

Year 6 SATs Booster

Maths 1

Place Value Part 1

Objectives:

- Read and write whole numbers in figures and words and know the value of each digit.
- Use known number facts and place value to help with, and speed up, mental addition/subtraction.
- Add and subtract whole numbers in columns.

Vocabulary:

digit
less than
sum
more than
difference
place value

If I write the digit **2** in the units column you know that it means **two units**.

Tens	Units
	2

If I write the digit **2** in the tens column you know that it means **20**.

Tens	Units
2	0

We call this its **place value**.

The headings for whole number place value columns are:

hundred thousands ten thousands thousands hundreds tens units

**As a digit moves to the next column on the left
it gets 10 times bigger.**

thousands

hundreds

tens

units

6

This is the number 6

**As a digit moves to the next column on the left
it gets 10 times bigger.**

thousands

hundreds

tens

units

6

0

This is the number 60

**As a digit moves to the next column on the left
it gets 10 times bigger.**

thousands

hundreds

tens

units

6

0

0

This is the number 600

As a digit moves to the next column on the left it gets 10 times bigger.

thousands

hundreds

tens

units

6

0

0

0

This is the number 6000

Place Value Chart

Thousands	Hundreds	Tens	Units
1 000	100	10	1
2 000	200	20	2
3 000	300	30	3
4 000	400	40	4
5 000	500	50	5
6 000	600	60	6
7 000	700	70	7
8 000	800	80	8
9 000	900	90	9

2 678

Two thousand six hundred and seventy eight.

Place Value Chart

Thousands	Hundreds	Tens	Units
1 000	100	10	1
2 000	200	20	2
3 000	300	30	3
4 000	400	40	4
5 000	500	50	5
6 000	600	60	6
7 000	700	70	7
8 000	800	80	8
9 000	900	90	9

1 357

One thousand three hundred and fifty seven.

Place Value Chart

Thousands	Hundreds	Tens	Units
1 000	100	10	1
2 000	200	20	2
3 000	300	30	3
4 000	400	40	4
5 000	500	50	5
6 000	600	60	6
7 000	700	70	7
8 000	800	80	8
9 000	900	90	9

4 165

Four thousand one hundred and sixty five.

Place Value Chart

Thousands	Hundreds	Tens	Units
1 000	100	10	1
2 000	200	20	2
3 000	300	30	3
4 000	400	40	4
5 000	500	50	5
6 000	600	60	6
7 000	700	70	7
8 000	800	80	8
9 000	900	90	9

4 677

Four thousand six hundred and seventy seven.

Place Value Chart

Thousands	Hundreds	Tens	Units
1 000	100	10	1
2 000	200	20	2
3 000	300	30	3
4 000	400	40	4
5 000	500	50	5
6 000	600	60	6
7 000	700	70	7
8 000	800	80	8
9 000	900	90	9

3 181

Three thousand one hundred and eighty one.

Place Value Chart

Thousands	Hundreds	Tens	Units
1 000	100	10	1
2 000	200	20	2
3 000	300	30	3
4 000	400	40	4
5 000	500	50	5
6 000	600	60	6
7 000	700	70	7
8 000	800	80	8
9 000	900	90	9

Here is a column of numbers. Try and say each one aloud.

3 678
2 170
5 243
8 179
9 628

**In the left hand column try and write
and say the number one less than the
number on the right.**

	3 678
	2 170
	5 243
	8 179
	9 628

Did you get these numbers?

3 677	3 678
2 169	2 170
5 242	5 243
8 178	8 179
9 627	9 628

In the right hand column try and write and say the number one more than the number.

3 678	
2 170	
5 243	
8 179	
9 628	

Did you get the following ?

3 678	3 679
2 170	2 171
5 243	5 244
8 179	8 180
9 628	9 629

Start number	One more	Ten more	One hundred more	One thousand more
3 678	3 679			
2 170	2 171			
5 243	5 244			
8 179	8 180			
9 628	9 629			

Start number	One more	Ten more	One hundred more	One thousand more
3 678	3 679	3 688	3 778	4 678
2 170	2 171			
5 243	5 244			
8 179	8 180			
9 628	9 629			

Start number	One more	Ten more	One hundred more	One thousand more
3 678	3 679	3 688	3 778	4 678
2 170	2 171	2 180	2 270	3 170
5 243	5 244	5 253	5 343	6 243
8 179	8 180	8 189	8 279	9 179
9 628	9 629	9 638	9 728	8 628

In the left hand column try and write and say the number five less than the number.

	3 678
	2 170
	5 243
	8 179
	9 628

Did you get these numbers?

3 673	3 678
2 165	2 170
5 238	5 243
8 174	8 179
9 623	9 628

2 634

This number is **two thousand** six hundred and thirty four.

12 634

This number is **twelve thousand** six hundred and thirty four.

212 634

This number is **two hundred and twelve thousand** six hundred and thirty four.

To say these numbers we say the **red** number followed by the word **thousand**. Then we say the **blue** numbers.

Try and say these numbers. Remember to say these numbers we say the **red** numbers followed by the word **thousand**. Then we say the **blue** numbers.

22 **134**

This number is twenty **two thousand** one hundred and **thirty four**.

10 **436**

This number is **ten thousand** four hundred and **thirty six**.

122 **364**

This number is **one hundred and twenty two thousand** three hundred and **sixty four**.

Here are some more to try.

Try and say these numbers.

60 484

This number is twenty **sixty thousand** four hundred and **eighty four**.

111 241

This number is **one hundred and eleven thousand two hundred and forty one**.

992 874

This number is **nine hundred and ninety two thousand eight hundred and seventy four**.

212 634

Do you remember this number – it is **two hundred and twelve thousand six hundred and thirty four.**

1 212 634

This number is – **one million two hundred and twelve thousand six hundred and thirty four.**

41 212 634

This number is – **forty one million two hundred and twelve thousand six hundred and thirty four.**

641 212 634

This number is – **six hundred and forty one million two hundred and twelve thousand six hundred and thirty four.**

641 212 634

Can you see why we group numbers in sets of three?

It helps us read the numbers.

We say the **green** numbers followed by **million**

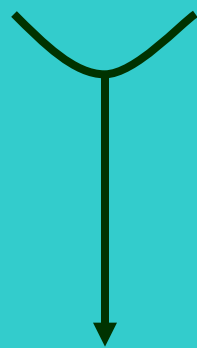
Then the red numbers followed by **thousand**

And then the **blue** numbers.

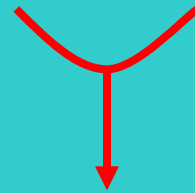
This number is – **six hundred and forty one million two hundred and twelve thousand six hundred and thirty four.**

Try and say the following large number.

641 212 634

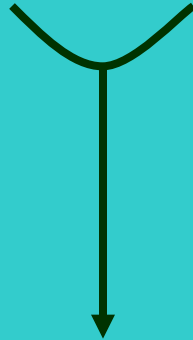


Million



Thousand

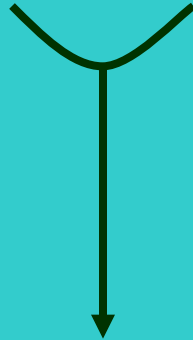
241 324 234



Thousand

Million

641 724 238



Million



Thousand

343 328 131

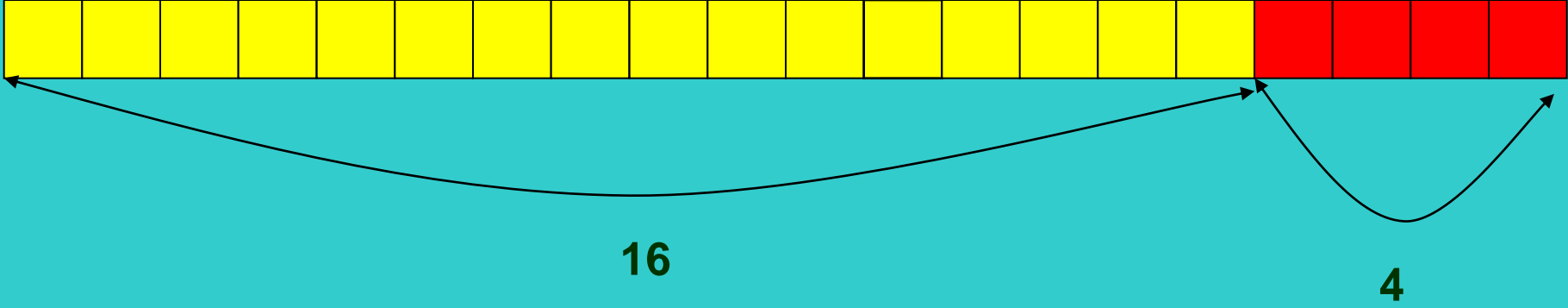
41 304 430

4 999 999

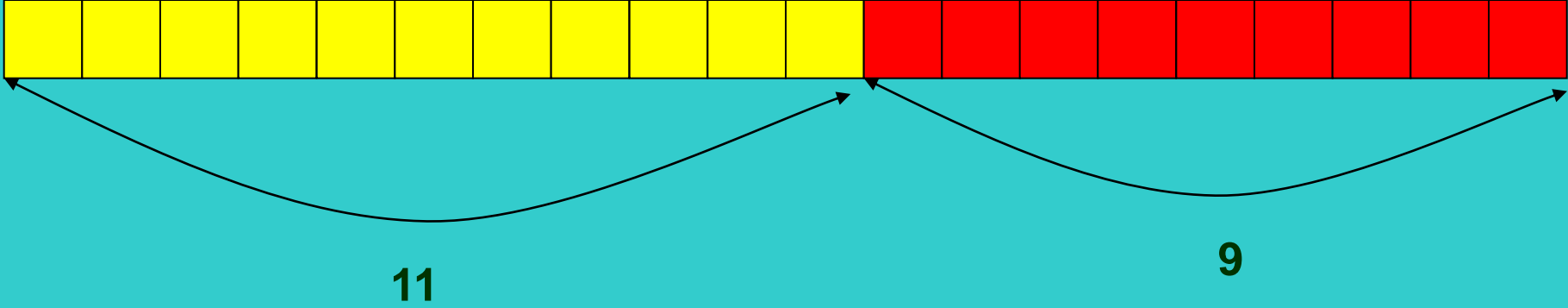
103 049 126

103 049 026

Numbers that make 20



Numbers that make 20



Numbers that make 20

8 12

5 15

7 13

9 11

2 18

18 2

1 19

11 9

6 14

17 3

Numbers that make 100

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Numbers that make 100

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Numbers that make 100

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

34

To make 100 you need to add 34 to 66.

Can you see you need 34 red squares to make up one hundred?

Numbers that make 100

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

What do you need
to add to 45 to
make 100?

Numbers that make 100

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

What do you need
to add to 45 to
make 100?

It is 55.

Numbers that make 100

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

What do you need
to add to 72 to
make 100?

Numbers that make 100

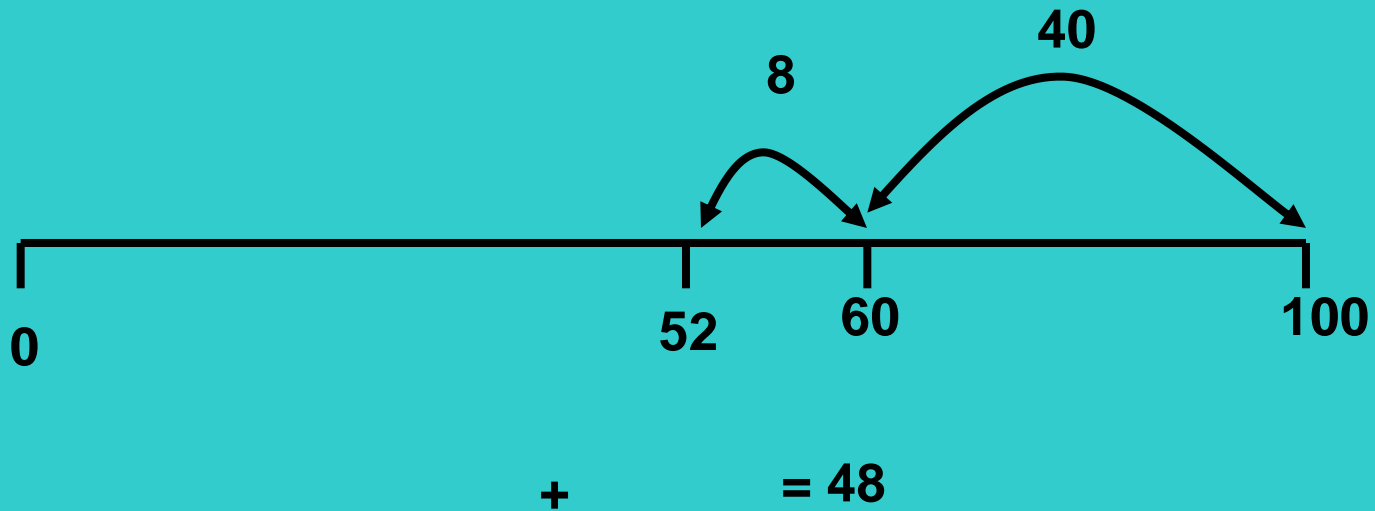
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

What do you need
to add to 72 to
make 100?

It is 28

Using a number line.

What is do you need to add to 52 to make 100?



Some numbers that make 100

88 12

75 25

47 53

9 91

62 38

18 82

71 29

38 62

26 74

17 83

Year 6 SATs Booster

Maths 1

Place Value Part 2

Objectives:

- Understand and use decimal place value.
- Multiply and divide by 10 and 100 and explain the effect.

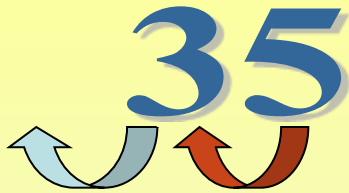
Vocabulary

Place value

decimal point

digit

H T U



Multiply this number by 10

What is your answer?



What has happened to all of the digits?

3 tens become 3 hundreds, 5 units become 5 tens

Each digit in the number has moved one column to the left.



What happens when we multiply by 100?

(each digit in the number moves 2 columns to the left)

Multiply each of the following numbers by 10.

23

230

56

560

123

1230

40

400

Multiply each of the following numbers by 100.

35

3500

20

2000

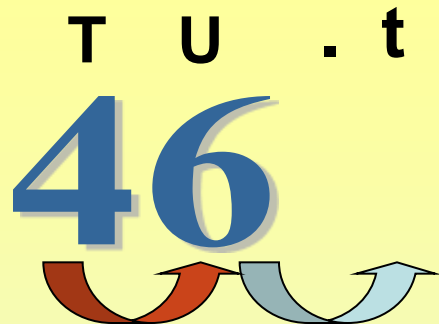
213

2130

0

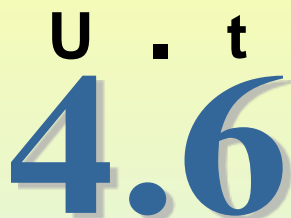
340

34 000



Divide this number by
10

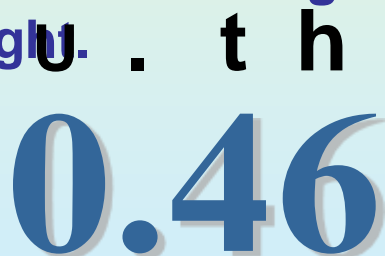
What is your answer?



Explain what has happened to
each of the digits.

The 4 tens become 4 units, the 6 units become 6 tenths.

Each of the digits in the number has moved one column to the right.



What happens when we divide by
100?

Each of the digits in the number moves two columns to the right.

Divide each of the following numbers by 10.

57

5.7

134

13.4

350

35.0

70

7.0

Divide each of the following numbers by 100.

450

4.50

39

3.9

409

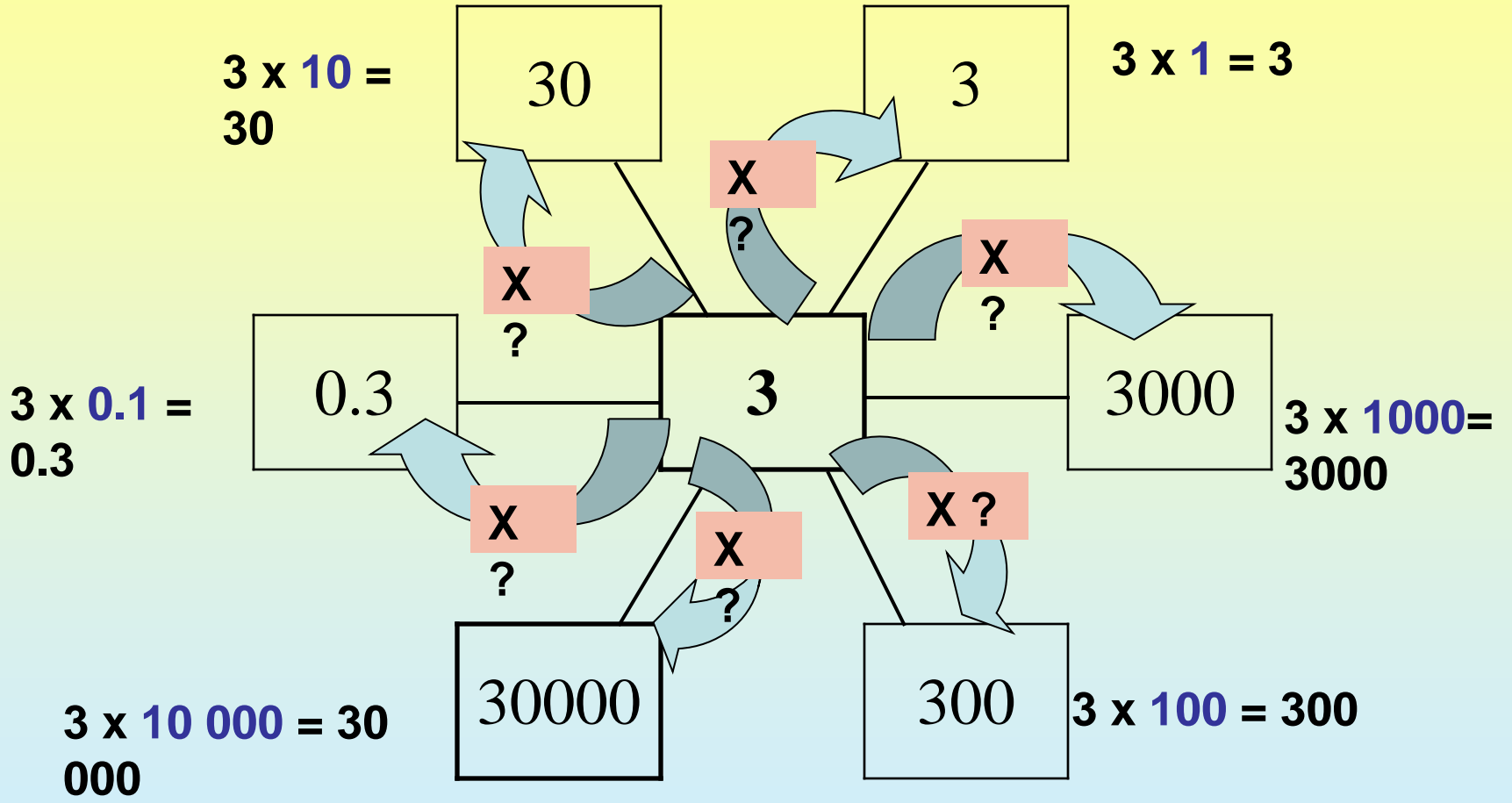
4.09

50

0.50

Multiply and divide each number by 10.

400	3	30	500
1000	70	9	40
20	50	200	8
300	5	60	700

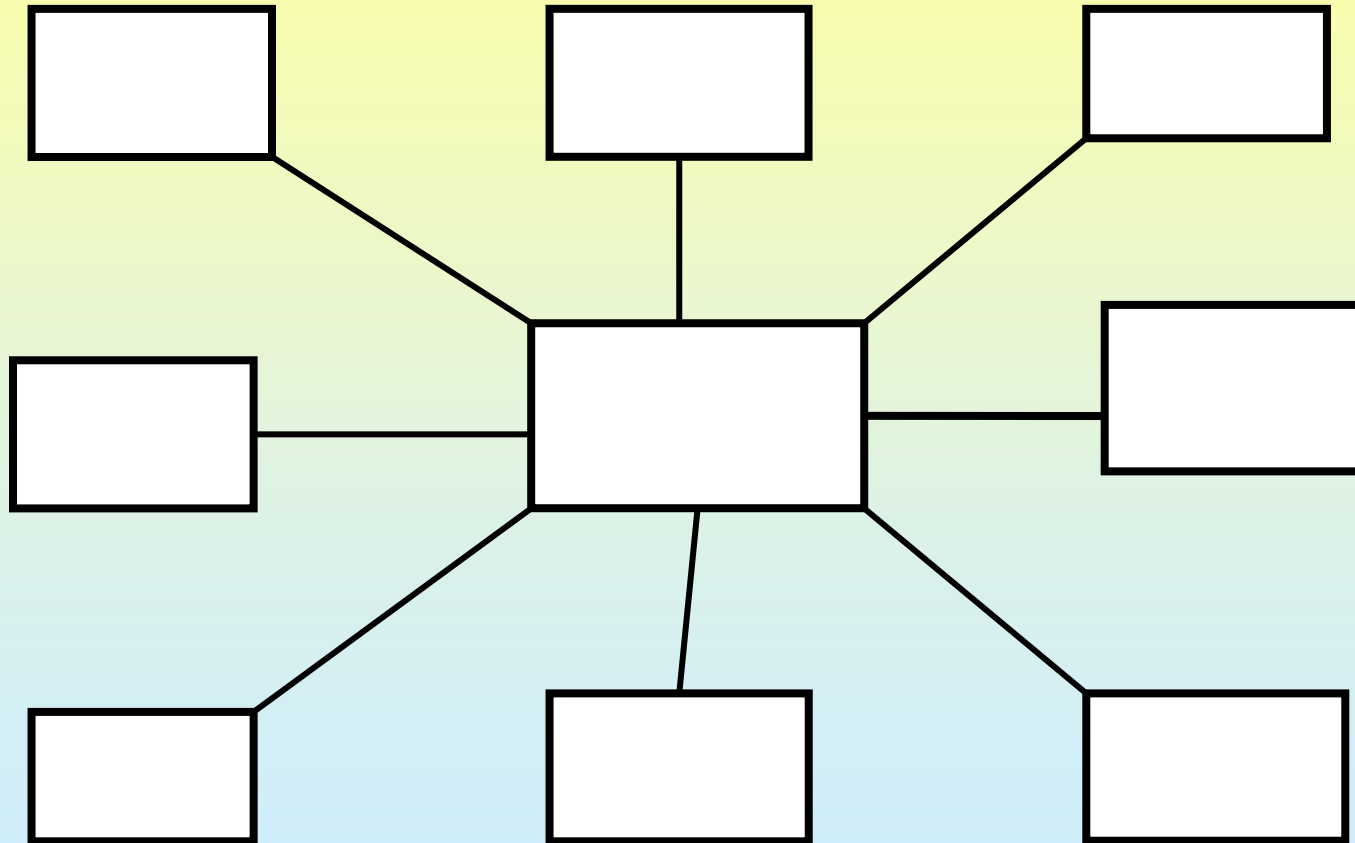


Multiplication Spider

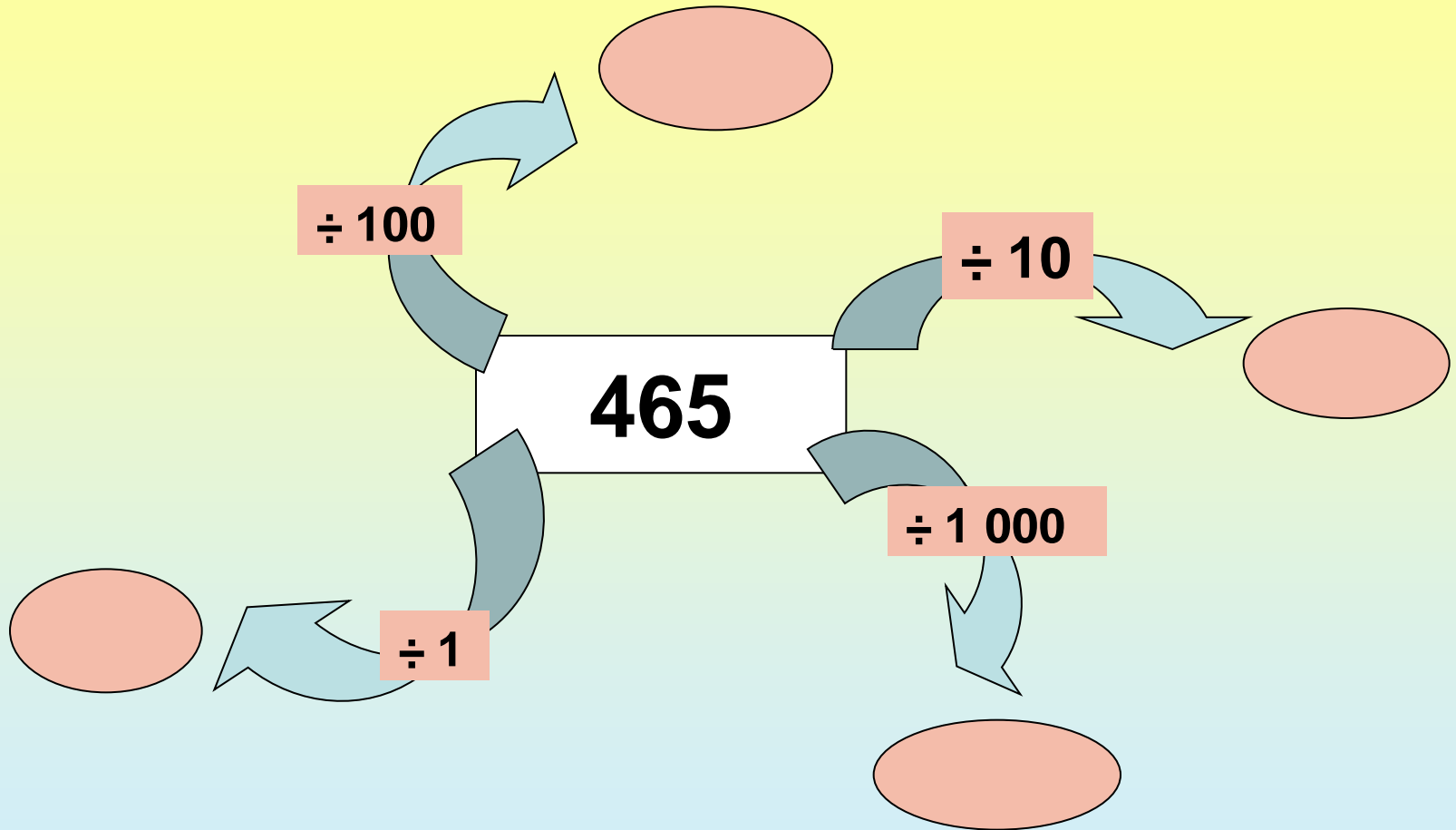
Diagram

Complete your own multiplication spider diagram.

Choose your own number in the middle.

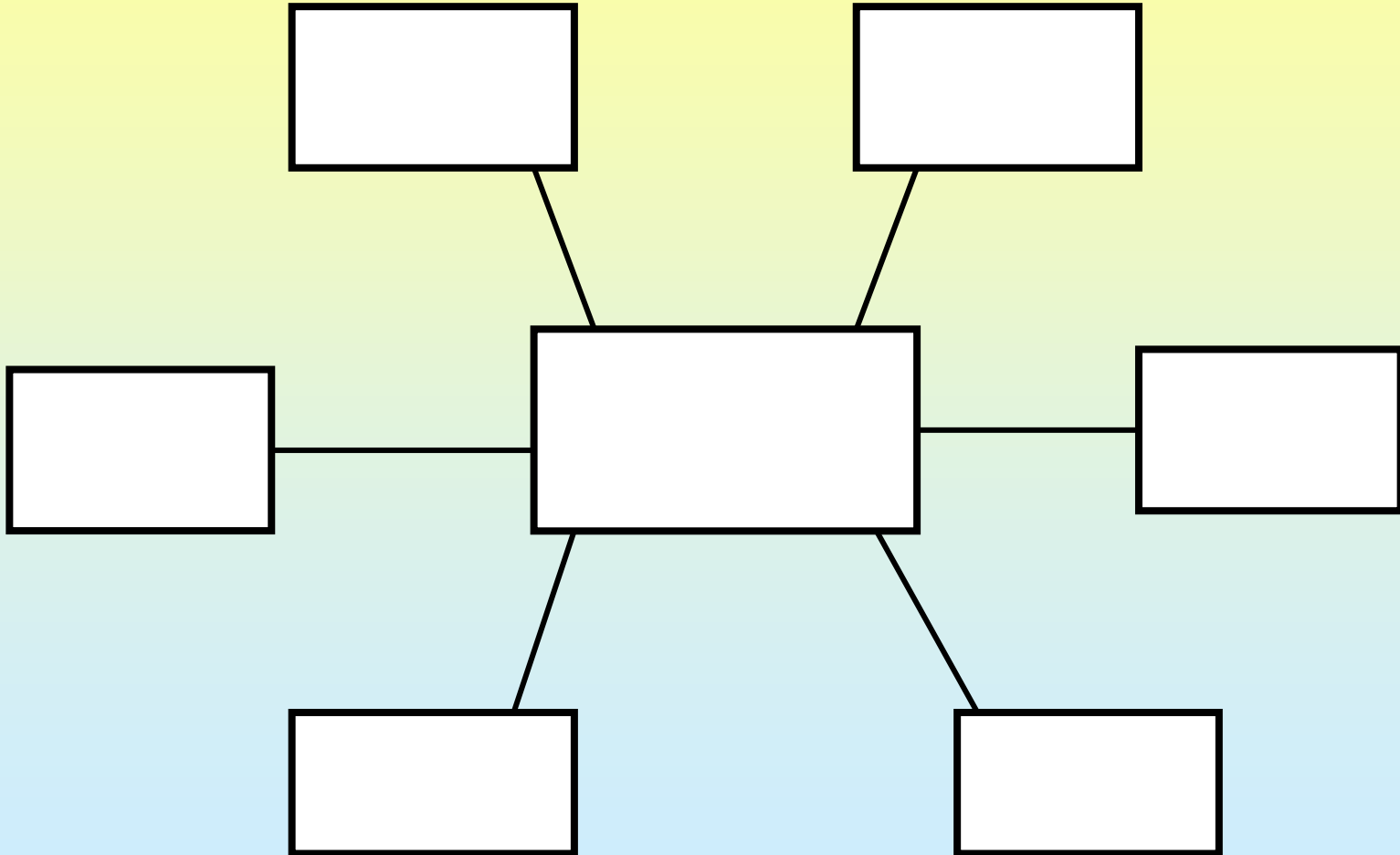


Fill in the answers.



Division Spider Diagram

Start with a number of your choice in the middle and complete the division spider diagram.



0.3	30	6	40
400	5	0.6	0.5
50	4	300	0.4
3	500	60	600

I divided by ten and my answer is 0.6 – what number did I start with?

I multiplied by 100 and my answer is 40 – what number did I start with?

Make up three questions like the ones above and try them out on someone else – explain your working to them if necessary.