Name _____ Date _____

Place value puzzles

Using what each digit is worth to crack number puzzles and real problems.

1 Learn



To make the **greatest** number from digit cards, put the biggest digit in the biggest column. For the **smallest**, use the smallest digit first, but never 0 at the front!

7	3	0	9	1	5	2

Greatest: **9,753,210** Smallest: **1,023,579**

Worked example: what is 10,000 more than 4,295,300?

1. 10,000 more changes the **ten thousands** column.
2. The ten thousands digit is 9, and 9 + 1 = 10.
3. 10 ten thousands make 1 hundred thousand: the 2 becomes 3 and the 9 becomes 0.
4. 4,295,300 + 10,000 = **4,305,300**.

M	HTh	TTh	Th	H	T	O
4	3	0	5	3	0	0

Flip's tip: a seven-digit number can't start with 0: 0,123,579 is really 123,579.

Warm up: work these out.

1,000 more than 3,450,000 _____

100,000 less than 2,600,000 _____

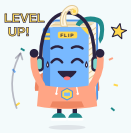
10,000 more than 5,032,100 _____

1 more than 6,999,999 _____

Grown-ups: for "more" and "less" questions, ask "Which column changes?" first. Watch for a 9 that turns into 0 and changes the next column too.

Name _____ Date _____

2 Try it together a child and a grown-up, about 10 minutes



Digit race

You need: the digits 0 to 9 on 10 scraps of paper (or the ones from chapter 1), paper and a pen.

1. Mix up the scraps and pick **7**. Put the rest away.
2. Both of you make the **greatest** seven-digit number you can with them. Compare: did you make the same number?
3. Now both make the **smallest**. Remember, 0 can't go first.
4. Write your digits and numbers in the table. Mix the scraps and play again.

Round	Our 7 digits	Greatest number	Smallest number

Grown-ups: ask your child to explain their smallest number: "Why does the 0 go second, not first?" Agreeing on one answer together matters more than being first.

3 Practise

A. Fill in the table.

Number	10,000 more	100,000 more	1,000,000 less
3,295,400			
8,904,050			
1,990,000			
6,950,000			

Place value puzzles

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B. Use each digit card once to make:

4	0	8	1	6	2	5

the greatest number _____ the smallest number _____

the smallest odd number _____ the greatest number below 5 million _____

C. Solve these.

1. A city has **2,456,300** people. **10,000** more move in. How many people live there now?

_____

2. A space probe flew **3,080,000 km** in week 1 and **3,800,000 km** in week 2. Write them with < or >.

_____

3. I have 7 digits. My millions digit is 3 and my ten thousands digit is 8. All my other digits are 0. What number am I?

_____

4. Which is greater, **989,999** or **1,000,000**? How much greater?

_____

Challenge

Sam used the digits 0, 3, 5, 6, 7, 8 and 9 to make the smallest seven-digit number. He wrote **0,356,789**. Is he right? What should it be?

_____

_____

I can… Tick when you can.

- [ ] make the greatest and smallest numbers from digit cards
- [ ] find 10,000 or 100,000 more or less
- [ ] use place value to solve real problems