Showing a Greater Depth in Maths Mastery

What is not greater depth?

How can our pupils show greater depth?

What is **not** Greater Depth in maths?

- **Child one:** very quick with their times tables. Can answer questions straight away, all the way up to 12x12, and they are all correct.

- **Child two:** is always finished early and is bored in lessons because the content is not challenging for them. They make mistakes because they are not focussed, as they know how to answer the questions easily.

- **Child three:** gets all of their work done, is normally correct, and might put their hand up to answer a question during teaching time. We cannot assess students as showing a Greater Depth if we do not have evidence of this. However, this child is potentially Greater Depth.

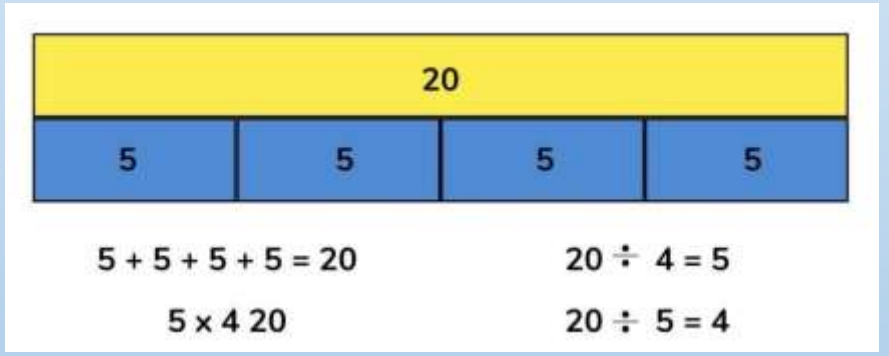
- **Child four:** counts on their fingers and doesn't always finish the worksheet

This child is potentially showing Greater Depth depending on why they are not finishing.

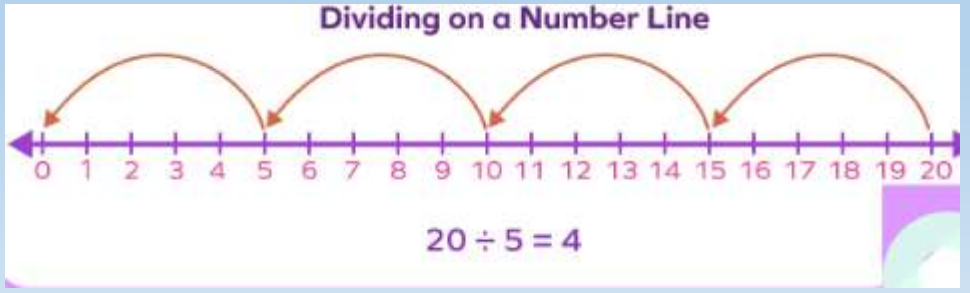
Child five: completed the SATs paper (with time to spare) and achieved full marks. This does not show that the child is Greater Depth.

Maths Mastery

At Woodridge (like at many other schools) we follow a mastery-based approach. This approach uses concrete, pictorial and abstract questions so that our children can be fluent mathematicians **who can explain their reasoning**. Within every maths lesson, there are opportunities for children to access challenges (Blue Sky Thinking Challenges). Our aim is for all children to be working on the same activity with teaching adapted to support children with different needs.



5 x 6 = 2 x 15



How can we show a Greater Depth in a topic?

Here are 3 examples that can show a greater depth in maths:

- Use of **concrete resources** to show their method
- Clear **explanations**
- Multiple **methods**

Concrete Resources

Show me 2 cubed using your multi-link cubes.

2 cubed= 2 x 2 x 2 = 8

Concrete Resources

2 cubed= 2 x 2 x 2 = 8

Greater depth: compare the efficiency of the resources on your table.

Which resource would not be helpful? Why?

Resources on your table: dienes (base ten), Numicon, multi-link cubes

Methods

They need to show that they can do the method the teacher is assessing- in order to meet the expected standard- **before** they start showing they have a greater depth.

Which is the most efficient?

How are they similar?

How are they different?

Explanations (Not Greater Depth)

7562 is greater than 7580. Do you agree?

No because 8 is bigger than 6.

7562 is greater than 7580. Do you agree?

In this question, both numbers have the digit 7 in their thousands column. The value of this is 7000. Due to both numbers having an equal number of thousands, we must then look at the next largest place value column. In this case, it is the hundreds. Both numbers have the digit 5 in the hundreds column. Therefore, we must look at the tens. 7562 has 6 tens which is equivalent to 60. 7580 has eight tens, which is the same as 80. 60 is less than 80 so I do not agree, 7580 is greater than 7562.

Explanations (generalising)

In order to compare the numbers, we need to look at the greatest place value column. This will be the first digit on the left of the number. In this question, both numbers have the digit 7 in their thousands column. The value of this is 7000. Due to both numbers having an equal number of thousands, we must then look at the next largest place value column. In this case, it is the hundreds. Both numbers have the digit 5 in the hundreds column. Therefore, we must look at the tens. 7562 has 6 tens which is equivalent to 60. 7580 has eight tens, which is the same as 80. If these were put on a number line, 60 would be closer to zero than 80, which shows that 60 is less than 80. We do not need to compare the ones because this digit will not change the answer. Even if 7562 had a 9 in the ones column (the largest digit in any place value column) the number would still be less than 7580. To conclude, I do not agree, 7580 is greater than 7562.

Thank you!

Please fill in the feedback form to help inform future workshops.