

STAGE 9: UNIT 5 PATTERN SNIFFING

KEYWORDS AND DEFINITIONS

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| 1 | Term One of the numbers in a sequence e.g. 1, 3, 5, 7, |
| 2 | Term to term rule Allows you to find the next term in the sequence if you know the previous term. e.g. 3, 7, 11, The next term is 15 as the rule is 'add 4' |
| 3 | Position to term rule A rule that links the position of a term in the sequence to the number that appears in that position. |
| 4 | nth term An expression that will allow us to calculate the term in the 'nth' position a sequence. |
| 5 | Generate To produce a sequence of numbers from a given rule or formulae |
| 6 | Linear Sequence A number pattern that increases or decreases by the same amount each time. |
| 7 | Quadratic Sequence A sequence of numbers in which the second difference between 2 consecutive terms is constant. |
| 8 | First (second) difference The difference between 2 consecutive terms in a sequence. |
| 9 | Fibonacci Numbers A sequence of numbers named after Leonardo Fibonacci, an Italian mathematician. 0, 1, 1, 2, 3, 5, 8, 13 ... |
| 10 | Fibonacci Sequence A set of numbers that starts with 1 or 0 followed by 1, and proceeds based on the rule that the next term is equal to the sum of the preceding 2 terms. |

NOTATION

11 $T(n)$ denotes the nth term

PRIOR KNOWLEDGE

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| 12 | Generate a linear sequence from its nth term |
| 13 | Substitute positive numbers into quadratic sequences |
| 14 | Find the nth term for an increasing linear sequence |
| 15 | Find the nth term for a decreasing linear sequence |

CORE SUCCESS CRITERIA

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| 16 | Recognise the Fibonacci numbers and sequence |
| 17 | Generate Fibonacci style sequences |
| 18 | Find the next three terms in any Fibonacci type sequence |
| 19 | Substitute numbers into formulae including terms in x^2 |
| 20 | Generate terms of a quadratic sequence from its written rule |
| 21 | Generate terms of a quadratic sequence from its nth term |
| 22 | Identify quadratic sequences |
| 23 | Establish the first and second difference of a quadratic sequence |
| 24 | Find the next three terms in any quadratic sequence |