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CELEBRATE BASIC MATHS SKILLS

Basic does not mean boring! There certainly is nothing dull about using fascinating sports situations or common and decimal fractions to . . .

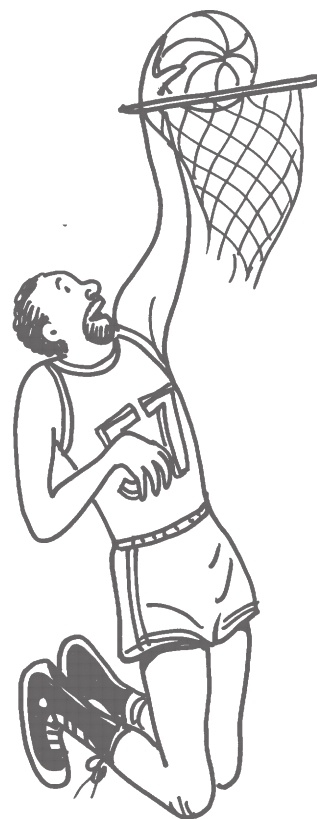
- . . . get to know who's who in the TOP 10 lists of medal-winning athletes
- . . . find out which bobsleds in the Olympics are longest, lightest, and fastest
- . . . unravel mystery quotes by great athletes
- . . . calculate greatest sports accomplishments, injuries, disasters, and winners
- . . . help athletes and adventurers pack their backpacks, reduce their weight, or paddle a canoe
- . . . avoid disaster on a mountain-climbing or cave-exploring expedition
- . . . figure out how much hikers will eat around the campfire
- . . . predict which cars will crash at a stock car race
- . . . track speeds of swimmers, runners, skiers, and even elevators
- . . . solve problems with sled dogs, race horses, scuba divers, and athletes' salaries

The idea of celebrating the basics is just what it sounds like—enjoying and improving the basic skills for solving maths problems. The pages that follow are full of exercises for students that will help to review and strengthen specific, basic skills in the content area of maths. This is not just another ordinary 'fill-in-the-blanks' way to learn. The high-interest activities will put students to work applying a rich variety of skills related to common and decimal fractions as they enjoy fun, challenging adventures with numbers, ideas, and sports-related dilemmas.

The pages in this book can be used in many ways:

- by individual students to sharpen a particular skill
- with a small group needing to relearn or strengthen a skill
- as an instructional tool for teaching a skill to any size group
- by students working on their own
- by students working under the direction of an adult

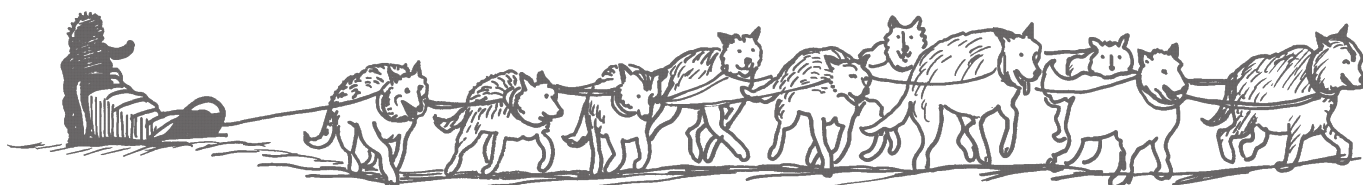
Each page may be used to introduce a new skill, reinforce a skill, or assess a student's performance of a skill. As students take on the challenges of these adventures with problems, they will grow in their mastery of basic skills and will enjoy learning to the fullest. And as you watch them check off the basic common and decimal fraction skills they've strengthened, you can celebrate with them!



IT'S A DOG'S LIFE

The International Sled Dog Racing Association calls dogsledding the “world’s fastest growing winter sport.” Dog teams generally consist of 14 dogs, but can include as many as 20 dogs. Not every dog on the team is a husky. Many other breeds are used. Labradors, hounds, Irish setters, Alaskan malamutes, and non-purebred mixes are popular choices. Examine the dog teams below and answer the following questions.

Dog Team 1	Dog Team 2	Dog Team 3	Dog Team 4	Dog Team 5
4 Labradors	1 Labrador	8 Labradors	2 Labradors	1 Labrador
4 Alaskan malamutes	3 Alaskan malamutes	4 Alaskan malamutes	10 Alaskan malamutes	4 Alaskan malamutes
1 hound	1 hound	1 hound	2 huskies	2 huskies
1 Irish setter	2 Irish setters	1 Irish setter		5 non-purebred mixes
2 huskies	3 huskies			
2 non-purebred mixes	4 non-purebred mixes			



- Team 1 has 14 dogs. Write a fraction that represents the ratio of the number of Labradors to the number of dogs on the whole team. _____
- Team 1 has 14 dogs. Write a fraction that represents the number of Alaskan malamutes and huskies compared to the number of dogs on the whole team. _____
- Team 2 has 14 dogs. Write a fraction that compares the number of Irish setters and huskies to the number of dogs on the whole team. _____
- Team 2 has 14 dogs. Write a fraction that compares the number of huskies to the number of dogs on the whole team. _____
- Team 3 has 14 dogs. Write a fraction that compares the number of Labradors and Alaskan malamutes to the number of dogs on the whole team. _____
- In Teams 4 and 5 there are 26 dogs. Write a fraction that compares the number of Alaskan malamutes in both teams to the total number of dogs in both teams. _____
- The number of dogs on all teams combined is 68. Complete the chart below to show how many of each breed are on the teams. Write a fraction for each breed.

Type of dog	Labrador	Alaskan malamute	Hound	Irish setter	Husky	Non-purebred
Fraction ($\frac{\text{Number in That Breed}}{\text{Total Number of Dogs}}$)						

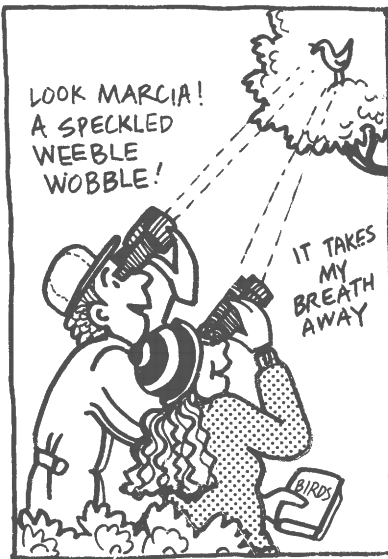
Name _____

BIRDS THAT COUNT

Marcia and Bradley helped with the Audubon Society's bird-counting project. They volunteered to be on a team that made the semiannual count of birds at the Municipal Park. After returning to the park shelter a tabulation was made of all the birds that were sighted and the following statistics were compiled.

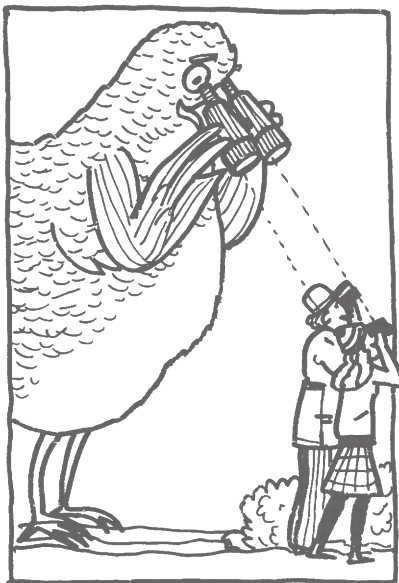
Example: Of the 1240 total birds sighted, 36 were cardinals. $\frac{36}{1240} = .029 = 2.9\%$

1. The decimal values in the chart below were found by dividing the count by 1240 which represents the total birds sighted this year. Find the equivalent percentage of each.



Name of bird	Count	Decimal Value	Percentage
a. Seagull	556	0.448	_____
b. Starling	97	0.078	_____
c. Honeyeater	36	0.029	2.9%
d. Bluebird	11	0.009	_____
e. Wren	74	0.060	_____
f. Magpie	68	0.055	_____
g. Sparrow	53	0.043	_____
h. Finch	81	0.065	_____
i. Woodpecker	51	0.041	_____
j. Rosella	20	0.016	_____
k. Cockatoo	35	0.028	_____
l. Other birds	158	0.128	_____

2. The chart below shows the counts from this year and last year, and the percentage change that occurred for each category. Use the percentage change to find an equivalent decimal value.



Name of bird	Count this year	Count last year	Percentage change	Decimal value
a. Seagull	556	524	6.1%	0.061
b. Starling	97	84	15.5%	_____
c. Honeyeater	36	42	14.3%	_____
d. Bluebird	11	50	78.0%	_____
e. Wren	74	82	9.8%	_____
f. Magpie	68	75	9.3%	_____
g. Sparrow	53	66	19.7%	_____
h. Finch	81	78	3.8%	_____
i. Woodpecker	51	71	28.2%	_____
j. Rosella	20	39	48.7%	_____
k. Cockatoo	35	47	25.5%	_____
l. Other birds	158	103	53.4%	_____

Name _____

A MATTER OF SECONDS

In sporting events such as running, seconds—even fractions of seconds—make all the difference. Races are won or lost by tenths, hundredths, or thousandths of seconds. So decimals really matter. Here are some facts about winning times in the 1996 Summer Olympic Games. Use these facts to answer the questions below.



Donovan Bailey of Canada won the men's 100-metre race in 9.84 seconds.
 Gail Devers of the U.S. won the women's 100-metre race in 10.94 seconds.
 Michael Johnson of the U.S. won the men's 200-metre race in 19.32 seconds.
 Marie-Jose Percic of France won the women's 200-metre race in 22.12 seconds.
 Michael Johnson of the U.S. won the men's 400-metre race in 43.49 seconds.
 Marie-Jose Percic of France won the women's 400-metre race in 48.25 seconds.
 The Canadian team won the men's 400-metre relay race in 37.69 seconds.
 The U.S. team won the women's 400-metre relay race in 41.95 seconds.
 Allen Johnson of the U.S. won the men's 110-metre hurdle race in 12.95 seconds.
 Ludmila Enquist of Sweden won the women's 100-metre hurdle race in 12.58 seconds.
 Derrick Adkins of the U.S. won the men's 400-metre hurdle race in 47.95 seconds.
 Deon Hemmings of Jamaica won the women's 400-metre hurdle race in 52.82 seconds.

- _____ 1. What is the difference between the winning time of the men's and women's 400-m hurdles?
- _____ 2. How much longer did Michael Johnson run for the 400 m than the 200 m?
- _____ 3. How much longer did it take Ludmila to run the 100-m hurdles than it took Gail Devers to run the 100-m race?
- _____ 4. How long did all the hurdlers run, total?
- _____ 5. How much faster was the Canadian men's relay team than the U.S. women's relay team?
- _____ 6. How much shorter was Donovan Bailey's run than Derrick Adkins' hurdle race?
- _____ 7. How much longer did the slowest hurdle race take than the fastest?
- _____ 8. How much faster did Marie-Jose run the 200 m than the 400 m?
- _____ 9. Find the difference between the fastest of all the 400-m races and the slowest.
- _____ 10. How long did all the women run, total?

Name _____