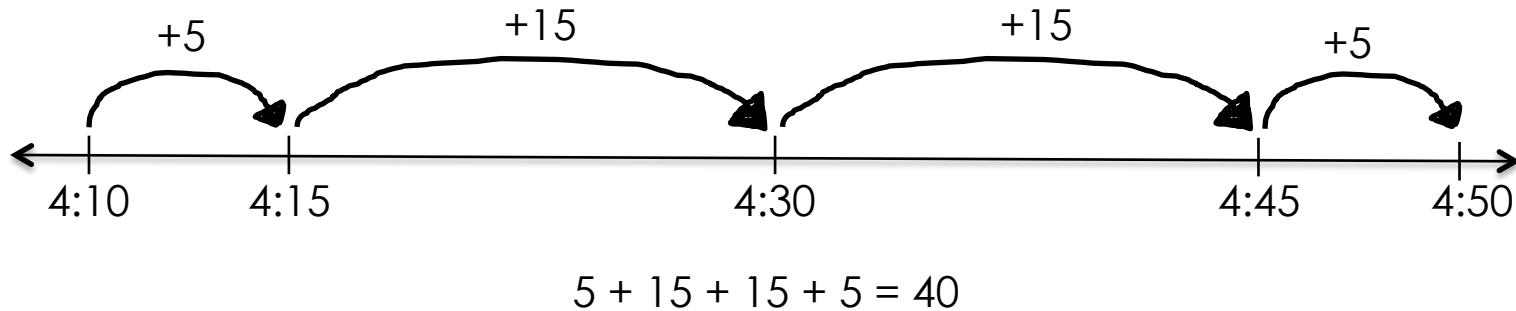
b. 669 rounded to the nearest 100 is _____.



Lesson 1.5:

How do you tell time to the nearest minute and calculate elapsed time?

Devon starts baseball practice at 4:10 P.M. and finishes at 3:50 P.M. He drew an open number line and used it to find the length of his practice.



Explain Devon's work. _____

How long was Devon's baseball practice? _____ minutes long

Lesson 1.6:

What strategies do you use to calculate elapsed time?

Solve. You may use your toolkit clock or an open number line to help you.
Show your work.

Lenna starts art camp at 10:45 A.M.

He finishes at 2:15 P.M.

How many hours and minutes does Lenna spend at camp?

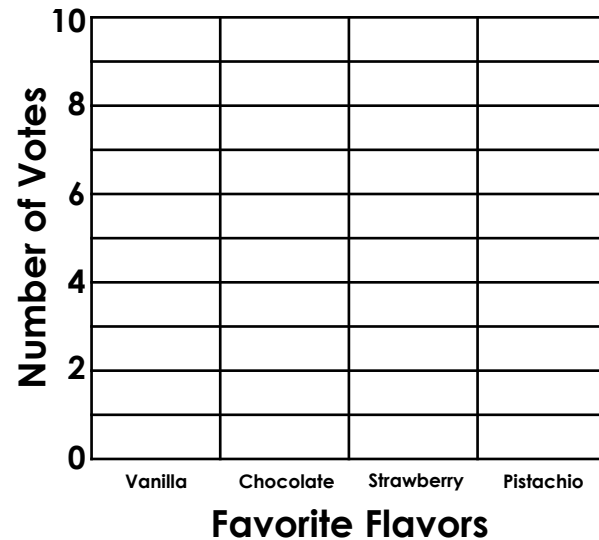
Lenna spends _____ hours and _____ minutes at camp.

Lesson 1.7:

How do you represent and interpret data on a scaled bar graph?

a. Use the tally chart to complete the bar graph.

Favorite Flavors	Number of votes
Vanilla	I
Chocolate	
Strawberry	
Pistachio	



Use the data in the bar graph to answer the questions below.

b. How many votes were there in all? _____

c. How many fewer liked pistachio than chocolate? _____

d. Write at least two things you know from the graph.

Lesson 1.8:

What strategies do you use to solve multiplication number stories?

For the number story, draw a sketch and write the answer.
Then write a number model to fit the story.

Blake makes 7 rows of chairs.
In each row he puts 5 chairs.
How many chairs does Blake use in all?

He uses _____ chairs.

Number model: _____

Lesson 1.9:

What strategies do you use to solve division number stories?

Draw a picture to help you solve the number story. Record your answers.

Abby has 24 apples. She puts 6 apples in each basket.
How many baskets does she use?

_____ baskets

Lesson 1.10:

How do you improve your fluency with multiplication facts?

Solve each problem.

a. $2 \times 6 =$ _____

b. $2 \times 4 =$ _____

c. $5 \times 4 =$ _____

d. $3 \times 5 =$ _____

e. $10 \times 5 =$ _____

f. $4 \times 10 =$ _____

g. How did you solve 3×5 ?

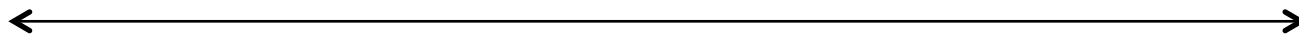
Lesson 1.11:

What strategies do you use to calculate elapsed time?

Find the elapsed time. Use the open number line to help.

The class started recess at 2:25 P.M. They finished at 2:40 P.M. How long was recess?

Recess was _____ minutes long.



Lesson 1.12:

Exploration A: How do you compare the masses of objects?

Fill in the blanks with vocabulary words from the lesson.

1. _____ is the measure of the amount of matter in an object is.
2. _____ is the measure of how heavy something is.
3. A tool used to compare & measure the masses of objects is a _____.

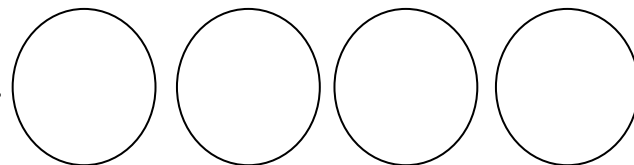
Exploration B: How do you divide multiple wholes into equal shares?

Solve the problem below. You may use the pancakes sketches to help you.

You roll a 4 for number of pancakes.

You roll a 3 for number of people sharing the pancakes.

How many pancakes will each person get?



Answer: _____

(unit)

Exploration C: How do you create equal groups?

You roll a 5 for number of nests.

You roll a 3 for how many eggs in each nest.

Draw a sketch of the nests and eggs.

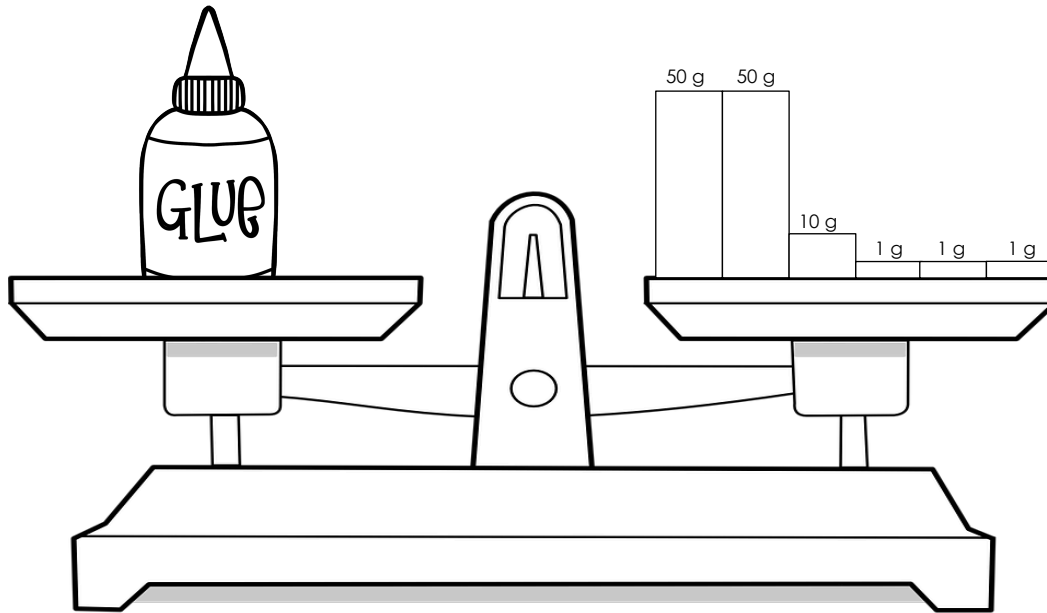
Write a number model to show how many eggs in all.

Number model: _____

Lesson 1.13:

How do you estimate and measure the masses of objects?

Kelly used a pan balance and masses to measure the mass of a bottle of glue. She put the bottle of glue in one pan and two 50-gram masses in the other pan. Then she added one 10-gram mass and three 1-gram masses to balance the pans. What is the mass of the glue bottle?



Answer: _____ grams

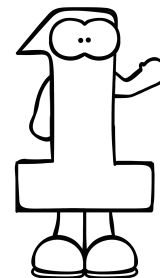
How did you figure out your answer? _____

ANSWER KEY

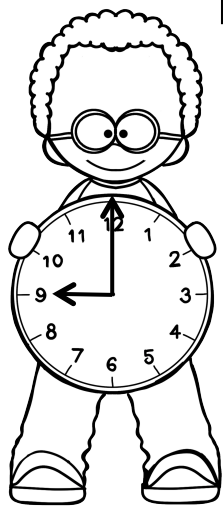


Grade 3

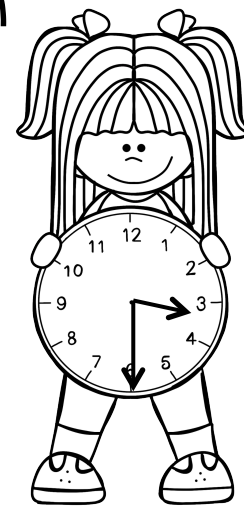
Everyday Math: Unit



Math Tools, Time, and Multiplication



Study Guide



Unit Vocabulary:

array, bar graph, close-but-easier numbers, column, data, difference, division, division symbol, elapsed time, equal grouping, equal groups, equal shares, equal sharing, essay, estimate, fact family, factors, Fact Triangle, gram, kilogram, length of day, mass, masses, mathematical model, multiplication, multiplication symbol, number grid, open number line, pan balance, precise, product, Quick Looks, round, row, strategy, weight, zero.

Lesson 1.1:

How do you add and subtract multi-digit numbers?

Use the number grid.

81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120

- The difference between 84 and 117 is 33.
- The difference between 88 and 114 is 26.
- Explain how you used the number grid to solve problem 1b.

Sample Answer: I counted by 1s from 88 to 94 and got 6. Then I counted by 10s from 94 to 114 and got 20. So the difference is 26.

Lesson I.2:

How do we use the Student Reference Book and play *Number-Grid Difference*?

Becky and Aaron played *Number-Grid Difference*.

The object of the game is to have the lower sum of 5 scores.

Becky picked 2 and 5 and made the number 25.

Aaron picked 7 and 5. What number should Aaron make?

Explain your answer. Sample Answer: He should make 57 because the difference between 25 and 57 is less than the difference between 25 and 75.

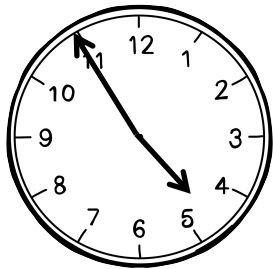
Lesson I.3:

What are the tools we use in math, and how are they used to solve math problems?

Write the time shown on each clock.

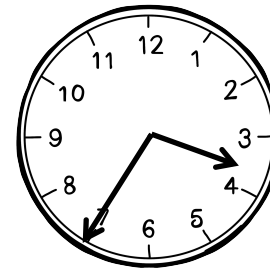
You may use your toolkit clocks to help you.

a.



4:55

b.



3:35

Lesson 1.4:

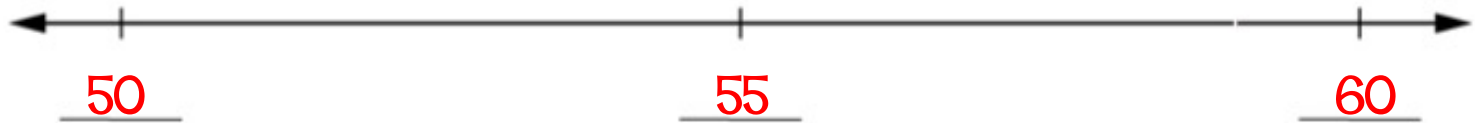
How do you round numbers to the nearest 10 or 100?

Round each number to the nearest 10. You may use open number lines to help.

a. 79 rounded to the nearest 10 is 80.

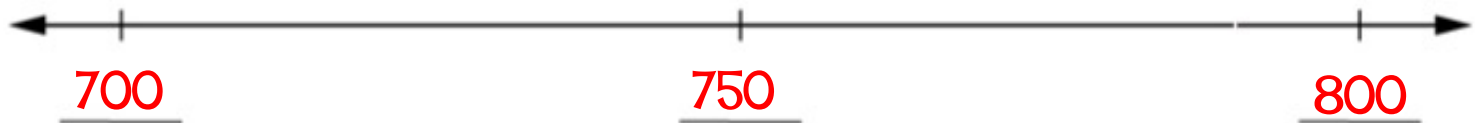


b. 53 rounded to the nearest 10 is 50.



Round each number to the nearest 100. You may use open number lines to help.

a. 763 rounded to the nearest 100 is 800.



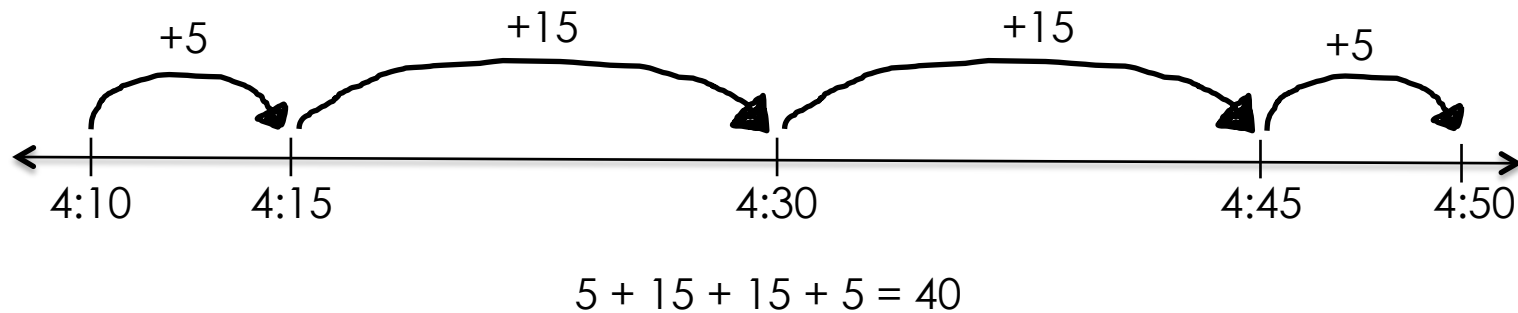
b. 669 rounded to the nearest 100 is 700.



Lesson 1.5:

How do you tell time to the nearest minute and calculate elapsed time?

Devon starts baseball practice at 4:10 P.M. and finishes at 4:50 P.M. He drew an open number line and used it to find the length of his practice.



Explain Devon's work. Devon counted up 5 minutes from 4:10 to 4:15, 15 minutes from 4:15 to 4:30, 15 minutes from 4:30-4:45, and 5 minutes from 4:45 to 4:50. He added up the minutes and got 40.

How long was Devon's baseball practice? 40 minutes long

Lesson 1.6:

What strategies do you use to calculate elapsed time?

Solve. You may use your toolkit clock or an open number line to help you.
Show your work.

Lenna starts art camp at 10:45 A.M.

He finishes at 2:15 P.M.

How many hours and minutes does Lenna spend at camp?

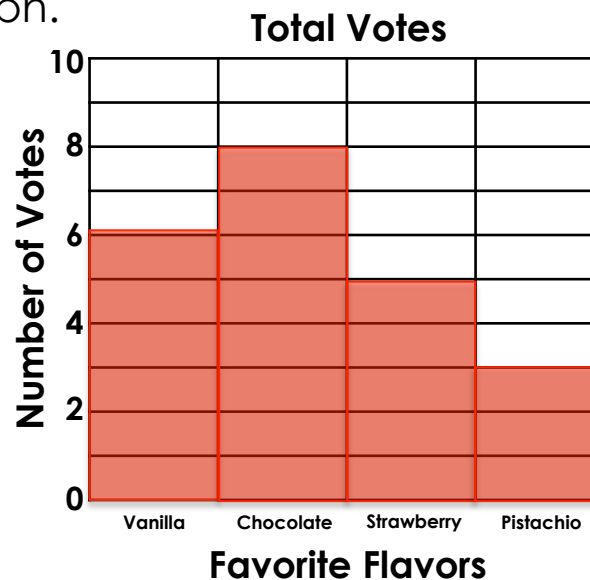
Lenna spends 3 hours and 30 minutes at camp.

Lesson 1.7:

How do you represent and interpret data on a scaled bar graph?

a. Use the tally chart to complete the bar graph.

Favorite Flavors	Number of votes
Vanilla	I
Chocolate	
Strawberry	
Pistachio	



Use the data in the bar graph to answer the questions below.

b. How many votes were there in all? 22

c. How many fewer liked pistachio than chocolate? 5

d. Write at least two things you know from the graph.

Sample Answers:

- * There were six votes for vanilla.
- * Most of the votes were for chocolate.
- * There was one more vote for strawberry than there was for pistachio.

Lesson 1.8:

What strategies do you use to solve multiplication number stories?

For the number story, draw a sketch and write the answer.
Then write a number model to fit the story.

Blake makes 7 rows of chairs.
In each row he puts 5 chairs.
How many chairs does Blake use in all?

He uses 35 chairs.

Number model: $5 \times 7 = 35$ OR $7 \times 5 = 35$ OR $5 + 5 + 5 + 5 + 5 + 5 + 5 = 35$

Lesson 1.9:

What strategies do you use to solve division number stories?

Draw a picture to help you solve the number story. Record your answers.

Abby has 24 apples. She puts 6 apples in each basket.
How many baskets does she use?

4 baskets

Lesson I.10:

How do you improve your fluency with multiplication facts?

Solve each problem.

a. $2 \times 6 = \underline{12}$

b. $2 \times 4 = \underline{8}$

c. $5 \times 4 = \underline{20}$

d. $3 \times 5 = \underline{15}$

e. $10 \times 5 = \underline{50}$

f. $4 \times 10 = \underline{40}$

g. How did you solve 3×5 ?

Sample answers: I skip counted by 5s three times OR I added 5

three times.

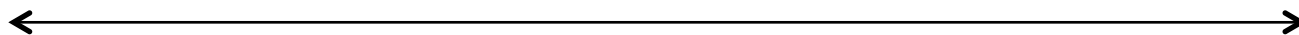
Lesson I.11:

What strategies do you use to calculate elapsed time?

Find the elapsed time. Use the open number line to help.

The class started recess at 2:25 P.M. They finished at 2:40 P.M. How long was recess?

Recess was 15 minutes long.



Lesson 1.12:

Exploration A: How do you compare the masses of objects?

Fill in the blanks with vocabulary words from the lesson.

1. Mass is the measure of the amount of matter in an object is.
2. Weight is the measure of how heavy something is.
3. A tool used to compare & measure the masses of objects is a pan balance.

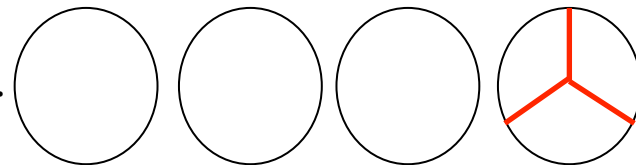
Exploration B: How do you divide multiple wholes into equal shares?

Solve the problem below. You may use the pancakes sketches to help you.

You roll a 4 for number of pancakes.

You roll a 3 for number of people sharing the pancakes.

How many pancakes will each person get?



Answer: 1 and 1-third pancake

(unit)

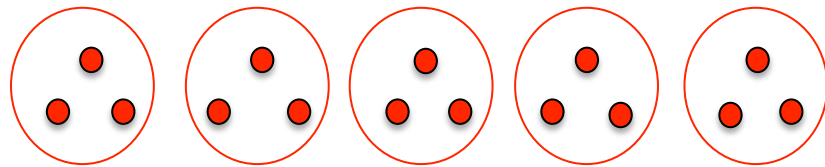
Exploration C: How do you create equal groups?

You roll a 5 for number of nests.

You roll a 3 for how many eggs in each nest.

Draw a sketch of the nests and eggs.

Write a number model to show how many eggs in all.

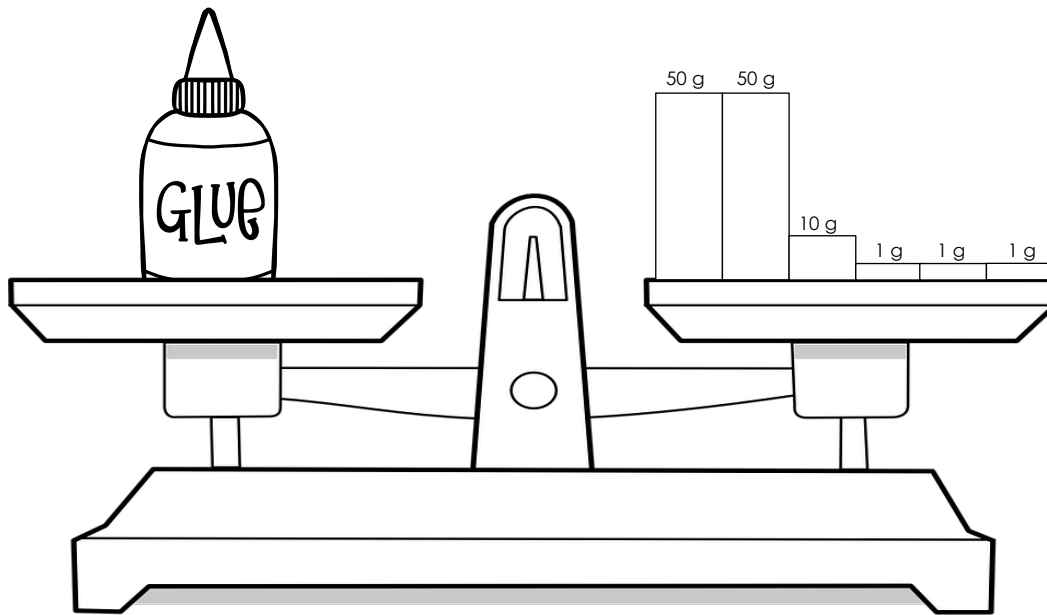


Number model: $5 \times 3 = 15$

Lesson 1.13:

How do you estimate and measure the masses of objects?

Kelly used a pan balance and masses to measure the mass of a bottle of glue. She put the bottle of glue in one pan and two 50-gram masses in the other pan. Then she added one 10-gram mass and three 1-gram masses to balance the pans. What is the mass of the glue bottle?



Answer: 113 grams

How did you figure out your answer? I added $50 + 50 + 10 + 3$ and got 113.