Squares, Cubes and Factors: Maths : Year 5 : Autumn Term

PlanBee

	Learning Objective	Overview	Assessment Questions	Resources
Lesson 1	To be able to recognise and use square numbers.	Children will learn what a square number is and how to multiply a number by itself to find its square. Children will recognise square numbers to a hundred and start to calculate squares of larger numbers. They will begin to use square numbers in calculations.	• Do children understand what a square number is? • Can children identify square numbers to 100? • Can children square larger numbers?	• Slides • Worksheet 1A/1B/1C • Sometimes, Always or Never Card (FSD? activity only)
Lesson 2	To be able to identify and use cubed numbers.	Children will recap what square numbers are and match square numbers to their square roots. They will then go on to investigate cubed numbers, using visual representations to support them. They will calculate cubed numbers for cube roots to ten and begin to understanding the term 'to the power of'.	• Do children understand what cubed numbers are? • Can children identify cubed numbers for cube roots to 10? • Can children work out what a number cubed is?	• Slides • Worksheet 2A/2B • Picture Cards • Help Sheet (FSD? activity only) • Bingo Grid sheet (FSD? activity only)
Lesson 3	To be able to find factors of numbers.	Children will recap what factors and multiples are before being challenged to find all the factors pairs for various two-digit numbers. They can solve investigations to further their understanding.	• Do children understand what factors and multiples are? • Can children identify factor pairs? • Can children find all the factor pairs for a given number?	• Slides • Worksheet 3A/3B/3C • Multiplication Grid • Challenge Card 3A/3B (FSD? activity only)
Lesson 4	To know and apply divisibility tests.	Children will recap how to find all the factor pairs of two-digit numbers before using and applying divisibility tests to find factors of three- and four-digit numbers.	• Can children find factors of numbers? • Can children apply divisibility tests to find factors of numbers? • Can children use divisibility tests to find factor pairs?	• Slides • Worksheet 4A/4B/4C • Number Cards 4A/4B • Challenge Sheet 4A/4B (FSD? activity only) • Divisibility Tests sheet (FSD? activity only)
Lesson 5	To be able to create equivalent number sentences using knowledge of factors, squares and cubes.	Children will use their understanding of squares, cubes and factors to find equivalent mathematical statements. They will recognise that, e.g. 8 x 16 is the same as $2 \times 4 \times 4^2$, and use this to make many different statements for the same number fact.	• Can children use their knowledge of factors to find equivalences? • Can children use their knowledge of squares and cubes to find equivalences? • Do children understand why finding equivalent statements can be helpful?	• Slides • Worksheet 5A/5B/5C • Statement Cards 5A • Help Sheet • Multiplication Grid • Challenge Cards (FSD? activity only)

NB: 'FSD? Activity only' refers to the alternative 'Fancy Something Different...?' activity within the lesson plan