Atlantis

The final passport on planet Earth, children begin by multiplying and dividing by 10, 100 and 1000. They should be taught how each digit in a number moves to the left if multiplying or right if dividing, and how to use a zero to fill any space left behind. Children will also learn to halve decimals in this passport, using pencil and paper if necessary. This is because for some numbers, like 39.7, children will need to either record half of 39 then half of 0.7 before combining their two answers, or half 38 then half 1.7 before combining their answers.

After applying their knowledge of square numbers and multiples of 10, children begin to find and use cube numbers. Children should use cubes to explore and represent cube numbers before using pencil and paper to find bigger numbers. Finally, children develop an understanding of powers of ten (linked to their existing understanding of the notation of square and cube numbers) through recognising 10^5 means 10x10x10x10x10 (100 000). Time should be given for the children to explore real-life uses for powers of ten, such as when representing very large numbers. For example, it is easier to record the sun's mass as 1.988×10^{30}kg rather than 1 988 000 000 000 000 000 000 000 000 000kg!

Target	Example Questions
I can multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 and explain the effect	What is 3.65 multiplied by 100? Divide 584 by 1000. Multiply 10.04 by 10
I can halve any number with up to one decimal place	What is half of 24.2? Half 19.6 What is 37.9 divided by 2?
I know by heart all squares of multiples of 10 up to 100	Multiply 90 by itself What is 60 squared? 70^2
I can recognise and use cube numbers, and the notation for cubed (^{3})	What is 6 cubed? What is 9x9x9 4^3
I can count forwards in steps of powers of 10 for any given number up to 1,000,000	Starting at 411 550, count up past 500 000 in steps of 10^4
I can count backwards in steps of powers of 10 for any given number up to 1,000,000	Starting at 756 844, count back past 100 000 in steps of 10^5

Maths Passport