2.1 Flashcards

Overview:

* Activity was inspired by the “Flashcard Game” described in *Cooperative Learning*1, by Spencer Kagan.
* The flashcards provide a fun structure for peer tutoring.

**Flashcard Game Rules:**

1. Divide students into pairs, and give each pair of students 1 deck of flash cards.
2. One student will be the Quizzer and the other will be the Answerer.
3. The Quizzer displays the cards one at a time. If the Answerer gets it right, he/she can keep the card. If he/she gets it wrong, the card gets returned to the deck. The game keeps going as long as there are still questions in the deck. The Answerer wins when he/she has won all the cards.

1Kagan, S. (1994). *Cooperative Learning*. San Clemente, CA: Kagan.

**Note:** I would begin by having pairs practice only Cards #1-15 in each deck until they master those. Then let them add cards #16-25.

Uses:

You could use these flashcards to supplement any unit. However, if you’re using them in the context of the Implementing Algebra unit on Proportional Reasoning, here’s the suggested use:

* The first class to use the cards will need to make the cards. After that (as long as you don’t let them take them home), the cards will already be made for your other classes. Here’s how to make the cards:
	+ Print out sets of flashcard labels in advance—enough for 1 set of cards for each pair of students.
	+ As groups finish the 2.1 Packet, give each pair of students their set of labels, plus 25 index (3 x 5) cards, and the instruction sheet for this flashcard activity.
* Students will make the cards (if necessary) and then play the game.

Making the Cards

To make each deck of flashcards, print this document on shipping labels. Peel off the labels and stick them to 3 x 5 cards (question on front, answer on back). This template works for the following Avery labels:

15163, 15563, 18163, 48163, 48263, 48863, 5163, 5263, 55163, 55263, 55363, 58163, 58263, 5963, 8163, 8253, 8363, 8463, 85563, 8563

**2.1 Flashcards Instructions**

How to make the cards (it’s easy):

1. You need:
	1. A partner,
	2. A set of flashcard labels, and
	3. 25 index cards.
2. Peel off the labels and stick them to cards (question on front, answer on back).
3. Now play the Flashcard Game.

Rules of the Flashcard Game:

1. You need a partner and a deck of flash cards.
2. One student will be the Quizzer and the other will be the Answerer.
3. The Quizzer should shuffle the deck of cards.
4. The Quizzer displays the cards one at a time. If the Answerer gets it right, he/she can *keep* the card. If he/she gets it wrong, the card gets returned to the deck. The game keeps going as long as there are still questions in the deck. The Answerer wins when he/she has *won all the cards*.
5. Then switch roles, so the other person gets to play.

Why is This Game Important?

1. I hope you have fun playing it.
2. You will need to know these skills to learn Lessons 2.4-2.5.
3. You will also have a quiz on these flashcard skills before Lesson 2.4.

Ch.2, #1

Find the missing number:

a). $7∙\left( \overline{ } \right)=91 $

b). $13∙15= \overline{ }$

Ch.2, #1 Answers

a). $7∙\left( \overline{ } \right)=91$

 $\frac{91}{7}= $13, so the answer is **13**

* Check: $7∙\left( \overline{ 13 } \right)=91$

b). $13∙15= \overline{ }$

Multiply them. Answer is **195**

Ch.2 , #2

Find *x*:

a). $4∙384=\overline{ } $

b). $\left( \overline{ } \right)∙4= 384$

Ch.2, #2 Answers

a). $4∙384=\overline{ } $

Multiply them. Answer is **1536**

b). $\left( \overline{ } \right)∙4= 384$

$ \frac{384}{4}= $96, so the answer is **96**

* Check: $\left( \overline{ 96 } \right)∙4=384$

Ch.2, #3

Find *y*:

a). $ 2=16∙y$

b). $ 16=10∙y$

Ch.2 , #3 Answers

a). $2=16∙y $

$\frac{2}{16}= 0.125$, so the answer is **0.125**

* Check: $16∙\left( 0.125 \right)=2$

b). $16=10∙y$

$ \frac{16}{10}=1.6 $, so the answer is **1.6**

* Check: $10∙\left( \overline{1.6 }\right)=16$

Ch.2, #4 No calculator.

Find *g*.

a). $ g=\left(100\right)(45.3)$

b). $\left(29\right)(1000)=g$

Ch.2, #4 Answers No calculator.

a). $g=\left(100\right)(45.3) $

To multiply by 100, just move the decimal 2 places. 45.30

4530.

b). $\left(29\right)\left(1000\right)=g $ Hint: 29 is the same as 29.0

To multiply by 1000, just move the decimal 3 places. 29.0 0 0

29000.

Answer is **4350**

Answer is **29000**

Ch.2, #5

Find *y*:

a). $ 16=2∙y$

b). $ 10=16∙y$

Ch.2 , #5 Answers

a). $16=2∙y $. Hint: 2 times what equals 16?

The answer is **8**

* Check: $2∙8=16$

b). $10=16∙y$

$ \frac{10}{16}=0.625 $, so the answer is **0.625**

* Check: $16∙\left( \overline{0.625 }\right)=10$

Ch.2 , #10 Answers No calculator

 $ \frac{2}{4}=\overline{ ? }$

How many times does **4** go into **2**? But 4 can’t go into 2, because it’s too big! Only half of 4 can go into 2.

 Answer is: **b) 0.5**

Ch.2 , #6

Find *x*:

a). $b∙12= 3$

b). $b=3∙12 $

Ch.2, #6 Answers

a). $b∙12= 3$

$\frac{3}{12}= $0.25, so the answer is **0.25**

* Check: $\left( \overline{ 0.25 } \right)∙12=3$

b). $b=3∙12$

Multiply them. Answer is **36**.

Ch.2, #8 No calculator.

Find *y*.

a). $ 4=100∙( \overline{ } )$

b). $ 100=4∙( \overline{ } )$

Ch.2 , #8 Answers No calculator

a). $ 4=100∙( \overline{ } )$ The answer is $\frac{4}{100}$. How much is that? To divide by 100, move the decimal twice to the left: 4.

b). $100=4∙( \overline{ } )$

Think about it. 4 times what is 100?

The answer is **25**

Ch.2, #9 No calculator.

Find *g*.

a). $ g=\left(55\right)(100)$

b). $\left(g\right)=5.5 ÷100$

Ch.2, #9 Answers No calculator.

a). $g=\left(55\right)(100) $ To multiply by 100, just move the decimal 2 places to the right. Hint: 55 is the same as 55.0

 55.0

5500.

b). $\left(g\right)=5.5 ÷100 $ To divide by 100, just move the decimal 2 places to the left.

5.5

.055

Answer is **5550**

Answer is **.055** (same as **0.055**)

Ch.2, #10 No calculator

Multiple choice:

 $ \frac{2}{4}=\overline{ ? }$

Answer choices:

a) 0.4 b) 0.5 c) 2

Ch.2, #7

Find the missing number:

a). $91∙\left( \overline{ } \right)=7 $

b). $0.82∙100= \overline{ }$

Ch.2, #7 Answers

a). $91∙\left( \overline{ } \right)=7$

 $\frac{7}{91}=0.0769… $, so the answer is **0.077** **(rounded)**

b). $\left(0.82\right)\left(100\right)=\overline{ } $

To multiply by 100, just move the decimal 2 places. 0.8 2

82.

Answer is **82**

.04 The answer is **0.04**

Goes into

Ch.2, #11 No calculator

Multiple choice:

 $ \frac{4}{2}=\overline{ ? }$

Answer choices:

a) 0.4 b) 0.5 c) 2

Ch.2 , #11 Answer No calculator

 $ \frac{4}{2}=\overline{ ? }$

How many times does **2** go into **4**? 2 is small enough to go into 4. It goes twice.

 Answer is: **c) 2**

Ch.2, #12 No calculator

Multiple choice:

 $ \frac{20}{100}=\overline{ ? }$

Answer choices:

a) 0.20 b) 5

Ch.2 , #12 Answer No calculator

 $ \frac{20}{100}=\overline{ ? }$

How many times does **100** go into **20**? But 100 can’t go into 20, because it’s too big! Only a piece of 100 can go into 20.

 Answer is: **a) 0.20**

Ch.2, #13 No calculator

Multiple choice:

 $ \frac{100}{20}=\overline{ ? }$

Answer choices:

a) 0.20 b) 5

Ch.2 , #13 Answer No calculator

 $ \frac{100}{20}=\overline{ ? }$

How many times does **20** go into **100**? 20 is small enough to go into 100. It goes 5 times.

 Answer is: **b) 5**

Ch.2, #14 No calculator

a). Evaluate:

 $ \frac{4}{1}=\overline{ ? }$

b). Evaluate:

 $ \frac{1}{4}=\overline{ ? }$

Ch.2 , #14 Answers No calculator

a). $ \frac{4}{1}=\overline{ ? }$

 1 is small enough to go into 4. It goes 4 times. Answer: **4**

b). $ \frac{1}{4}=\overline{ ? }$

 4 is too big to go into 1. So the answer will be a decimal.

 What decimal is ¼? Answer: **0.25**

Ch.2, #15 No calculator

Multiple choice:

 $ \frac{90}{30}=\overline{ ? }$

Answer choices:

a) 3 b) $0.\overline{3}$

Ch.2 , #15 Answer No calculator

 $ \frac{90}{30}=\overline{ ? }$

30 is small enough to go into 90. It goes 3 times.

Answer is: **a) 3**

Goes into

Goes into

Goes into

Goes into

Goes into

Goes into

Ch.2, #16 No calculator

Multiple choice:

 $ \frac{30}{90}=\overline{ ? }$

Answer choices:

a) 3 b) $0.\overline{3}$

Ch.2 , #16 Answer No calculator

 $ \frac{30}{90}=\overline{ ? }$

How many times does **90** go into **30**? But 90 can’t go into 30, because it’s too big! Only a piece of 90 can go into 30.

Answer is: **b)** $0.\overline{3}$

Answer is: **b)** $0.\overline{3}$

Ch.2, #17 No calculator

Please fill in the blanks:

Fraction Decimal Percent 25%

Ch.2 , #17 No calculator

Fraction Decimal Percent

Ch.2, #18 No calculator

Multiple choice:

 $ \frac{100}{20}=\overline{ ? }$

Answer choices:

a) 0.20 b) 5

Ch.2 , #13 Answers No calculator

 $ \frac{100}{20}=\overline{ ? }$

How many times does **20** go into **100**? 20 is small enough to go into 100. It goes 5 times.

 Answer is: **b) 5**

Goes into

$\frac{25}{100} =\frac{1}{4}$

Reducing the fraction

To divide $25÷100$, move the decimal 2 spaces to the left.

÷ 25

÷ 25

Out of 100

Ch.2, #19

Please fill in the blanks:

Fraction Decimal Percent 8%

$\frac{25}{100}=\frac{1}{4}$ **0.25** 25%

.25

25.

Goes into

Ch.2 , #19

Fraction Decimal Percent

$\frac{8}{100} =\frac{2}{25}$

Reducing the fraction

To divide $8÷100$, move the decimal 2 spaces to the left.

÷ 4

÷ 4

Out of 100

$\frac{8}{100}=\frac{2}{25}$ **0.08** 8%

.08

8.

Ch.2, #20 No calculator

a). Evaluate:

 $ \frac{1}{2}=\overline{ ? }$

b). Evaluate:

 $ \frac{2}{1}=\overline{ ? }$

Ch.2 , #20 Answers No calculator

a). $ \frac{1}{2}=\overline{ ? }$

 2 is too big to go into 1. So the answer will be a decimal.

 What decimal Is ½ ? Answer: **0.5**

b). $ \frac{2}{1}=\overline{ ? }$

1 is small enough to go into 2. It goes 2 times. Answer: **2**

Ch.2, #21

a). If you know a fraction, how do you get the decimal?

b). For example, how do you get the decimal for $\frac{15}{4}$?

Ch.2, #21 Answers

a). If you know a fraction, how do you get the decimal?

**Answer: You divide on calculator (unless you have the answer memorized)**

b). For example, how do you get the decimal for $\frac{5}{4}$?

**Answer: You divide 15 ÷ 4 on a calculator.**

Ch.2 , #22

a). To divide by 100, what do you do?

b). To divide by 1000, what do you do?

c). To multiply by 100, what do you do?

Ch.2, #22 Answers

a). To divide by 100, what do you do?

**Move the decimal 2 places to the left.**

b). To divide by 1000, what do you do?

 **Move the decimal 3 places to the left.**

c). To divide by 1,000,000, what do you do?

 **Move the decimal 2 places to the right.**

Ch.2 , #23 No calculator.

Fraction Decimal Percent

This is the same as $\frac{173}{1000}$, but don’t worry about that if it doesn’t make sense yet.

To do $17.3÷100$, move the decimal 2 spaces to the left.

$\frac{17.3}{100}$ **0.173** 17.3%

.1 7 3

17.3

Ch.2, #23 No calculator.

Please fill in the blanks:

Fraction Decimal Percent 17.3%

Ch.2, #24 No calculator

a). Evaluate:

 $ \frac{1}{4}=\overline{ ? }$

b). Evaluate:

 $ \frac{4}{1}=\overline{ ? }$

Ch.2 , #24 Answers No calculator

a). $ \frac{1}{4}=\overline{ ? }$

4 is too big to go into 1. So the answer will be a decimal.

 What decimal is ¼? Answer: **0.25**

b). $ \frac{4}{1}=\overline{ ? }$

1 is small enough to go into 4. It goes 4 times. Answer: **4**

Ch.2 , #25

Fraction Decimal Percent

$\frac{75}{100} =\frac{3}{4}$

Reducing the fraction

To do $75÷100$, move the decimal 2 spaces to the left.

÷ 25

÷ 25

Out of 100

$\frac{75}{100}=\frac{3}{4}$ **0.75** 75%

.75

7 5.

Ch.2, #25 No calculator.

Please fill in the blanks:

Fraction Decimal Percent 75%