Subject	Year	Month	
Mathematics	10	March	Balcarras From strength to strength

Topic:

Sequences

3 lessons

Content (Intent)

Prior Learning

Year 9 Quadratic and Fibonacci sequences November
Year 8 Linear sequences February

Future Learning

Year 10 Straight line graphs May

Objectives

- Recognise sequences of odd and even numbers, and other sequences including Fibonacci sequences;
- Use function machines to find terms of a sequence;
- Write the term-to-term definition of a sequence in words;
- Find a specific term in the sequence using position-to-term or term-to-term rules;
- Generate arithmetic sequences of numbers, triangular number, square and cube integers and sequences derived from diagrams;
- Recognise such sequences from diagrams and draw the next term in a pattern sequence;
- Find the next term in a sequence, including negative values;
- Find the *n*th term for a pattern sequence;
- Find the *n*th term of a linear sequence;
- Find the *n*th term of an arithmetic sequence;
- Use the *n*th term of an arithmetic sequence to generate terms;
- Use the *n*th term of an arithmetic sequence to decide if a given number is a term in the sequence, or find the first term over a certain number;
- Use the *n*th term of an arithmetic sequence to find the first term greater/less than a certain number;
- Continue a geometric progression and find the term-to-term rule, including negatives, fraction and decimal terms;
- Continue a quadratic sequence and use the *n*th term to generate terms;
- Distinguish between arithmetic and geometric sequences.

Pedagogical notes (implementation)

Emphasise use of $3n$ meaning $3 \times n$.
Students need to be clear on the description of the pattern in words, the difference between the terms and the algebraic description of the *n*th term.
Students are not expected to find the *n*th term of a quadratic sequence.

How will understanding be assessed & recorded (Impact)

End of half term no
End of Year Year 10 exams in April

How can parents help at home?

MathsWatch clips

Qualification KS3: A11abc, A22, A23ab, N12

Qualification KS4: 37, 102, 104, 141

Further reading/discussion

Reading / Enrichment	Literacy	Numeracy Links	Careers Links
http://passyworldofmathematics.com/fibonacci-sequence-in-music/			Artist Biologist Landscaper