# Emerging Progress

Students should be able to demonstrate fluency in Mathematics and a developing ability to decision make and solve problems.

- Accurately recall number facts, terminology and definitions

- Use and interpret notation correctly

- Carry out routine procedures or set tasks requiring single step solutions

- Carry out routine tasks requiring single step solutions

- Recall basic number facts with increasing accuracy

- Use notation correctly

- Communicate basic information

## In Year 9, the students Knowledge journey increases in Challenge further to include.....

### In Year 8, students Knowledge journey increases in Challenge to include.....

Indices and standard form
Expressions and formulae
Dealing with data
Multiplicative reasoning
Sequences, inequalities
Equations and proportion

Constructions
Circles
Pythagoras
Prisms
Graphs
Probability
Comparing shapes

### In Year 7, students Knowledge journey includes......

Analysing and displaying data
Number skills
Expressions, functions and formulae
Decimals and measures
Fractions

Probability
Ratio and proportion
Lines and angles
Sequences and graphs
Transformations

Number
Area and volume
Statistics, graphs and charts
Expressions and equations
Real-life graphs;
Straight-line graphs

Decimals and ratio
Lines and angles
Calculating with fractions
Straight-line graphs
Percentages, decimals and fractions

# Developing Progress

Students have increasing confidence to reason, interpret and communicate mathematically Students working at this level can, generally:

- Make some deductions and from mathematical information

- Construct chains of reasoning

- Communicate information

- Present proofs and argument and critically evaluate a given way of presenting information

- Use and apply standard techniques.

- Recall and use some notation, terminology, facts and definitions; perform routine procedures including some multi-step procedures

- Interpret and communicate basic information; make deductions and use reasoning to obtain results

- Solve problems by translating simple mathematical and non-mathematical problems into mathematical processes

- Provide basic evaluation of methods or results

- Interpret results in the context of the given problem

| In Year 9, students' Knowledge journey increases in Challenge further to include….. | | | | |
|---|---|---|---|---|
| In Year 8, students' Knowledge journey increases in Challenge to include….. | | | Indices and standard form<br>Expressions and formulae<br>Dealing with data<br>Multiplicative reasoning<br>Sequences, inequalities<br>Equations and proportion | Constructions<br>Circles<br>Pythagoras<br>Prisms<br>Graphs<br>Probability<br>Comparing shapes |
| In Year 7, students' Knowledge journey includes…… | | Number<br>Area and volume<br>Statistics, graphs and charts<br>Expressions and equations<br>Real-life graphs;<br>Straight-line graphs | Decimals and ratio<br>Lines and angles<br>Calculating with fractions<br>Straight-line graphs<br>Percentages, decimals and fractions | |
| Analysing and displaying data<br>Number skills<br>Expressions, functions and formulae<br>Decimals and measures<br>Fractions | Probability<br>Ratio and proportion<br>Lines and angles<br>Sequences and graphs<br>Transformations | | | |

# Achieving Progress

Students are able to demonstrate fluency in straight forward mathematical contexts and are developing an ability to decision make and solve problems. Students working at this level can, generally:

- Perform routine single and multi-step procedures effectively by recalling applying and interpreting notation, terminology, facts, definitions and formulae

- Interpret and communicate information effectively

- Make deductions, inferences and draw conclusions

- Construct chains of reasoning, including arguments

- Generate strategies to solve mathematical and non-mathematical problems by translating them into mathematical processes, realising connections between different parts of mathematics

- Translate problems in mathematical or non-mathematical contexts into a process or a series of mathematical processes

- Make and use connections between different parts of mathematics

- Interpret results in the context of the given problem

- Evaluate methods used and results obtained

- Evaluate solutions to identify how they may have been affected by assumptions made

## In Year 9, students' Knowledge journey increases in Challenge further to include…..

## In Year 8, students' Knowledge journey increases in Challenge to include…..

Indices and standard form
Expressions and formulae
Dealing with data
Multiplicative reasoning
Sequences, inequalities
Equations and proportion

Constructions
Circles
Pythagoras
Prisms
Graphs
Probability
Comparing shapes

## In Year 7, students' Knowledge journey includes……

Analysing and displaying data
Number skills
Expressions, functions and formulae
Decimals and measures
Fractions

Probability
Ratio and proportion
Lines and angles
Sequences and graphs
Transformations

Number
Area and volume
Statistics, graphs and charts
Expressions and equations
Real-life graphs;
Straight-line graphs

Decimals and ratio
Lines and angles
Calculating with fractions
Straight-line graphs
Percentages, decimals and fractions

# Exceeding Progress

Students have an extensive ability to reason, interpret and communicate mathematically. Students working at this level can, generally:

- Make deductions, inferences and draw conclusions from mathematical information

- Construct chains of reasoning to achieve a given result

- Interpret and communicate information accurately

- Present arguments and proofs

- Asses the validity of an argument and critically evaluate a given way of presenting information

- Perform multi-step procedures effectively by applying terminology and using formulae

- Interpret and communicate information effectively

- Use strategies to solve mathematical and non-mathematical problems by translating them into mathematical processes, realising connections between different parts of mathematics and confidently combining skills to solve problems

**In Year 9, students' Knowledge journey increases in Challenge further to include…..**

**In Year 8, students' Knowledge journey increases in Challenge to include…..**

| **In Year 7, students' Knowledge journey includes……** | | Number<br>Area and volume<br>Statistics, graphs and charts<br>Expressions and equations<br>Real-life graphs;<br>Straight-line graphs | Decimals and ratio<br>Lines and angles<br>Calculating with fractions<br>Straight-line graphs<br>Percentages, decimals and fractions | Indices and standard form<br>Expressions and formulae<br>Dealing with data<br>Multiplicative reasoning<br>Sequences, inequalities<br>Equations and proportion | Constructions<br>Circles<br>Pythagoras<br>Prisms<br>Graphs<br>Probability<br>Comparing shapes |
|---|---|---|---|---|---|
| Analysing and displaying data<br>Number skills<br>Expressions, functions and formulae<br>Decimals and measures<br>Fractions | Probability<br>Ratio and proportion<br>Lines and angles<br>Sequences and graphs<br>Transformations | | | | |

# Excelling Progress

Students have an extensive ability to solve problems within mathematics and in other contexts. Students working at this level can, generally:

- Perform procedures accurately

- Interpret and communicate complex information accurately

- Make deductions and inferences and draw conclusions

- Construct substantial chains of reasoning, including convincing arguments and formal proofs

- Generate efficient strategies to solve complex mathematical and non-mathematical problems by translating them into a series of mathematical processes

- Make and use connections, which may not be immediately obvious, between different parts of mathematics

- Interpret results in the context of the given problem

- Critically evaluate methods, arguments, results and the assumptions made

**In Year 9, students' Knowledge journey increases in Challenge further to include…..**

**In Year 8, students' Knowledge journey increases in Challenge to include…..**

| Indices and standard form Expressions and formulae Dealing with data Multiplicative reasoning Sequences, inequalities Equations and proportion | Constructions Circles Pythagoras Prisms Graphs Probability Comparing shapes |

**In Year 7, students' Knowledge journey includes……**

| | | Number Area and volume Statistics, graphs and charts Expressions and equations Real-life graphs; Straight-line graphs | Decimals and ratio Lines and angles Calculating with fractions Straight-line graphs Percentages, decimals and fractions |
|---|---|---|---|
| Analysing and displaying data Number skills Expressions, functions and formulae Decimals and measures Fractions | Probability Ratio and proportion Lines and angles Sequences and graphs Transformations | | |