FEATHERSTONE HIGH SCHOOL
TOGETHER WE ACHIEVE

# YEAR 8 MATHEMATICS
# LEARNING JOURNEY

**Build skills. • Explore mathsmens. • Prepare for the future.**

MathsWatch

> *"Without mathematics, there is nothing you can do. Everything around you is mathematics. Everything around you is numbers."*
> — Shakuntala Devi

## MATHS IN THE REAL WORLD

**Building scale drawings**



Scale drawings help architects and builders plan accurately.

**Shopping discounts**




Percentages help us understand discounts and best value.

**Fractions in food**



Fractions help us share food equally and fairly.

**Timetables and travel**



Timetables use time, distance and calculations to help us plan our journeys.

**Navigation and maps**



Maps and bearings use angles and coordinates to find our way.

**Coding and technology**



Coding uses logic, patterns and maths to build games and apps.

## START OF YEAR 8

## AUTUMN TERM – BUILDING STRONG FOUNDATIONS

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Rounding | Degree of Accuracy | Sequences | Linear Relationships | Equation of a Straight Line | Solving Linear Equations | Simultaneous Equations |
| 3.14159 ↓ 3.14 | 2.3456 to 2 d.p. 2.35 | 2, 5, 8, 11, ... +3 | | $y = mx + c$ | $2x + 5 = 13$ $2x = 8$ $x = 4$ | |

### ASSESSMENT POINT 1 – END OF AUTUMN TERM

**Number and Algebra Assessment**

- ✓ Fluency with calculations
- ✓ Algebraic skills
- ✓ Problem solving in real-life contexts
- ✓ Reasoning and communication



## SPRING TERM – THINKING PROPORTIONALLY

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Multiplicative Relationships | Percentages | Proportion | Direct and Inverse Proportion | Averages and Data | Statistical Representations |
| $y = kx$ | 25% | $a:b = c:d$ | $y \propto x$ $y \propto \frac{1}{x}$ | | |

### ASSESSMENT POINT 2 – END OF SPRING TERM

**Statistics Assessment**

- ✓ Data analysis
- ✓ Averages and measures
- ✓ Graphical representation
- ✓ Problem solving with statistics



## SUMMER TERM – SHAPE, SPACE AND CHANCE

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Area and Perimeter of 2D & Compound Shapes | Surface Area & Volume of 3D Shapes | Angles in Parallel Lines | Angles in Polygons | Constructing Triangles | Bearings |
| 6 cm, 4 cm, 10 cm | 5 cm, 5 cm | | | | N, 045°, W, E, S |

### ASSESSMENT POINT 3 – END OF SUMMER TERM

**Geometry and Measures Assessment**

- ✓ Geometry and measures
- ✓ Problem solving and reasoning
- ✓ Area, perimeter and volume
- ✓ Working with accuracy



## LOOKING AHEAD TO YEAR 9

- $a^n$ Standard form
- Quadratic graphs
- Trigonometry
- Pythagoras Theorem
- $x^2 + bx + c = 0$ Solving and factorising quadratics
- $a^n$ Laws of indices
- Transformations

## YOUR JOURNEY CONTINUES...

Build confidence.
Keep practising.
Achieve your best.

> *"The only way to learn mathematics is to do mathematics"*
> — Paul Halmos

## ENRICHMENT & OPPORTUNITIES

**Competitions & Challenges**

- UKMT Maths Challenge
- World Numeracy Day
- Pi Day Celebration

**Clubs**

- Chess Club
- Rubik's Cube Club
- Maths Enrichment Club



## HOW WE ASSESS

- ✓ Fortnightly Progress Checks
- ✓ Retrieval Practice
- ✓ Classwork (Quizzes)
- ✓ Classroom (MathsWatch)
- ✓ End of Term Assessments

## WEEKLY HOME LEARNING

MathsWatch

**MathsWatch Tasks**

- Ensure modelled solutions are written into orange books.



**TOGETHER WE ACHIEVE**

- **INCLUSION** – We value everyone and celebrate inclusion.
- **CARE** – We care for our school community and support one another.
- **RESPECT** – We treat everyone with dignity and respect.
- **CHALLENGE** – We embrace challenge and enrich our learning.
- **RESILIENCE** – We keep going and learn from our setbacks.
- **PARTNERSHIP** – We work together and celebrate success.

FHS VALUES