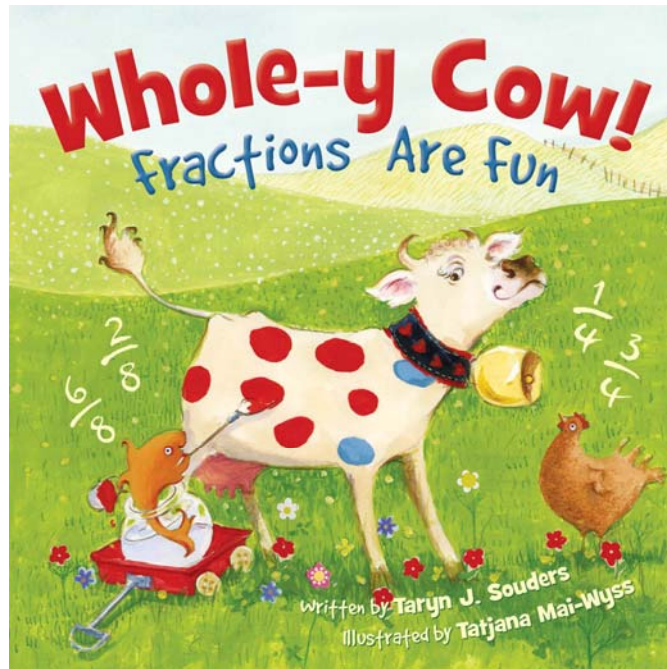


Teacher's Guide



Whole-y Cow! Fractions Are Fun

Author: Taryn J. Souders

Illustrator: Tatjana Mai-Wyss

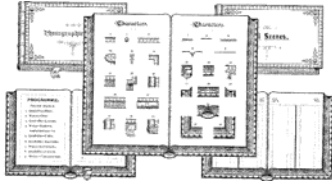
Guide written by Jillian Hume

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Published by

Sleeping Bear Press
315 E. Eisenhower Parkway, Suite 200
Ann Arbor, MI 48108
800-487-2323

www.sleepingbearpress.com



Getting to Know the Book

Whole-y Cow!



There are many parts to a book other than the story, and they are just as important as the story! Use the title page to answer questions 1-7.

1. Who is the author of *Whole-y Cow*? _____
2. Who is the illustrator of *Whole-y Cow*? _____
3. Where is Sleeping Bear Press, the publisher of this book, located? _____
4. True or false: This is the third edition of this book. _____
5. The International Standard Book Number (ISBN) of a book is like a license plate for a book. The numbers tell the country it was published in, who published it, and the edition. What is the ISBN of *Whole-y Cow*?
_____ - ____ - _____ - _____ - ____
6. Who did Tatjana Mai-Wyss dedicate this book to? _____
7. Can any part of this book be reproduced without writing and asking for permission? _____

The dust jacket or dust cover of a book is a detachable outer cover that is used to protect the book. It has flaps that fold around the actual front cover and back cover of the book to hold it in place. On the dust jacket of *Whole-y Cow*, there is an author and illustrator biography printed on these flaps. If the dust jacket is still on the book, read about Taryn Souders and Tatjana Mai-Wyss and answer the three questions below.

8. How many children does Taryn Souders have? _____
9. What is Tatjana Mai-Wyss' dog's name? _____
10. Do Taryn Souders and Tatjana Mai-Wyss live in the same state? _____

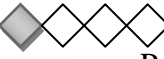



Pretend that you are either an author or illustrator of a book. Write a short biography like Taryn and Tatjana's. Each of them is five sentences long. Challenge yourself to make yours exactly five sentences as well.

What are Fractions?

Whole-Y Cow!

Fractions are very useful numbers. They are for counting parts of a whole or parts of a group. In the story *Whole-y Cow* both types of fractions can be found. When the cow is painted half blue, they are painting part of a whole. While two scoops of ice cream are Fudge Ripple, and three scoops are Mint Dream, that is counting part of a group.

Determine if the pictures below are counting parts of a whole, or parts of a group.

<p>1.  Part of a _____</p> <p>3.  Part of a _____</p>	<p>2.  Part of a _____</p> <p>4.  Part of a _____</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

What are those numbers called anyway?

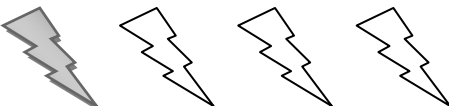
The bottom number is called the denominator. That tells the number of parts in the whole or group. The top number is called the numerator. That number tells how many parts are showing.

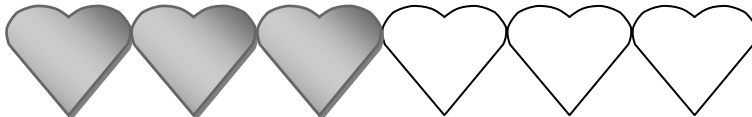
$\frac{2}{3}$ numerator
 denominator



How many parts are shaded? _____ numerator
 How many parts are there total? _____ denominator

5.  How many parts are shaded? _____
 How many parts are there total? _____

6.  How many parts are shaded? _____
 How many parts in the group? _____

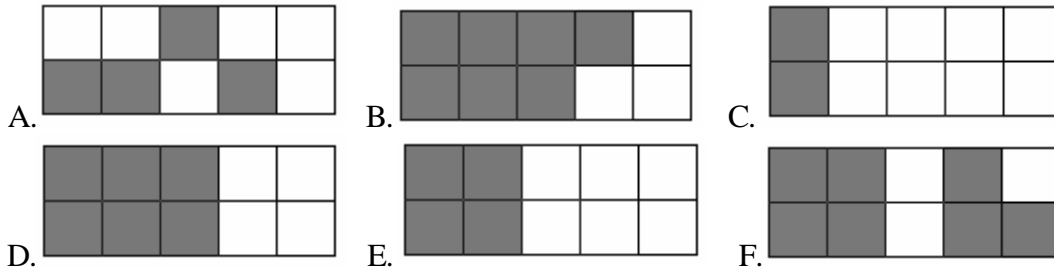
7.  How many parts are shaded? _____
 How many parts in the group? _____

Fractions: Parts of a Whole

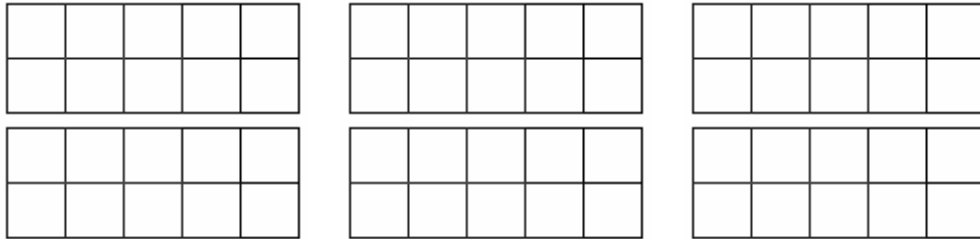
Whole-y Cow!

In the story *Whole-y Cow*, when the cow is wearing his patriotic swimsuit, it is one object that is different colors. This is a “part of a whole” fraction. Below are more “parts of a whole” fraction problems, see if you can get them all right!

1. Circle the two pictures that show $\frac{4}{10}$?



2. Shade the diagrams below so that they all show $\frac{6}{10}$.



3. Match each of the fractions with the correct picture.



$\frac{1}{3}$

$\frac{1}{2}$

$\frac{3}{5}$

$\frac{1}{4}$

Fractions: Parts of a Group

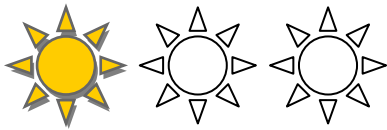
Whole-e Cow!

In the story *Whole-y Cow*, the daisies that the cow is eating while playing the cello is part of a group. This sheet has many different fraction problems that are all “parts of a group” problems. What fraction of the group is shaded? Some can be tricky, so take your time!

1.



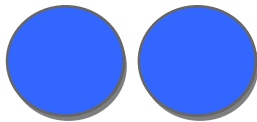
2.



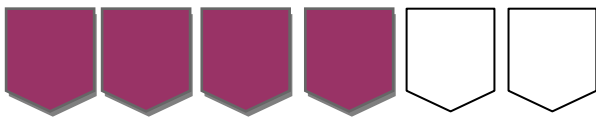
3.



4.



5.

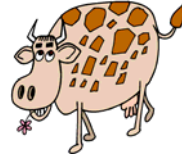


6.

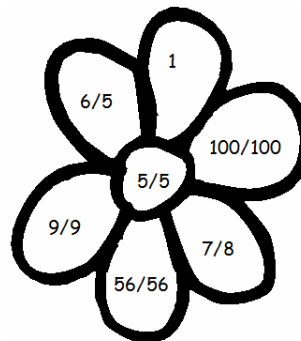
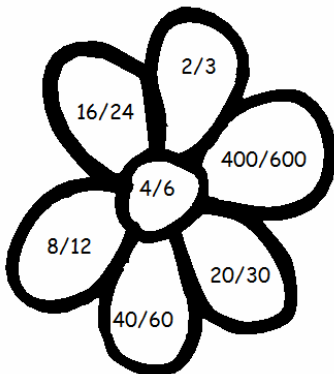
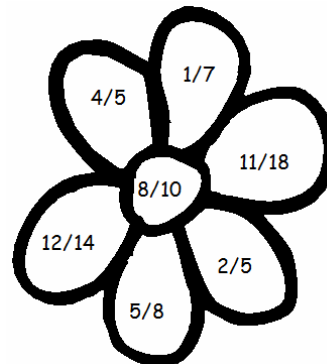
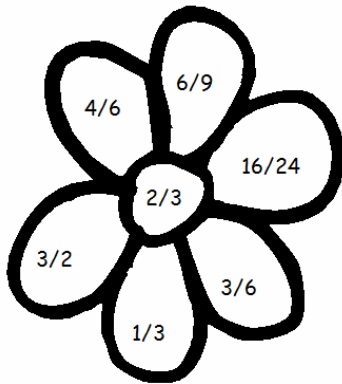
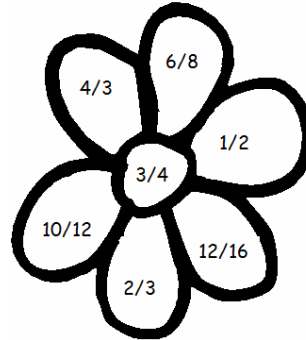
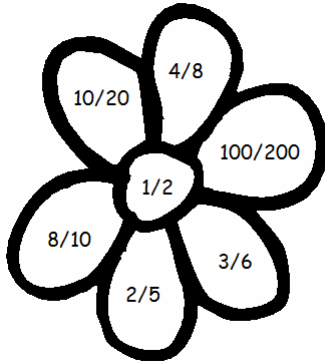


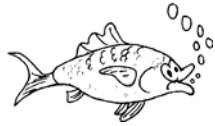
Daisy Fractions

Whole-y Cow!



In the center of the daisy, there is a fraction. Color in the petals that have a fraction that is equivalent to the one in the center..





Animal Sort

Whole-y Cow!



In the story *Whole-y Cow* there are many animals pictured. Below is a chart with four different ways to classify the animals found in the book. In each box below write characteristics of the animal category. Then, use the animals listed in the box at the top of the chart and place them into the right category.

Sheep Cow Chicken Swan Mouse Bee Cat Butterfly Goldfish Duck

	Characteristics	Animals from the book
Amphibian		
Fish		
Mammal		
Bird		
Insect		
Reptile		



Landforms

Whole-y Cow!



In the story *Whole-y Cow* there are many landforms and landscapes to notice. By learning and understanding concepts in art, you can paint a beautiful landscape as well! A landscape painting is the painting of a natural scene with one single viewpoint. With a crayon, draw the foreground, middle ground, background, and the horizon line.

Important Vocabulary:

Middle ground: area of the picture that is farther away from the foreground and closer to the background.

Foreground: area of a picture that appears to be the closest to the viewer.

Horizon line: the imaginary line that divides the sky and the ground.

Background: area of the picture that is behind most of the objects in the picture.

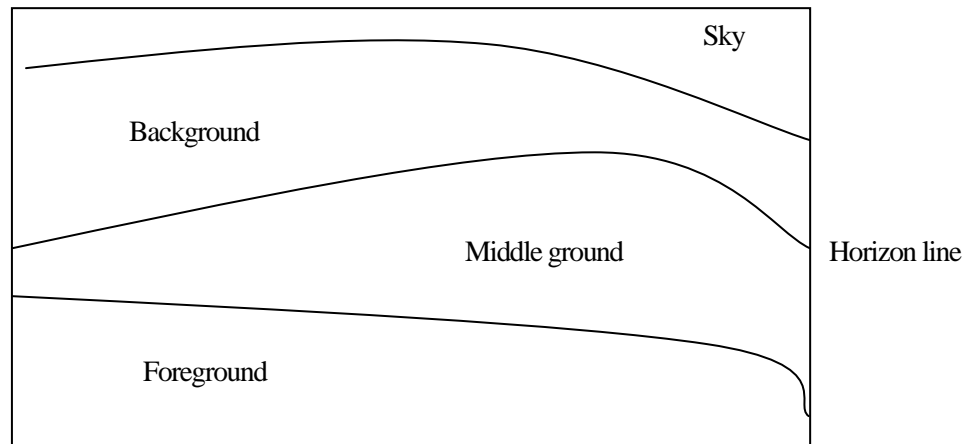
Materials:

Crayons

Tempera paint

Brushes

White paper



1. Use the example above to create a foreground, middle ground, and background with crayons. The crayon wax creates a barrier for the paint, so make sure to draw thick lines.
2. Use different colors paint for the foreground, the middle ground, the background, and the sky.
3. Once the paint has dried completely, use magazines to cut out pictures of objects that would be in the landscape that was created.

Musical Math

Whole-y Cow!

Fractions are found everywhere, even in music!
Match the fraction with the correct music note.



_____ 1. Quarter Note

_____ 2. Half Note

_____ 3. Whole Note

_____ 4. Eighth Note

_____ 5. Quarter Rest

_____ 6. Whole Rest

_____ 7. Eighth Rest

_____ 8. Half Rest

c.



g.



d.



f.



b.



h.



e.



a.



Cash Cow

Whole-y Cow!

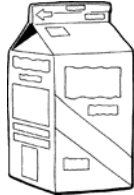
Animals like those pictured in *Whole-y Cow* give us many goods that we live with. We use cow's milk, sheep's wool, chicken's eggs, and duck feathers. Use the price chart below to answer the questions.

25 cents



EGG

45 cents



MILK

75 cents



WOOL

60 cents



FEATHER

1. You buy an egg and milk with 75 cents. How much change will you get back? _____

2. What coins will you get back? _____

3. Can you buy feathers and milk with \$1? _____

4. If yes, will you get change? If no, how much more do you need? _____

5. Give an example of what you can buy with \$2. _____

6. If you buy an egg, milk, wool, and feathers, you can get a discount of 15 cents.

How much would it cost you to buy all four items? _____

7. If you buy an egg and feathers with \$1, how much change will you get? _____

8. If you buy wool and feathers, how much money will you need? _____

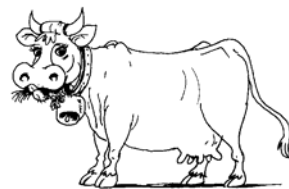
9. How much would it cost to get a dozen eggs? _____

10. Make a list of the items that you would buy with \$4. Try to use all of the money, without going over.

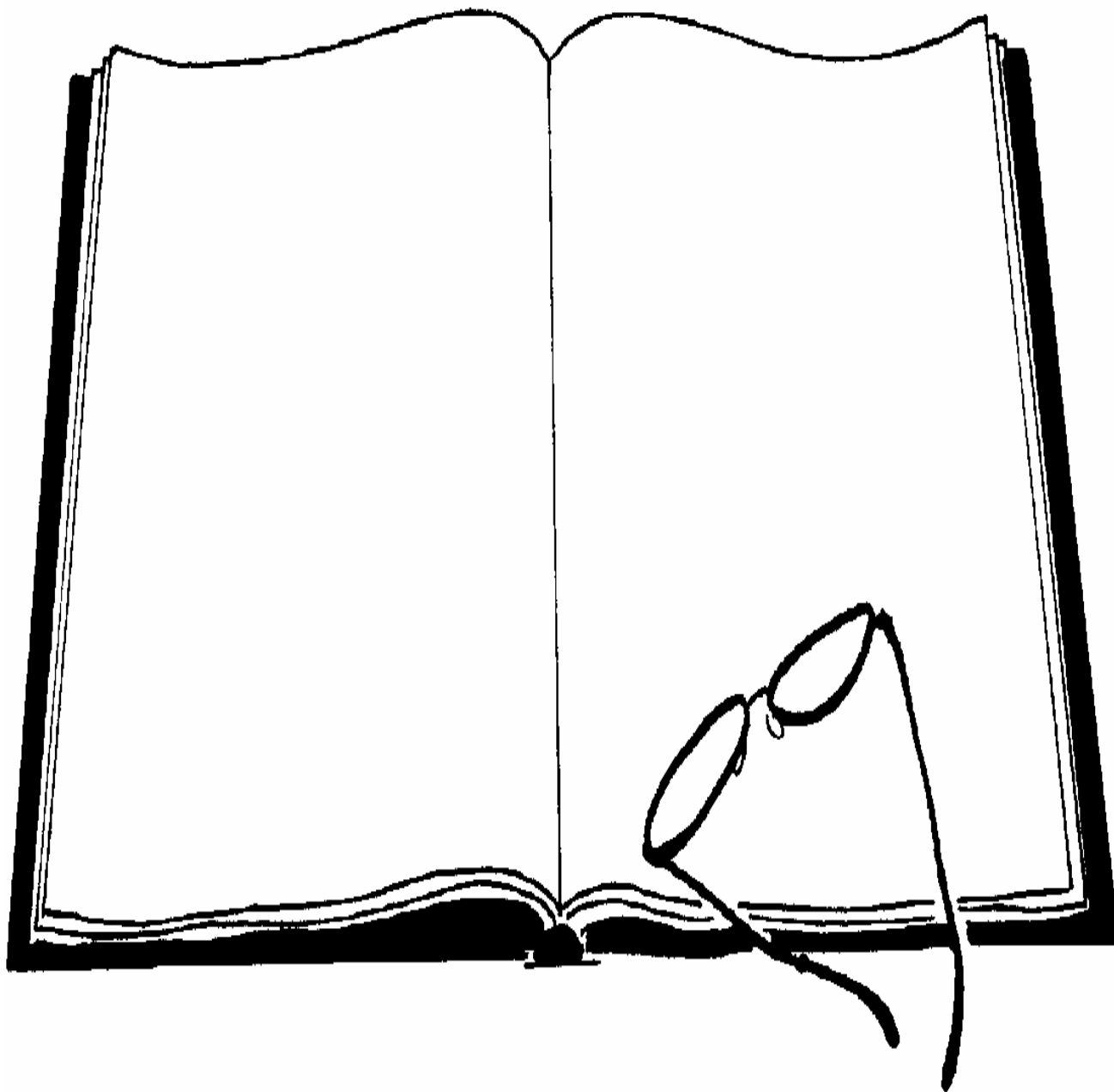


Add a Page to the Book

Whole-y Cow!



In the story *Whole-y Cow* there is a pattern that remains the same throughout the book. Each page starts with the phrase “One whole cow.” Each page also has a rhyme about fractions! Use this pattern to create a new page for the book. When you have finished writing about the whole cow, be sure to illustrate it with a fun drawing, and add color.



Fraction Quilt
Whole-y Cow!

We can find fractions in everyday life. In the story *Whole-y Cow*, while balancing on a peg, the whole cow hurt one leg. While resting, he is wrapped in a quilt. Follow the directions below to create a quilt pattern! See how many different patterns your class can come up with by just following the directions below. There is more than one right way to complete each step.

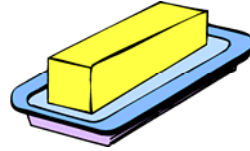
1. Divide the square into four equal parts, but each fourth can NOT be a triangle.
2. Divide one of the fourths into 4 equal parts.
Each of these four squares is now $\frac{1}{16}$ of the quilt. Color each $\frac{1}{16}$ th a different color.
3. Divide another of the fourths into 3 equal parts.
Each of these 3 squares is now $\frac{1}{12}$ of the quilt.
Make $\frac{1}{12}$ polka dots
Make $\frac{1}{12}$ stripes
Make $\frac{1}{12}$ a solid color
4. Color one of the fourths of the quilt a solid color.
5. Divide the last of the fourths into 8 equal parts.
Each of these 8 parts is $\frac{1}{24}$ of the entire quilt
Create a unique pattern in each of the 8 parts that you just created.
6. Display your unique work of art and compare them with others'. Do they look different? Are they all correct according to the directions?





Chocolate Chip Cookies

Whole-y Cow!



If the whole cow from the story *Whole-y Cow* would have made chocolate chip cookies, the recipe would need to be doubled to feed all of the animal friends! On the left is the original recipe, and on the right is room for you to double the recipe for everyone! Take your time and make sure that the fractions don't confuse you. Enjoy!

Ingredients

5 Dozen Cookies

- 2 1/4 cups all-purpose flour
- 1 teaspoon baking soda
- 1 teaspoon salt
- 1 cup butter or margarine, softened
- 3/4 cup granulated sugar
- 3/4 cup packed brown sugar
- 1 teaspoon vanilla extract
- 2 large eggs
- 1 (12 ounce) package semi-sweet chocolate morsels

10 Dozen Cookies

Directions



1. Preheat oven to 375 degrees F.
2. Combine flour, baking soda, and salt in small bowl.
3. Beat butter, granulated sugar, brown sugar, and vanilla extract in large mixer bowl until creamy.
4. Add eggs one at a time, beating well after each addition.
5. Gradually beat in flour mixture.
6. Stir in chocolate chip morsels.
7. Drop by rounded tablespoon onto ungreased baking sheets.
8. Bake for 9 to 11 minutes or until golden brown.
9. Cool on baking sheets for 2 minutes; remove to wire racks to cool completely.



Create Your Flag



Whole-y Cow!

In the book *Whole-y Cow* the whole cow wore a swimsuit that was red, white, and blue, showing patriotism. The flag of the United States of America represents the 50 states by using the 50 stars, and the original 13 colonies by using 13 stripes. The white represents purity and innocence, the red represents valor and bravery, and the blue represents vigilance, justice, and perseverance.

Create a flag that would best represent you. Use at least three colors and some sort of pattern to represent things such as your culture, hobbies, family, and YOU!

Below the flag, write what each color and symbol represent that you have included in your flag.



Silly Synonyms and Amazing Antonyms



Whole-y Cow!

Synonyms and antonyms can make a story more interesting. In the story *Whole-y Cow*, Taryn Souders uses the word “klutzy” to describe the whole cow. She could have easily used the synonym clumsy, or an antonym phrase such as “not so graceful.” By using the word klutzy, the poetic line flows.

Synonyms are words that have similar meanings. Antonyms are words that mean the opposite of each other. In the left-hand column is a word that is given to you. In the middle column, write a synonym, and in the right-hand column, write an antonym.

<u>Original Word</u>	<u>Synonym</u>	<u>Antonym</u>
Cold	_____	_____
Happy	_____	_____
Free	_____	_____
Rough	_____	_____
Correct	_____	_____
Frustrated	_____	_____
Awkward	_____	_____
Long	_____	_____
Light	_____	_____
Exciting	_____	_____
Sweet	_____	_____
Sharp	_____	_____
Fun	_____	_____
Smooth	_____	_____
Short	_____	_____
Loud	_____	_____
Grateful	_____	_____
Wet	_____	_____
Float	_____	_____



Sports Center

Whole-y Cow!



There are many examples of fractions in sports. Some fraction problems can be tricky. Read each question very carefully. Reduce your answer to the lower fraction if possible. Don't forget that your answers must be in fraction form!

1. The Yellow Dolphins baseball team played 7 of 9 innings before getting rained out. What fraction of the game were they unable to play? _____
2. The Red Rockets football team needs 11 players on the field to begin playing, but two of them are still on the sideline, drinking water. What fraction of the players are on the field and ready to play? _____
3. The Blue Bird hockey team has 4 minutes left to play of a 20 minute period. What fraction of the period do they still have left to play? _____
4. The Orange Racers tennis team started practice with 100 tennis balls. They have hit 25 balls over the fence. What fraction of the tennis balls are left on the court to practice with? _____
5. Gina paid for 18 holes of golf; stopped to eat lunch after playing 9 holes of golf. What fraction does she have left to play? _____
6. Most soccer balls have 32 panels on them. There are 12 black and 20 white panels. What fraction of the soccer ball is black? _____
7. Adam makes 4 free throws out of 6 attempts. What fraction of the free throws did he make? _____
8. During a volleyball match, Amanda served the ball 10 times. Of those 10 times, 7 cleared the net. What fraction did not clear the net? _____
9. If 10 water bottles are sitting on the bench and 3 players come up and take theirs, what fraction of the water bottles are left? _____
10. Jeff ran $\frac{4}{9}$ of a mile. What fraction of the mile does he have left? _____



Acrostic Poetry

Whole-y Cow!



The story *Whole-y Cow* is a great poem to learn about fractions. Acrostic poems are another type of poetry, and don't need to rhyme. An acrostic poem uses letters in a topic word, such as fractions, to begin each line. Each line should relate to the topic word. Challenge yourself to write an acrostic poem about fractions. Share the poem you write with your classmates and friends.

F

R

A

C

T

I

O

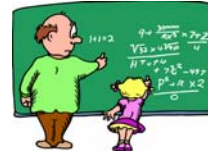
N

S



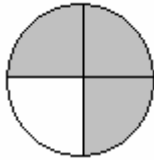
Fraction Memory

Whole-y Cow!



There are three ways to imagine fractions.

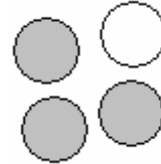
A partially filled area or volume



A linear measurement



A part of a given set



Each of these examples show the fraction $\frac{3}{4}$.

Cut out the cards below. Lay them all face down.

Player 1 turns over two cards to see if they are equivalent fractions.

If they match, the player keeps the two cards, and turns 2 more over and continues until the cards don't match.

If they don't match, the player turns the two cards back over, and it is now player 2's turn to follow the same pattern.

The player with the most cards at the end of the game is the winner.

			1
			$\frac{1}{4}$
			$\frac{1}{2}$
			$\frac{3}{4}$

Answer Key

Getting to Know the Book 1. Taryn Souders 2. Tatjana Mai-Wyss 3. Ann Arbor, MI 4. False 5. 978-1-58536-460-2 6. Louisa 7. No 8. 3 9. Coco 10. No

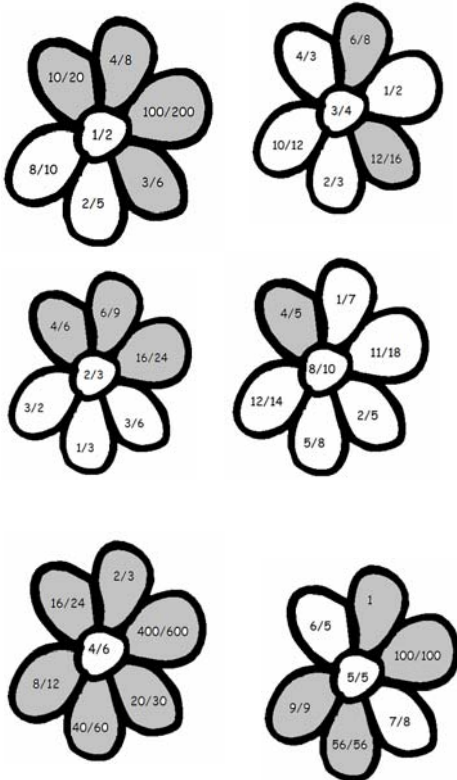
What are Fractions? 1. Group 2. Whole 3. Whole 4. Group 5. $\frac{3}{5}$ 6. $\frac{1}{4}$ 7. $\frac{3}{6}$

Fractions: Parts of a Whole: 1. A, E 2. Answers vary 3. Left to right: $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{3}{5}$

Fractions: Parts of a Group: 1. $\frac{2}{5}$ 2. $\frac{1}{3}$ 3. $\frac{3}{4}$ 4. $\frac{2}{2}$ 5. $\frac{4}{6}$ 6. $\frac{3}{5}$

Animal Sort: Amphibian: [Cold blooded, live on water and land] None Fish: [] Goldfish Mammal: [] Cow, Mouse, Cat, Sheep Bird: [] Swan, Duck, Chicken Insect: [] Bee, Butterfly Reptile: [] None

Daisy Fractions:



Musical Math: 1.a 2.f 3.g 4.c 5.e 6.d 7.b 8.h

Cash Cow: 1. 5 cents 2. Nickel 3. No 4. 5 cents 5. Answers will vary 6. \$1.90 7. 15 cents 8. 1.35 9. \$3 10. Answers will vary

Find the Secret Word: Patriotic

Chocolate Chip Cookies: 1. $4\frac{1}{2}$ 2. 2 3. 2 4. 2 5. $1\frac{1}{2}$ 6. $1\frac{1}{2}$ 7. 2 8. 4 9. 2 or 24 oz

Sports Center: 1. $\frac{2}{9}$ 2. $\frac{9}{11}$ 3. $\frac{4}{20} = \frac{2}{10} = \frac{1}{5}$ 4. $\frac{75}{100} = \frac{3}{4}$ 5. $\frac{9}{18} = \frac{1}{2}$ 6. $\frac{12}{32} = \frac{6}{16} = \frac{3}{8}$ 7. $\frac{4}{6} = \frac{2}{3}$ 8. $\frac{3}{10}$ 9. $\frac{7}{10}$ 10. $\frac{5}{9}$