Teacher Input Ideas:
- Ask the children to bring in objects or create a whole school large store of counting objects for children to have access to larger numbers (for example, paper cups, buttons, paper clips, milk lids). As a class or group, organise the objects into groups of ten; these could be placed into small clear bags or elastic bands to clearly show the group. Then find another way to group ten of these groups. Discuss how 100 has been made and look alongside a place value chart. Then find another way to group ten of these such as a small box; repeat each time ten has been created. Once you get to larger numbers you may not have enough of the actual objects but boxes, mats or skipping ropes can be used to represent 1000, 10,000 etc to show how our number system is created by repeatedly grouping ten, as it is a large jump from the year 4 objectives and many children will not have experienced seeing a thousand or ten thousand objects. Children need plenty of opportunities to count objects and familiarise themselves with numbers to a 1 million.
- Children can be given digit cards to explore different amounts up to 7 digits. They could then record these on place value tables/ charts and look at the size of a number and the position of the digits to help them to record the amount in words.
- Model looking at a place value chart and placing the digits into the columns starting with the units/ones. Discuss why starting at the ones is a good idea when placing digits into the columns. Explore different 4,5 and 6 digit numbers, including using 0 as a place holder. Then discuss that in real life situations we don't always have mathematical resources to support us- what could you do? Write a 6-digit number on the board. Model writing O, T, H, TH etc above the digits to help the children say in words the number.
- If the children demonstrate understanding of how our number system is grouped in tens, use images to represent different amounts or word cards. Such as hundreds of thousands, tens of thousands, thousands etc. Place an amount visually for the children to see by selecting different word cards or visual cards such as forty-three thousand, two hundred and fifty-four. Practise counting

from this amount by adding a ones card or visual picture. Children could add different cards, images to encourage counting on in tens, hundreds, ones etc.

Practice Activities

Purple Practice: Most suited for children who made errors in Question 1 of the prior learning assessment and demonstrate little understanding of place value.

Practical: (place value images and chart are provided. Children may need to create hundreds of thousands by placing ten of the ten thousand images in a bag or secure with an elastic band.)

Encourage the children to explore how 4 digit amounts are created by making different amounts using the visual images. Ensure the children understand how each image has been made (for example ten ones have made the stick, ten sticks have made a square, 100 etc).

When the children have made different amounts, encourage them to record these amounts down onto the place value chart and in words. Discuss how many digit cards have been used. When the children show confidence, add some more thousands to show the need for ten thousand and a new column, introducing 5 digit numbers. Encourage the children to look at the number of digits used to identify that this is a 5-digit number so I know that it will go in to the tens of thousands column. Prompt the children through talk and allow the children time to explore different 5 digit amounts. Children to use the visual representations to show what the amount looks like and to help the children to explain how 4 and 5 digit amounts have been made. When the children show confidence here, repeat to show how 6 digit numbers are created.

Key questions/ Ideas:

How many digits have you used? What does this mean? What would this number look like? Why are you now using 5 columns of your chart? What has happened to the value of the number? If I place a 6 in this column, what is the value of it? How many thousands have I got?

Encourage the children to say their amounts. They could record this by writing digits onto their charts, showing this with the visual images and writing in words the amount. You may want to record their work through photographs.

Green Practice: Most suited for children that made some errors in Question 1 a, b and c and will benefit from reading up to 7 digit amounts.

Introduce the children to the task by showing them a video of a child dancing or a cat on a skateboard - something they will find engaging and amusing. (These can be located on a popular website that shares different uploaded videos. Please ensure you have checked the content before sharing with the children). Discuss how many views it has had and encourage the children to record this down in words. (You may want to select one that has less than a million views.)

On the task sheet, the children are provided with different amounts of views from funny videos on the internet. The children are presented with different amounts up to 1 million and these **do not contain amounts where zero is used as a place holder.** The children are to write in words the amounts of each view.

Yellow Practice Most suited for children who made errors in questions 1 d and e and would further benefit from numbers containing zeroes.

As above, however these amounts contain zeroes. If you wanted to make this more practical, children could be provided with links to videos that you have found and record the number of views displayed at the bottom. Challenge: can the children order the values?

Mastery For this task, provide the children with dominoes so that they can practically explore different combinations, positions and orientations when using 3 dominoes to create different 6 digit amounts. The children are to investigate how many different 6 digit amounts they can make. The children should be encouraged to find all possible numbers by placing the dominoes into the different positions and turning the dominoes around. They should spot that if they have a domino with the same number on (such as two spots and two spots) this reduces the number of possibilities. They should also think about working systematically, moving the position of one domino at a time, changing the orientation of one a domino at a time to ensure that they have found all possible outcomes. Encourage the children to discuss the options that they found and the strategies they used with other children so that children can improve their methods. The children should also explore that if the dominoes where cut in half, they may be able to increase the number of combinations.

<u>Answers:</u>

Green:

One hundred and eighty nine thousand, four hundred and thirty two.

Ninety one thousand, six hundred and thirty seven

Eighty four thousand and one hundred and twenty nine

nine hundred and forty three thousand, two hundred and seventeen.

Eleven thousand, eight hundred and twenty three.

Five hundred and sixty four thousand, nine hundred and twenty two.

Yellow:

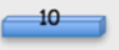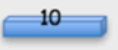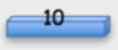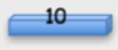One hundred and one thousand, eight hundred and sixty seven.

Fifty eight thousand and one.

Two hundred and ninety three thousand, eight hundred and ninety

One million

Eight hundred and nine thousand, one hundred and twenty.

Seven hundred and eighty thousand, nine hundred and twelve.

BRICKWORK
Mathematics

| 10,000 | 10,000 |
| 10,000 | 10,000 |

| 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| 1,000 | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |

100	100	100	100	100	100
100	100	100	100	100	100
100	100	100	100	100	100

10	10	10	10	10	10	10
10	10	10	10	10	10	10
10	10	10	10	10	10	10

ones
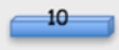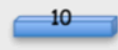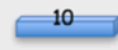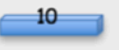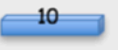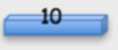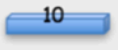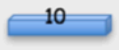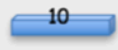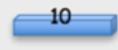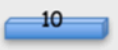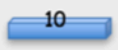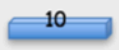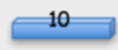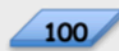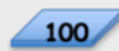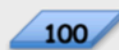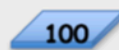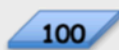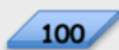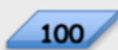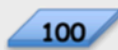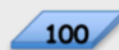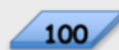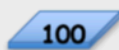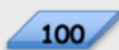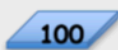
BRICKWORK
Mathematics

ones	
tens	
hundreds	
thousands	
tens of thousands	
hundreds of thousands	

BRICKWORK
Mathematics

Green Practice

Lo: I can read amounts with up to 7 digits and write these in words.

On each block is the name of a video clip on the internet and the number of views it has had. Write down in the purple block the number of views in words.

Baby giggling	189432	
Boy dancing	91637	
Dog on skateboard	84129	
Children opening presents	943217	
Girl singing	11823	
Snow ball fight	564 922	

Yellow Practice

Lo: I can read amounts with up to 7 digits including amounts that use zero as a place holder.

On each block is the name of a video clip on the internet and the number of views it has had. Write down in the purple block the number of views in words.

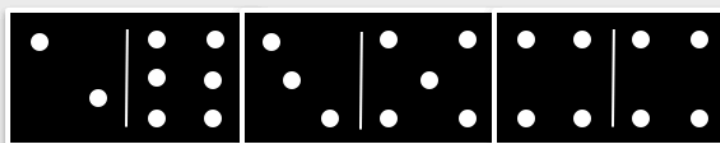| Dancing Dad | 101867 | |
Toddler covered in icing sugar	58001	
Cat dancing	293890	
Santa gets stuck	1000000	
Singing teacher	809120	
Laughing baby	780912	

Using 3 dominoes, how many different 6 digit numbers can you make? Write each combination down in words.

HTH   TTH   TH   H   T   O

For example, this combination is: two hundred and sixty three thousand, five hundred and forty four.

How many different 6 digit numbers can you make with the same 3 dominoes?

Thinking points
- How are you going to organise your work?
- What strategies can you use?
- How can the dominoes be used in different positions and orientations?

Challenge:
If the dominoes could be split in half, would it affect how many options there are? How and why?