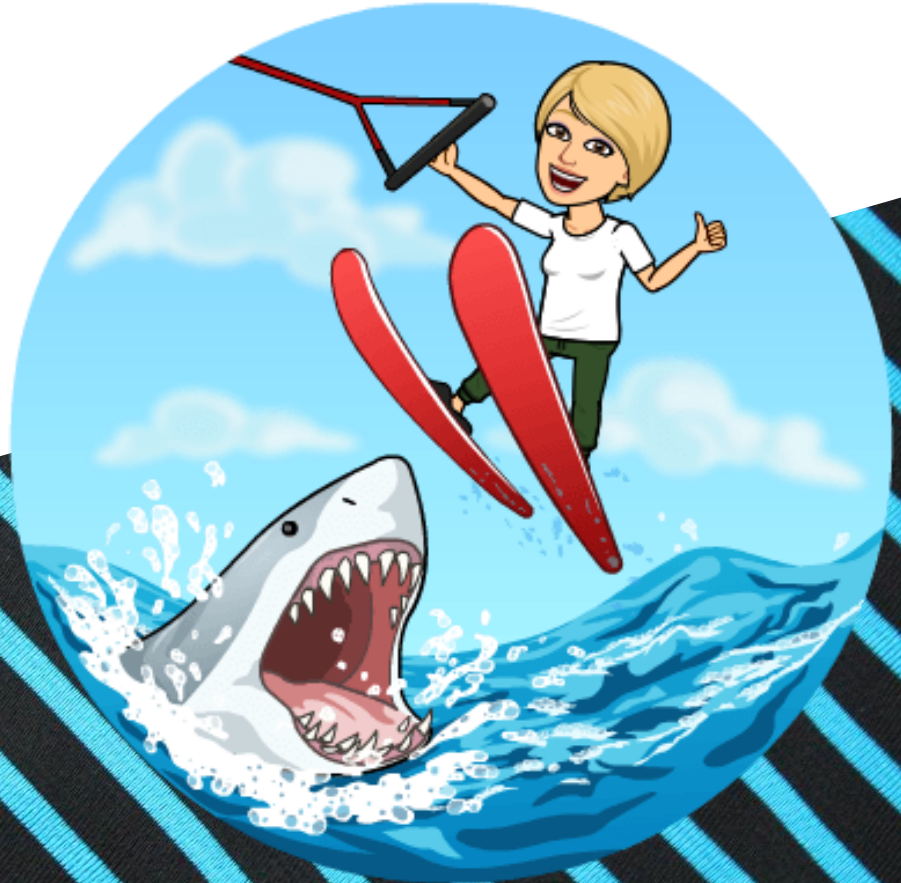
Today's Materials

- calculator
- pencil
- notebook
- glue



Using Equations to Solve Problems

Lesson 6

CCSS Standards: Building on	• 5.NBT.B.7 • 6.RP.A.2
CCSS Standards: Addressing	• 7.RP.A.2 • 7.RP.A.2.c

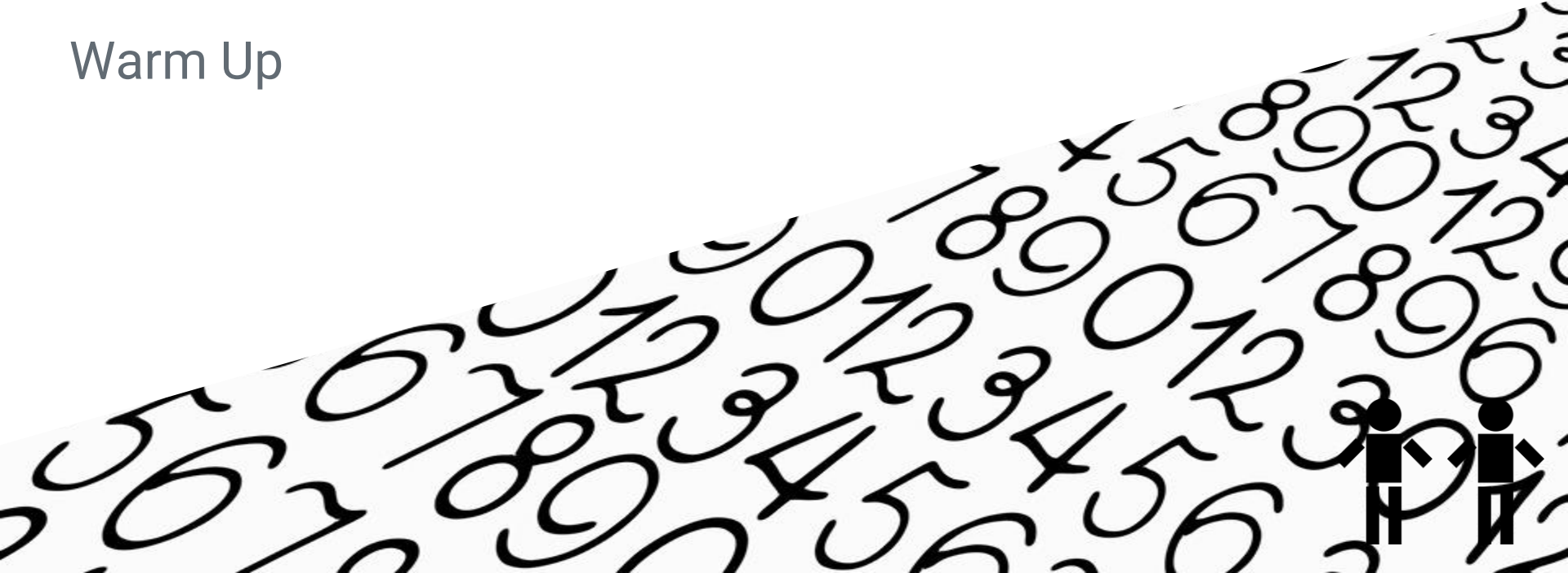
Let’s use equations to solve problems involving proportional relationships!

Today's Goals

- I can relate all parts of an equation like **y = kx** to the situation it represents.
- I can find missing information in a proportional relationship using the constant of proportionality.

Number Talk:
Quotients with Decimal Points

Warm Up



Without calculating, order the quotients of these expressions from least to greatest.

Place the decimal point in the appropriate location in the quotient

42.6 ÷ 7 = 608571

A. $42.6 \div 0.07$

B. $42.6 \div 70$

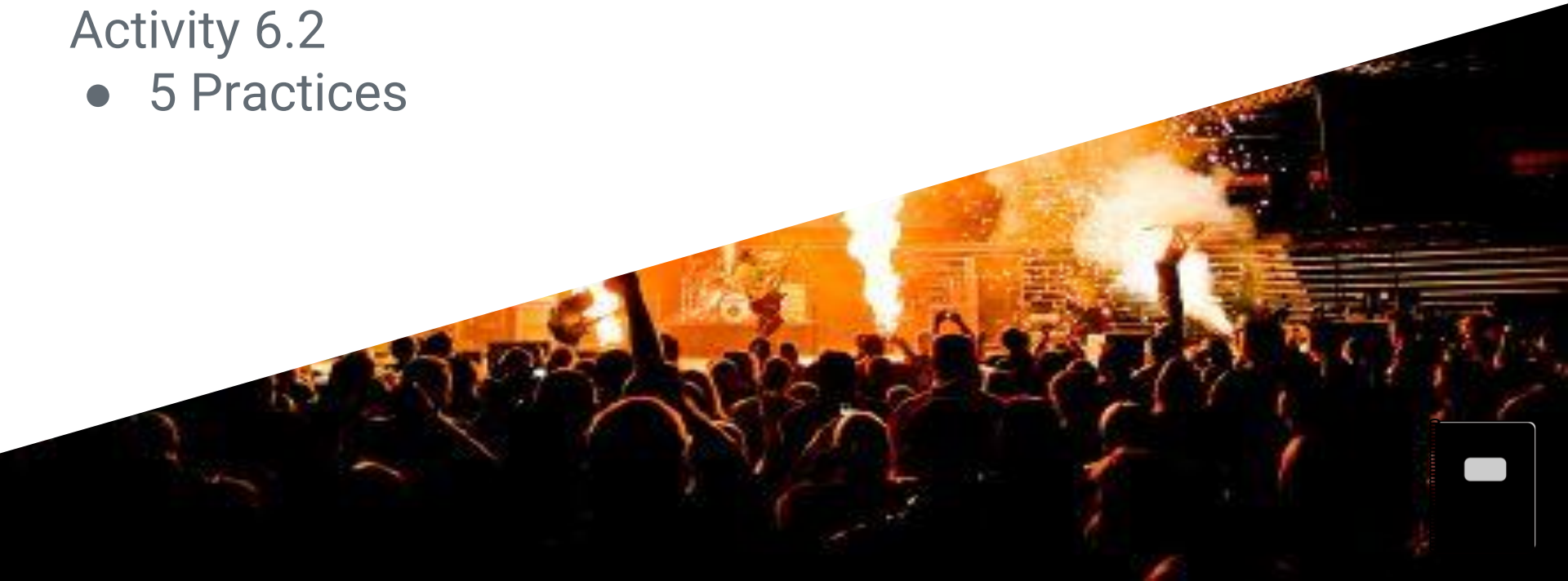
C. $42.6 \div 0.7$

D. $426 \div 70$

Concert Ticket Sales

Activity 6.2

- 5 Practices



A performer expects to sell 5,000 tickets for an upcoming concert. They want to make a total of $311,000 in sales from these tickets.

Assuming that all tickets have the same price, what is the price for one ticket?

#1

A performer expects to sell 5,000 tickets for an upcoming concert. They want to make a total of $311,000 in sales from these tickets.

How much will they make if they sell 7,000 tickets?

#2

A performer expects to sell 5,000 tickets for an upcoming concert. They want to make a total of $311,000 in sales from these tickets.

How much will they make if they sell 10,000 tickets?

50,000?

120,000?

#3

a

A performer expects to sell 5,000 tickets for an upcoming concert. They want to make a total of $311,000 in sales from these tickets.

If they make $379,420, how many tickets have they sold?

#4

A performer expects to sell 5,000 tickets for an upcoming concert. They want to make a total of $311,000 in sales from these tickets.

How many tickets will they have to sell to make $5,000,000?

#5

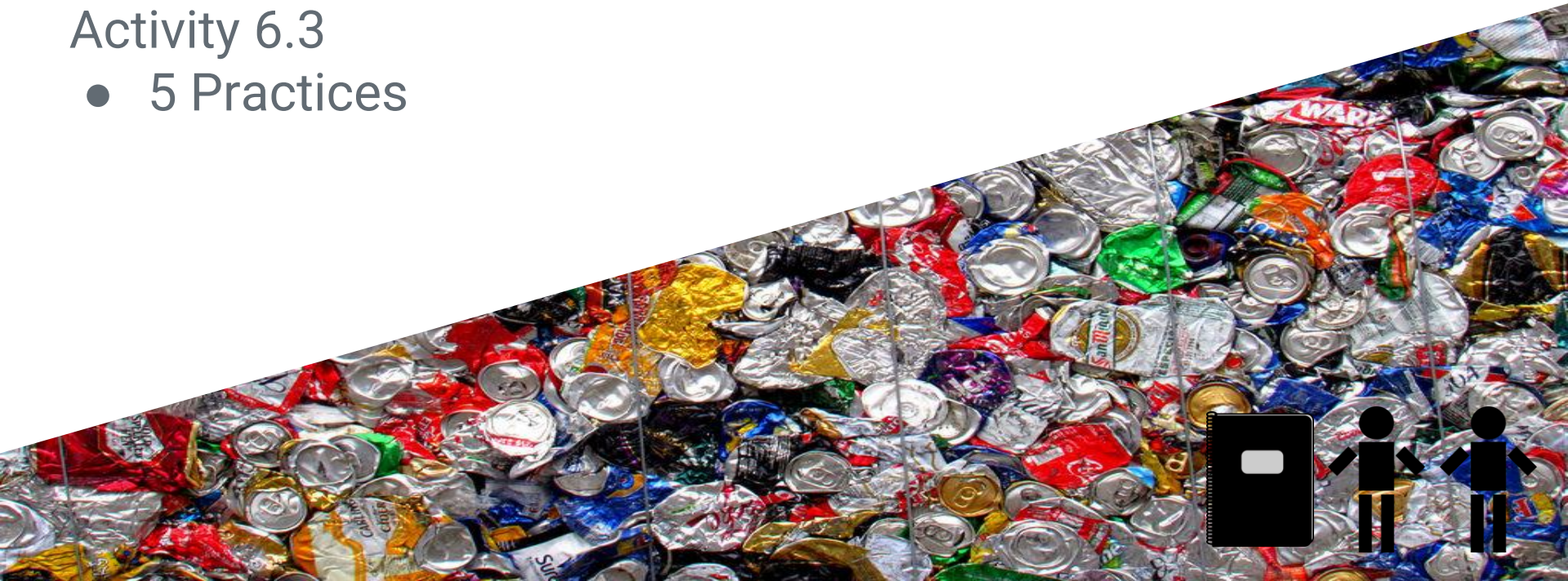
Can you write two equations for this situation?

number of tickets sold	earnings in dollars
5,000	311,000
1	62.20
7,000	435,400
10,000	622,200
50,000	3,110,000
120,000	7,464,000
1,000,000	62,200,000
6,100	379,420
80,386	5,000,009.20
x	$62.20x$

Recycling

Activity 6.3

- 5 Practices



Aluminum cans can be recycled instead of being thrown in the garbage. The weight of 10 aluminum cans is 0.16 kg. The aluminum in 10 cans that are recycled has a value of $0.14.

If a family threw away 2.4 kg of aluminum in a month, how many cans did they throw away?

#1

Aluminum cans can be recycled instead of being thrown in the garbage. The weight of 10 aluminum cans is 0.16 kg. The aluminum in 10 cans that are recycled has a value of $0.14.

What would be the recycled value of those same cans?

#2

Aluminum cans can be recycled instead of being thrown in the garbage. The weight of 10 aluminum cans is 0.16 kg. The aluminum in 10 cans that are recycled has a value of $0.14.

Write an equation to represent the number of cans c given their weight w.

$c = 62.5w$

Write an equation to represent the recycled value r of w kilograms of aluminum.

$r = 0.875w$

Write an equation to represent the recycled value r of c cans.

$r = 0.014c$

#3-5

Here is one way to organize the given information and solutions in a table:

number of cans (c)	weight in kilograms (w)	recycled value in dollars (r)
10	0.16	0.14
150	2.4	2.10
1	0.016	0.014
62.5	1	
$62.5w$	w	
c		$0.014c$
	1	0.875
	w	$0.875w$

“Are you ready for more?”

The EPA estimated that in 2013, the average amount of garbage produced in the United States was 4.4 pounds per person per day.

At that rate, how long would it take your family to produce a ton of garbage?

(A ton is 2,000 pounds!)

What were some helpful ways we organized information today?

What were some equations we found in this lesson?

In each equation, what did the letters represent? What did the number mean?

$$y = 62.20x$$

$$c = 62.5w$$

$$r = 0.014c$$

$$r = 0.875w$$

Today's Goals

- I can relate all parts of an equation like **y = kx** to the situation it represents.
- I can find missing information in a proportional relationship using the constant of proportionality.

Granola

Cool Down