Lesson 2
Place Value - Part 1

## Think

How many beads do I have altogether?


## Learn


$2,000+300+60+8=$ $\square$

Dion has beads.
$2,000 \quad$ The digit 2 in 2,368 is in the thousands place. It stands for 2 thousands.


Its value is 2,000.

The digit 3 in 2,368 is in the hundreds place.
It stands for 3 hundreds.


Its value is $\square$

The digit 6 in 2,368 is in the tens place. It stands for tens. Its value is 60 .

8 The digit 8 in 2,368 is in the ones place.
It stands for 8 $\qquad$ .
Its value is $\qquad$

2,368

Do

1) Show 4,573 with place-value cards.

(a) The digit 4 in 4,573 is in the $\qquad$ place.
(b) The digit 5 in 4,573 stands for 5 $\qquad$ .
(c) The digit 7 in 4,573 stands for 7 $\qquad$ .
(d) The digit 3 in 4,573 is in the $\qquad$ place.

| ⑩10 @ <br> $100)(100)(100)$ |  | $\begin{aligned} & 10 \text { (10 } 10 \text { (10) } 10 \\ & 10 \text { (10 } 10 \\ & \hline 10 \end{aligned}$ | 1 1 1 + 1 + |
| :---: | :---: | :---: | :---: |
| Thousands | Hundreds | Tens | Ones |
| 9 | 0 | 8 | 5 |

(a) The digit in 9,085 is in the ones place.
(b) The digit 0 in 9,085 is in the $\qquad$ place. Its value is 0 .
(c) The value of the digit 9 in 9,085 is $\square$ .
(d) The digit in 9,085 stands for tens.
(3) Write the number.
(a)

(b) $(100)$

111
(c)


4 (a) Write the number in words.

(b) In what place is the digit 2 in each number, and what is its value?

5 (a) $6,069=6,000+\square+9$
(b) $7,402=7,000+400+$
(c) $5,300=\square+300$
(d) $5,008=5,000+$ $\square$
(e) $1,953=\square+1,000+3+50$
(f) $8,808=8+\square+8,000$

## Think

Mei had 30 m of ribbon.
She cut off 2 pieces of ribbon.
The second piece is 3 times as long as the first piece.
There is still 18 m of ribbon left on the spool.
How long is each piece?

Learn

I need to find the total length of the two cut pieces first.


4 units $\longrightarrow 30-18=12$
1 unit $\longrightarrow 12 \div 4=3$

The first piece is $\square$ m long.

$$
3 \text { units } \longrightarrow 3 \times 3=
$$

$\square$

Check your answers.
Does $3+9+18=30$ ?

The second piece is m long.

## Do

1) Mei made 3 times as many ants as spiders. She made 12 ants.
(a) How many animals did she make?
(b) How many more ants than spiders did she make?

(a) 4 units $\longrightarrow 4 \times \square=\square \mid$ She made $\square$ animals.
(b) 2 units $\longrightarrow 2 \times \square=\square \mid$ She made $\square$ more ants than spiders.
(2) Ms. Davis bought 6 skeins of wool yarn for $\$ 5$ each and a set of knitting needles for $\$ 12$. How much did she spend?

1 unit $\longrightarrow 5$
6 units $\longrightarrow 6 \bigcirc \quad=\quad$ (cost of yarn)

$$
+12=\quad \text { (total spent) }
$$

She spent \$
(3) Alex and Emma together made 23 dinosaurs.

Alex made 5 more dinosaurs than Emma.
How many dinosaurs did Emma make?


We need to find how many Emma made. Make her bar the unit.

2 units $\longrightarrow 23-5=18$
1 unit $\longrightarrow 18 \div 2=$ $\square$


If I take 5 away, they will both have the same number.

Emma made dinosaurs.
4) Dexter bought 3 packs of foam brushes.

?
(5) Sita polished 23 rocks on Monday and 17 rocks on Tuesday.
She put the rocks equally into 5 boxes. How many rocks are in each box?


6 Mei and Dion together made 11 turtles. Mei made 3 more turtles than Dion. How many turtles did Mei make?

Make Mei's bar the unit. If Dion had made 3 more then...


7 Asimah has 9 tulips.
She has 3 times as many daisies as tulips.
She arranges 6 flowers in each vase.
How many vases does she use?


8 A pack of 5 paint pens cost $\$ 3$.
Mr. Ikeda bought 20 paint pens.
How much did he pay?

9 Hudson has 4 times as many crayons as Elena.
He has 24 more crayons than Elena does.
How many crayons do they have altogether?

Exercise 9 • page 119
(1) Find the value.
(a) $8 \div 4$
(b) $4 \times 7$
(c) $14 \div 2$
(d) $4 \times 4$
(e) $32 \div 4$
(f) $0 \times 10$
(g) $35 \div 5$
(h) $27 \div 3$
(i) $18 \div 3$
(j) $16 \div 2$
(k) $5 \div 5$
(l) $0 \div 10$
(2) (a) $5 \times \square=20$
(b)
$\times 5=0$
(c) $=8 \times 3$
(d) $3 \div \square$
(e) $\quad \div 5=0$
(f) $=4 \div 2$
(3) Find the quotient and remainder.
(a) $7 \div 2$
(b) $10 \div 3$
(c) $22 \div 4$
(d) $16 \div 5$
(e) $42 \div 10$
(f) $88 \div 10$
(g) $26 \div 3$
(h) $26 \div 4$
(i) $26 \div 5$
4) Are the following numbers odd or even?
(a) 12
(b) 11
(c) 13
(d) 16
(5) Katie is making decorative balls out of yarn to sell at the farmer's market on Kids Vending Day.
She bought 1 pack of balloons, 10 skeins of yarn, and 2 bottles of glue.
She spent $\$ 10$ on the pack of balloons.
The balloons cost 5 times as much as 1 skein of yarn.
The 2 bottles of glue cost the same as 3 skeins of yarn.
\$10
Balloons


Yarn
Glue

(a) How much does 1 skein of yarn cost?
(b) How much did she spend on the yarn?
(c) How much does 1 bottle of glue cost?
(d) How much did she spend in all?

(e) Katie made 9 each of red, yellow, orange, and green balls.

She made 4 brown balls.
She displayed the balls by putting 5 in each bowl.
How many bowls did she use?
(f) She sold all 9 red balls.

One buyer gave her $\$ 1$ extra as a tip.
She received $\$ 28$ from selling the red balls.
How much did she sell each red ball for?


6 Josef made a total of 5 birdhouses and sold them all for $\$ 9$ each at the market on Kids Vending Day.
(a) How much money did he receive?
(b) The materials for each birdhouse cost $\$ 3$.

The fee for the booth at the market was $\$ 5$.
How much did he spend?
(c) How much profit did he make?
(7) Evan collected 2 more pinecones than Arman. Mila collected twice as many pinecones as Evan. Altogether, they collected 30 pinecones.

(a) How many pinecones did Arman collect?
(b) How many pinecones did Mila collect?

8 Alisha collected 3 more pinecones than Fuyu. Lucas collected 3 times as many pinecones as Alisha. Altogether, they collected 47 pinecones.
(a) How many pinecones did Fuyu collect?
(b) How many pinecones did Lucas collect?

Think


Mei ran 24 miles each week for 3 weeks to prepare for the race.
How many miles did she run to prepare for the race?

## Learn

$24 \times 3$

|  | 1010 | $11(1)$ |
| :--- | :--- | :--- |



Multiply the ones.
Regroup the ones.
10


| 1 | 1 | 1 | 1 |  |
| :---: | :---: | :---: | :---: | :---: |
| 1 | 1 | 1 | 1 |  |
| 1 | 1 | 1 | 1 |  |
|  |  | 1 |  |  |

4 ones $\times 3=12$ ones
$=1$ ten 2 ones

Write the regrouped ten above the tens.

Multiply the tens.
10

|  | 10 10 <br> 10 10 <br> 10 10 | 1 | 1 |  |
| :--- | :--- | :--- | :--- | :--- |
|  | 10 | 10 |  |  |

2 tens $\times 3=6$ tens

Then, add in the regrouped ten.

| 10 $10(10(10)$ 10 <br> 10 10  |
| :--- |

This ten is from multiplying the ones. Do not multiply it again.


## 24

| $\times \quad 3$ |
| :--- |
| 12 |

$12 \longleftarrow 4 \times 3$
$60 \leftarrow 20 \times 3$
72
I can use mental math.


Mei ran
miles.

$$
\begin{array}{r}
24 \\
24 \\
\times \quad 3 \\
\hline 12 \quad 3 \\
\hline 60 \\
\hline 72
\end{array}
$$

(1) Multiply 14 by 5 .


Remember not to multiply the regrouped tens.

|  | $10$ |
| :---: | :---: |
| 10 | 111 |
| 10 | $1$ |
| 10 | 111 |
| 10 | $1$ |
| 10 | 1111 |



2 Multiply 3 by 28.

(3) Multiply 49 by 2 .

(4) What are the missing digits?

(b)

(5) Find the value.
(a) $17 \times 5$
(b) $38 \times 2$
(c) $25 \times 3$
(d) $24 \times 4$
(e) $7 \times 15$
(f) $5 \times 19$



There are 18 sponsors for the race.
Each sponsor donated 3 raffle prizes.
How many raffle prizes are there?

