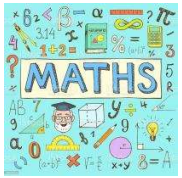


Sequences

KS3

LJFS

Y7: Term 1

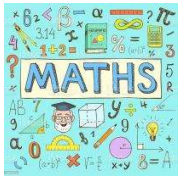
Why this?	Sequences – builds on KS2 – good introduction to mathematical skills that underpin problem solving
Why now? **What are we building on?**	Introduction to Y7 Building on prior knowledge from Key Stage 2

Key Vocabulary	Sources Or content	Create Independent learning
Linear Non-linear Patterns Sequencing Term-to-term	• White Rose Maths	• TT Rockstars • Mathswatch **High Achievers** • Corbett Maths

Knowledge & Skills
Describe and continue sequences- learn the definition Predict and check next term(s) Linear and non-linear sequences Continue linear sequences Continue non-linear sequences Explain the term to term rule Find missing terms (linear and geometric) (H)

Links to other curriculum areas?	Links to Primary national curriculum?
Computer Science – Y11 programming	Year 6 SATs

Diversity and Personal Development
Alan Turin – codebreaking machine (the bombe)



Sequences

KS3

LJFS

Y7: Term 1

Common misconceptions	Linear and non-linear – confusion between which is which and how they are recognised as a pattern Multiplying and dividing being linear Trying to guess linear or non-linear with only 2 terms

What will I have learnt at the end of this unit?	**What is the assessment of this learning?** **SUMMATIVE**	**What assessments are their for learning?** **FORMATIVE**
• Describe and continue sequences with diagrams • Predict and check next term • Continue linear numerical sequences • Continue non-linear numerical sequences • Explain the term to term rule • Find missing terms (H)	End of term paper	• Kahoots • Blookets • White Boards (where appropriate) • Toolkits

Concepts explored	**Opportunities for Oracy**	**Careers in the curriculum**
Patterns in numbers	Group Discussion Targeted student questioning Whiteboard questioning	Teacher Programmer Stock Broker

What subject knowledge and skills will I have the opportunity to remember, revisit and develop? (from when)

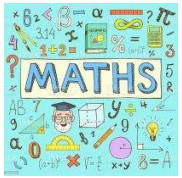
Sequences revisited next in yr 8 term 2

Developing and Challenging my own learning

Maths watch to be used as an option for homework
TT Rockstars to develop lower ability students skills
Maths Challenge aimed at higher ability students

Opportunities to experience 'sequences' in action?

Murder mystery codebreaking challenges



Understanding and Use Algebraic Notation

KS3

LJFS

Y7: Term 1

Why this?	Algebraic Notation - building on KS2 skills
Why now? **What are we building on?**	Revisiting and building on KS2 skills Fundamental skill for many future topics

Key Vocabulary	Sources Or content	Create Independent learning
Substitution Terms Function machines Expressions Identity Sequences Two-step Input Output	• White Rose Maths	• TT Rockstars • Mathswatch **High Achievers** • Corbett Maths

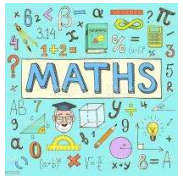
Knowledge & Skills

- Given a numerical input, find the output of a single function machine
- Use inverse operations to find the input given the output
- Use diagrams and letters to generalise number operations
- Use diagrams and letters with single function machines
- Find the function machine given a simple expression
- Substitute values into single operation expressions
- Find numerical inputs and outputs for a series of two function machines
- Use diagrams and letters with a series of two function machines
- Find the function machines given a two-step expression
- Substitute values into two-step expressions
- Generate sequences given an algebraic rule

Links to other curriculum areas?	Links to Primary national curriculum?
English - Use of letters replacing numbers **Computer Science – The use of variables to represent data values**	Yr 6 SATs

Diversity and Personal Development

Muhammad ibn Musa al-Khwarizmi was a Muslim mathematician and astronomer who lived in Baghdad around the 9th century. He wrote a book called "kitab Al-Jabr" from which the word "ALGEBRA" derived.
François Viète is considered by many historians to be the founder of modern algebra



Understanding and Use Algebraic Notation

KS3

Y7: Term 1

Common misconceptions	Use of letters in Maths - Students often confuse and misunderstand that a single letter can represent an infinite amount of objects Different letters representing different objects – Students find it challenging to use, for example, a = total number of pencils, and they often think a = apples or something beginning with the same letter. Numbers being connected to letters - Students often forget to multiply numbers and letters together when they are placed next to each other, eg. 3a = 3 x a Adding and subtracting like terms – Students often forget to use the symbol in front of the number when adding of subtracting like terms.

What will I have learnt at the end of this unit?	**What is the assessment of this learning? SUMMATIVE**	**What assessments are their for learning? FORMATIVE**
Use function machines Link algebraic expressions with function machines Understand the concept of algebra Substitution	End of term paper	• Kahoots • Blookets • White Boards (where appropriate) • Toolkits

Concepts explored	**Opportunities for Oracy**	**Careers in the curriculum**
Use of letters in Maths Use of variables to represent data	Group Discussion Targeted student questioning Whiteboard questioning	Jeweller Chemist Teacher Programmer

What subject knowledge and skills will I have the opportunity to remember, revisit and develop? (from when)

Next topic - equality and equivalence
Year 8 Term 2: use algebraic notation with equations and inequalities

Developing and Challenging my own learning

Maths watch to be used as an option for homework
TT Rockstars to develop lower ability students skills
Maths Challenge aimed at higher ability students

Opportunities to experience 'algebra' in action?

Murder mystery – substitution to solve problems