| Subject     | Year | Month   |
|-------------|------|---------|
| Mathematics | 11   | January |



## Topic:

## Rearranging equations, graphs of cubic and reciprocal functions, simultaneous equations

4 lessons

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| Content (intent)                |                 |  |  |  |  |
|---------------------------------|-----------------|--|--|--|--|
| Prior Learning                  | Future Learning |  |  |  |  |
| Year 10 Solving equations March |                 |  |  |  |  |

## **Objectives**

- Know the difference between an equation and an identity and use and understand the ≠ symbol;
- Change the subject of a formula involving the use of square roots and squares;
- Answer 'show that' questions using consecutive integers (n, n + 1), squares  $a^2$ ,  $b^2$ , even numbers 2n, and odd numbers 2n + 1:
- Solve problems involving inverse proportion using graphs, and read values from graphs;
- Find the equation of the line through two given points;
- Recognise, sketch and interpret graphs of simple cubics
- Recognise, sketch and interpret graphs of the reciprocal function  $y = \frac{1}{x}$  with  $x \neq 0$ ;
- Use graphical representations of indirect proportion to solve problems in context;
- identify and interpret the gradient from an equation ax + by = c;
- Write simultaneous equations to represent a situation;
- Solve simultaneous equations (linear/linear) algebraically and graphically;
- Solve simultaneous equations representing a real-life situation, graphically and algebraically, and interpret the solution in the context of the problem;

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| Pedagogical notes (implementation)              | How will understanding be assessed & recorded (Impact)               |
| Emphasise the need for good algebraic notation. | End of half term no End of Year 2 <sup>nd</sup> mocks in Feb & March |
|   | How can parents help at home?  |
|   | MathsWatch clips   |
|   | Qualification KS3:   |
|   | Qualification KS4: 96, 136, 140, 159b, 161, 162, 190                 |
| Further reading/discussion                      |  |

| Reading / Enrichment | Literacy | Numeracy | Careers Links |  |  |
|----------------------|----------|----------|---------------|--|--|
|                      |          | Links    | Engineer      |  |  |
|                      |          |          | Physicist     |  |  |
|                      |          |          | Statistician  |  |  |