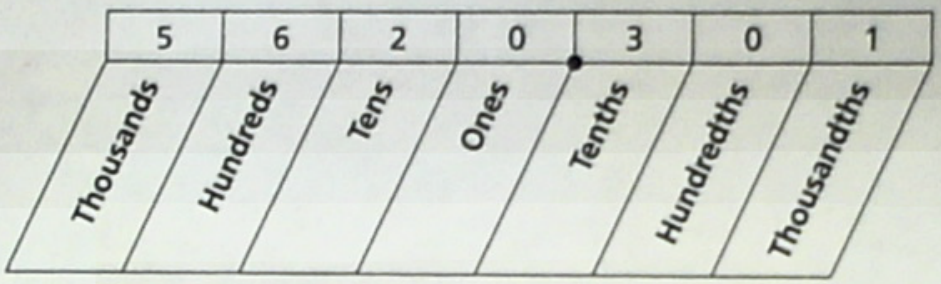
You see decimals every day, in lots of different places. Can you tell where each of the decimals below was found?

TTTTTTTTTTTTTT

nomag

The decimal number system is based on place value. The value of a digit in a number depends on the place where it is written. So the "2" in "20" has a different meaning from the "2" in "0.02." The chart below shows the place value for each digit of the number 5,620.301.



When you read decimal numbers that are greater than one, you say "and" to separate the whole number and decimal parts. For 2.5 you say "2 *and* 5 tenths."

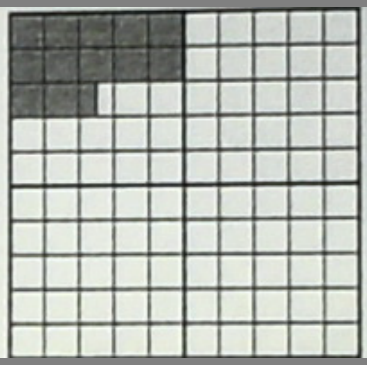
Getting Ready

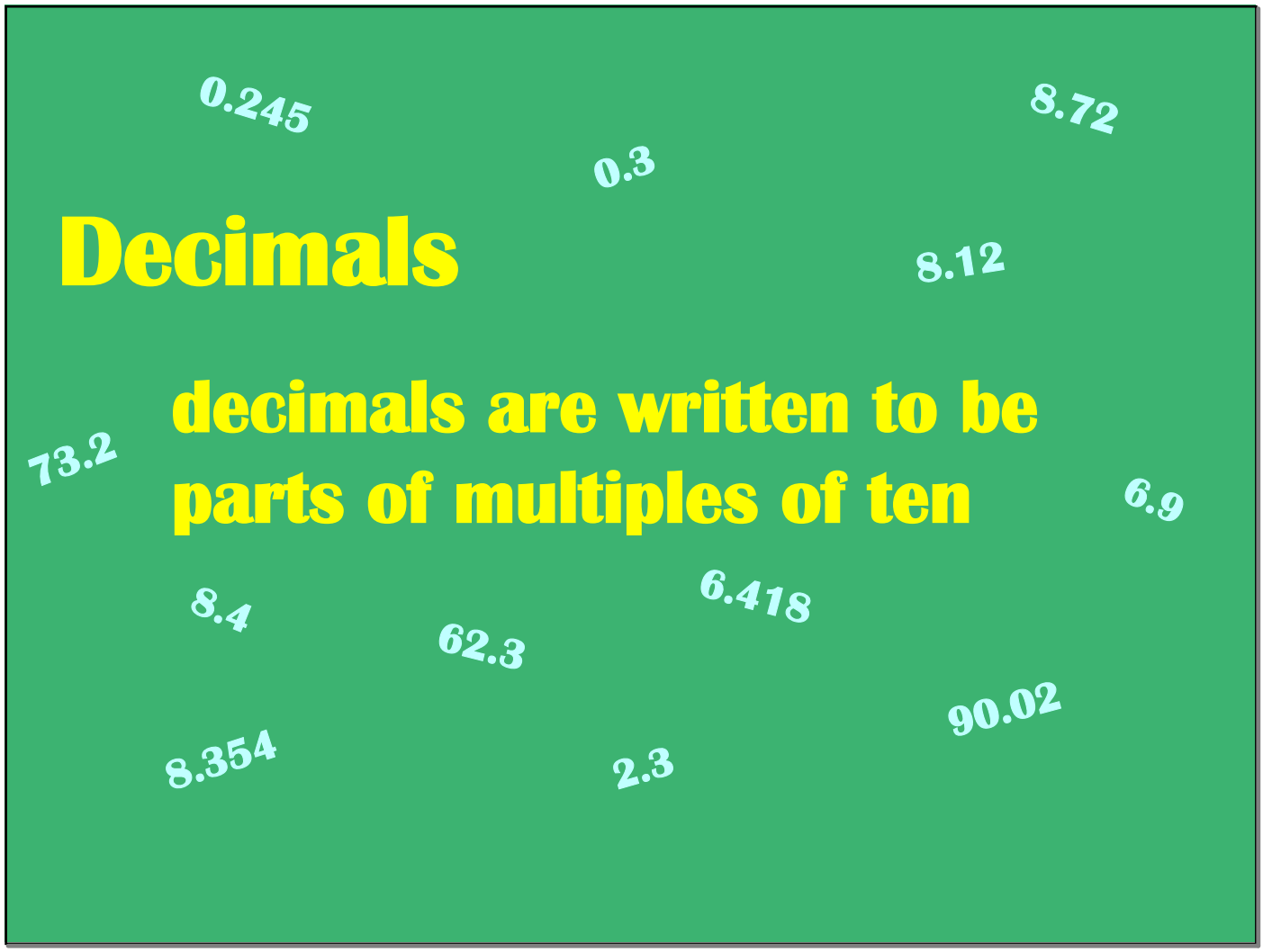
Consider these numbers:

2 0.2 20 0.00002

- How does place value tell you which number is greatest?

1. What fraction of the grid at the right is shaded?
2. How many hundredths are shaded? Write your answer as a fraction and as a decimal.
3. If you shaded the same fraction on a *thousandths grid*, how many thousandths would be shaded? Write your answer as a fraction and as a decimal.




0.245
8.72
0.3
Decimals
8.12
decimals are written to be
parts of multiples of ten
73.2
6.9
8.4
6.418
62.3
90.02
8.354
2.3

Place value

1,234,567.0893

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths	Ten Thousandths

Move boxes for examples

To name a decimal:

1. Identify the whole number (the part in front of the decimal).
2. Insert and
3. Identify the decimal number (the part after the decimal)
4. Say the place value of the last digit

Step 1

Step 2

Step 3

Step 4

For each pair of numbers, find another number that is between them.

1. 0.8 and 0.85

2. 0.72 and 0.73

3. 1.2 and 1.205

4. 0.0213 and 0.0214

5. Describe one strategy that you used to find numbers between decimals in parts (1)–(4).

When rounding, we use the same rules.
Remember our poem...

Locate your number,
Look right next door,
5 or higher, add one more,
4 or lower, just ignore.

15.553	_____	4.872	_____
362.0846	_____	491.87	_____
0.4721	_____	92.458	_____

Rounding decimals
look to the number to the right--
5 or more raise the score
4 or less let it rest

Getting Ready

Tat Ming estimates total cost as he adds items to his cart in the grocery store. He wants to make sure he has enough money to pay the cashier. He puts the following items in his cart:

Chips	$2.79	Salsa	$1.99
Cheese	$1.29	Ground Beef	$3.12
Jalapenos	$0.45		

Estimate the total cost and tell what you think he might be making for his friends!

Tat Ming has only $10.00. From your estimate, does he have enough money? How confident are you of your answer?