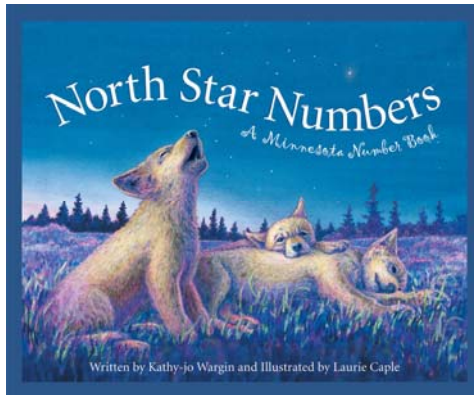


# Teacher's Guide



## North Star Numbers: A Minnesota Number Book

Author: Kathy-jo Wargin

Illustrator: Laurie Caple

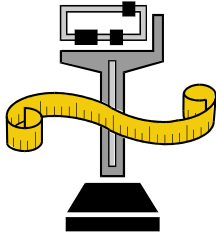
Guide written by Cheryl Grinn

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## WHAT DO THEY WEIGH?

Animals on earth come in all shapes and sizes. Discover some of the animals that are found in Minnesota in *North Star Numbers*.

Use the word box to put the correct weight with each animal.

**28-44 ounces**

**100-300 pounds**

**70-100 pounds**

**20-30 pounds**

**less than one ounce**

1. timber wolf \_\_\_\_\_

2. river otter \_\_\_\_\_

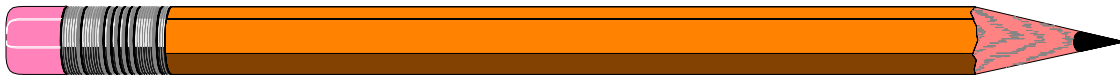
3. black bear \_\_\_\_\_

4. herring gull \_\_\_\_\_

5. monarch butterfly \_\_\_\_\_

Which animal is your favorite? \_\_\_\_\_

Which animal has a weight closest to yours? \_\_\_\_\_



# MINNESOTA CROSSWORD

All of the answers you will need to solve this crossword can be found throughout the pages of *North Star Numbers*.

1. M \_\_\_\_\_

2. I \_\_\_\_\_

3. N \_\_\_\_\_

4. N \_\_\_\_\_

5. E \_\_\_\_\_

6. S \_\_\_\_\_

7. O \_\_\_\_\_

8. T \_\_\_\_\_

9. A \_\_\_\_\_

1. yummy blueberry \_\_\_\_\_

2. hockey is played on \_\_\_\_\_

3. black bears like to eat \_\_\_\_\_

4. \_\_\_\_\_ America

5. food for herring gulls \_\_\_\_\_

6. type of tree \_\_\_\_\_

7. it's fun to watch the river \_\_\_\_\_

8. Sioux word for great \_\_\_\_\_

9. an \_\_\_\_\_ black bear can weigh 300 pounds

# River Otter and Timber Wolf

## Venn Diagram

The river otter and the timber wolf are both animals that are abundant in Minnesota. Learn about these two animals in *North Star Numbers*.

Make a Venn diagram comparing the two animals.

Use the word box at the bottom of the page to help you.

River Otter

both

Timber Wolf

<b>mammal</b>	<b>lives in forest</b>	<b>predator</b>	<b>weighs 20-30 pounds</b>
<b>howls</b>	<b>sleek glossy coat</b>	<b>70-100 pounds</b>	<b>bushy tail</b>
<b>lives by water</b>	<b>playful</b>	<b>lives in a pack</b>	<b>4 feet long</b>
<b>carnivore</b>			



## Mushroom Math

Morel mushrooms grow abundantly in the fields and forests of Minnesota. Find out why these mushrooms are special in *North Star Numbers*.

### Solve

1. Jasmine and Jeffrey went mushroom hunting. Jasmine found 13 morels and Jeffrey found 8. How many more morels did Jasmine find? \_\_\_\_\_

2. One scout troop went on a mushroom hunting adventure. There were 8 scouts at the hunt. The group collected 96 mushrooms. What was the average number of mushroom collected per scout? \_\_\_\_\_

3. The P.T.A. sponsored a spaghetti dinner. They needed 15 pounds of mushrooms for the sauce. Assuming 20 mushrooms per pound, how many mushrooms did they need? \_\_\_\_\_

4. There are 16 ounces in one pound. How many ounces are in 15 pounds?  
\_\_\_\_\_

5. The spaghetti dinner fed 250 people. If each person ate  $\frac{1}{4}$  pound of spaghetti, how many total pounds were eaten? \_\_\_\_\_



## TREES, TREES, AND MORE TREES!

The Superior National Forest in Minnesota contains many different species of trees. *North Star Numbers* contains information about this wonderful area.

Put the trees from the box in alphabetical order.

<b>paper birch</b>	<b>red pine</b>	<b>balsam fir</b>	<b>sugar maple</b>
<b>blue spruce</b>	<b>eastern white pine</b>		
<b>Douglas fir</b>	<b>white spruce</b>		

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_



## Complete Metamorphosis of the Monarch Butterfly

*North Star Numbers* describes the movement of monarch butterflies from Minnesota to warmer climates. The monarch butterfly's life cycle is a complete metamorphosis. A metamorphosis is a biological process by which insects develop after hatching.

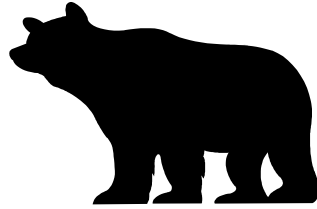
Below are the steps in the life cycle of a monarch butterfly.  
Draw and label each step of the butterfly in correct order.  
Eggs, adult, caterpillar, chrysalis.

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## THE TRUTH ABOUT BLACK BEARS

Have you ever been hiking in the woods and seen a black bear? Do you think you'd be excited or frightened if you saw one? How you think the bear might feel? *North Star Numbers* has many facts about the black bear on page 80.

Circle the statements that are true about the black bear.

<b>can grow to seven feet tall</b>	<b>can be brown</b>
<b>eats squirrels</b>	<b>turns white in winter</b>
<b>eats fish</b>	<b>likes to be around humans</b>
<b>can weigh 300 pounds</b>	
	<b>mostly in N. Minnesota</b>

Draw a cartoon using a black bear.



# Fishing, Hiking, Swimming?

## Survey and Graph

Minnesota is a wonderful state to enjoy the great outdoors. You can find wonderful outdoor activities in every season. Discover Minnesota and all it has to offer in the wonderful book *North Star Numbers*.

Survey 35 children and adults to find which of the following is their favorite activity.

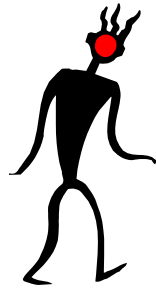
**Fishing**

**Hiking**

**Swimming**

Make a pictograph showing the data you collected.

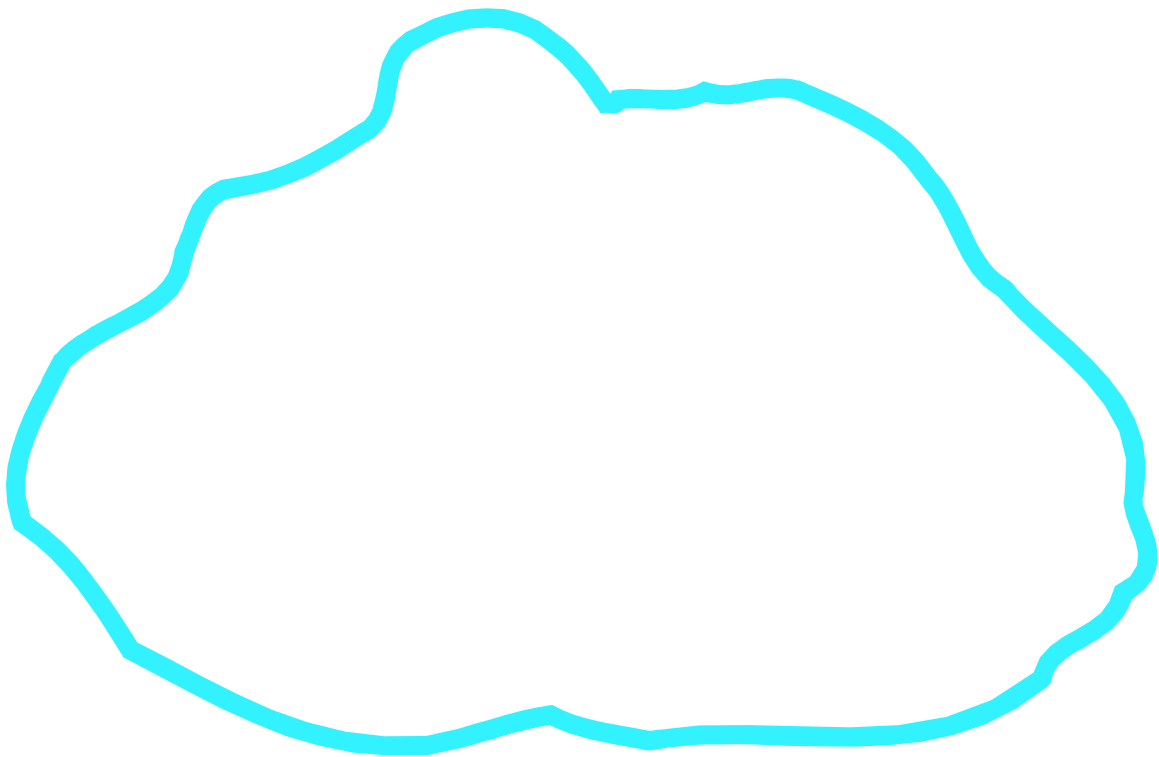
A pictograph uses a picture to represent the data.



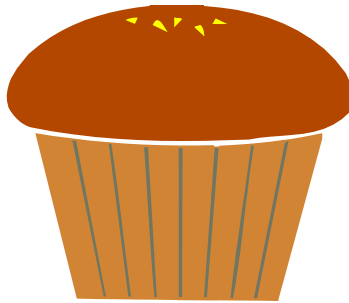
## PETROGLYPH STORY

A petroglyph is an image carved into rock. Ancient Indians used petroglyphs to tell stories and record important events. Learn about the Petroglyph State Historic Site in *North Star Numbers*.

Choose an important event in your life and make petroglyphs to tell your story.



Write your story on the back of this sheet.



## Blueberry Muffin Recipe

The blueberry muffin is the official state muffin of Minnesota. Find out why this was a good choice in *North Star Numbers*.

Enjoy making and eating these blueberry muffins.

### Ingredients

$\frac{3}{4}$  cup sugar  
6 T butter  
 $\frac{1}{2}$  cup milk  
1 t vanilla extract  
2 eggs  
2 cups all purpose flour  
1 T baking powder  
 $\frac{1}{4}$  t salt  
2 cups blueberries

### Directions

1. Preheat oven to 375 degrees.
2. Line 12 muffin cups with paper liners.
3. Cream butter and sugar in a large mixing bowl.
4. Stir in eggs, milk, and vanilla extract.
5. Sift baking powder, salt, and flour in a separate bowl.
6. Combine mixtures into large bowl.
7. Add blueberries and gently stir.
8. Pour batter into lined muffin tins.
9. Bake for 25 minutes.
10. Let cool and ENJOY!





# North Star Numbers

## Answer Key

**What Do They Weigh-** 1) 70-100, 2) 20-30 3) 100-300 4) 28-44 ounces  
5) less than an ounce

**Minnesota Crossword-** 1) muffin 2) ice 3) nuts 4) north 5) earthworms  
6) spruce 7) otter 8) Tonka 9) adult

**River Otter and Timber Wolf-** otter- playful, sleek glossy, lives by water,  
20-30 pounds, 4 feet long  
wolf- lives in forest, howls, 70-100 pounds, lives in a pack, bushy tail  
Both- mammal, carnivore, predator

**Mushroom Math-** 1) 5 2) 12 3) 300 4) 240 5) 62 ½

**Trees, Trees, More Trees-** 1) balsam fir 2) blue spruce 3) Douglas fir  
4) eastern white pine 5) paper birch 6) red pine 7) sugar maple 8) white  
spruce

**Complete Metamorphosis-** eggs, caterpillar, chrysalis, adult

**Truth about Black Bears-** eats fish, can be brown, mostly in Northern  
Minnesota, weighs 100-300 pounds