

Year 4 Maths at Pimlico Primary

Core belief

- Success in mathematics for every child **is possible**
- Mathematical ability is not innate, and is **increased through effort**

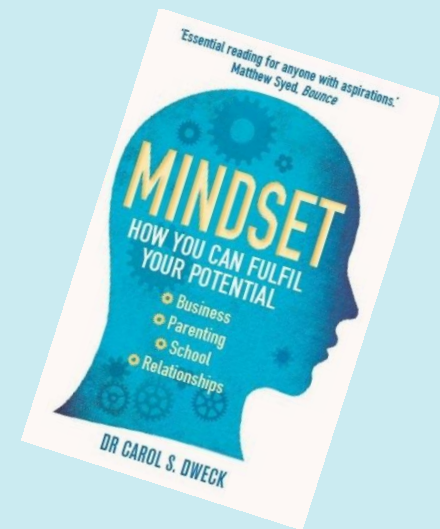
What is mindset?

Mindset is an idea developed by Dr. Carol Dweck.

A set of beliefs that determine somebody's behaviour and outlook in life.

Two types of mindset:

- A **fixed** mindset
- A **growth** mindset



Characteristics of a fixed mindset



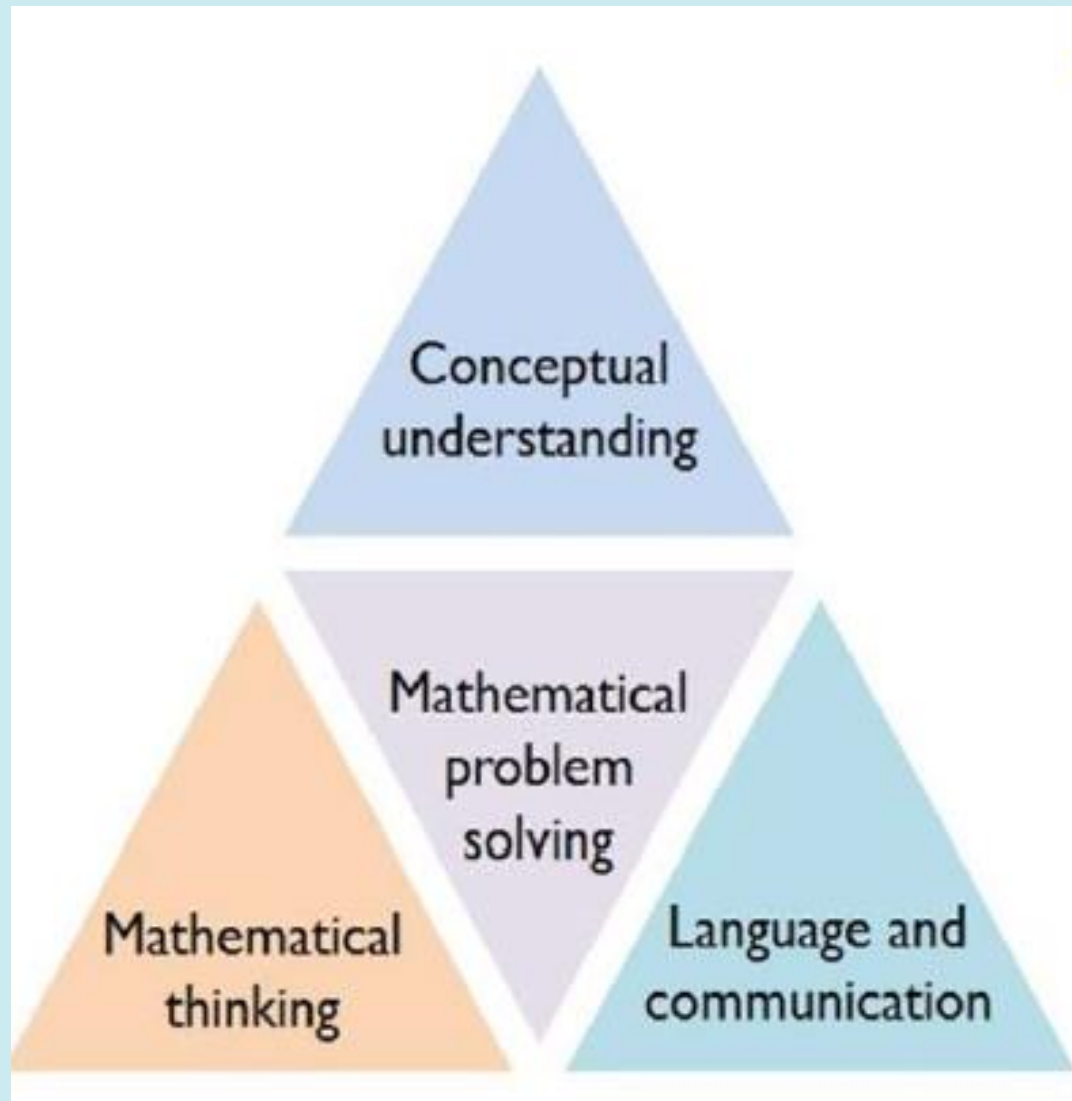
- ability and intelligence are innate
- intelligence and ability cannot be changed
- tend to give up easily with tasks
- avoid challenges
- feel threatened by the success of others
- ignore constructive criticism

Characteristics of a growth mindset



- intelligence can be developed over time through effort, dedication and hard work
- persevere with tasks
- enjoy challenges
- setbacks and criticism as lessons to be learnt from
- inspired by and learn from the success of others

Key principles



What does the National Curriculum say?

- “Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content.”
- “Those who are not sufficiently fluent should consolidate their understanding, including through additional practice, before moving on.”

What is mastery?

- ***"In mathematics, you know you've mastered something when you can apply it to a totally new problem in an unfamiliar situation."***
Dr. Helen Drury, Director of Mathematics Mastery
- "The intention of these approaches is to provide all children with full access to the curriculum, enabling them to achieve confidence and competence – 'mastery' – in mathematics, rather than many failing to develop the maths skills they need for the future."

What are concrete resources?



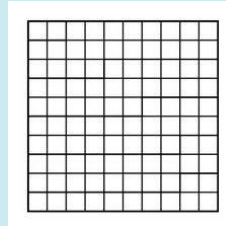
Bead strings



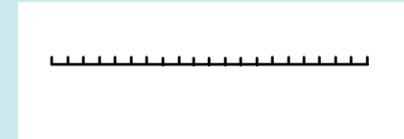
Bar models



Fraction towers



100 grids

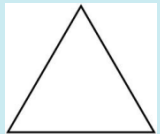
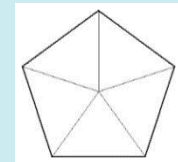


Number lines

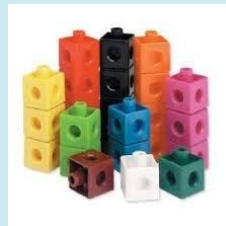
Cuisenaire rods



Shapes



Multilink cubes



Dienes blocks



Mathematical language

We provide opportunities for pupils to communicate and develop mathematical language through:

- Sharing essential vocabulary at the beginning of every lesson and insisting on its use throughout
- Modelling clear sentence structures using mathematical language
- Paired language development activities, known as Talk Tasks.
- Plenaries which give a further opportunity to assess understanding through pupil explanations.

How can I become involved?

- Talk to your child about their learning, what they learn in their maths lessons each day.
- Ask your children to show you/explain how they solved a problem
- Cook and shop with your child, getting them to weigh ingredients, using language such as “more” and “less/fewer”
- Provide practical opportunities where maths skills are practised

Year 4 Programme of Study - 'Term per page overview' 2017-2018 FINAL

Term	National Curriculum requirements	
Autumn	Unit 1 Reasoning with 4 digit numbers (2 weeks)	<ul style="list-style-type: none"> • find 1000 more or less than a given number • recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • order and compare numbers beyond 1000 • solve number and practical problems that involve all of the above and with increasingly large positive numbers • identify, represent and estimate numbers using different representations • round any number to the nearest 10, 100 or 1000 • count in multiples of 6, 7, 9, 25 and 1000
	Unit 2 Addition and subtraction (3 weeks)	<ul style="list-style-type: none"> • add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • estimate and use inverse operations to check answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why
	Unit 3 Multiplication and division (3 weeks)	<ul style="list-style-type: none"> • recall multiplication and division facts for multiplication tables up to 12×12 • solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects • recognise and use factor pairs and commutativity in mental calculations • use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers • multiply two-digit and three-digit numbers by a one-digit number using formal written layout
	Unit 4 Interpreting and presenting data (2 weeks)	<ul style="list-style-type: none"> • solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs • interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs