Eastfield Maths
Vocabulary and Representation Exemplar

Purpose

At Eastfield, mathematical vocabulary and visual support are used consistently to help pupils understand concepts, articulate their thinking and make connections. This exemplar demonstrates our approach without reproducing licensed commercial representations or resource packs. Teachers use the Academy's licensed materials in lessons alongside professional judgement and appropriate concrete resources.

A consistent problem-solving routine

Across maths, pupils are supported to move through a common thinking routine. The language is deliberately simple so it can be revisited across year groups while the mathematical demand increases.

Stage	What pupils do	Oracy focus
1 Vocabulary	Identify and rehearse the mathematical language needed.	What words will help us?
2 Have a go	Attempt the problem using known facts, a representation or a chosen strategy.	I will start by...
3 Solution	Reach and record a solution clearly.	My solution is...
4 Explain	Use mathematical vocabulary to explain and justify how and why the strategy works.	I know this because...
5 Reflect	Check the solution, consider efficiency and learn from errors or alternative approaches.	I checked by... / Another way is...
6 Extend	Apply the idea to a new example, variation or deeper challenge.	If this changes, then... because...

Worked exemplar: Place value

Place value shows how vocabulary, pupil talk and visual support work together. The examples below use written descriptions rather than reproducing licensed images.

Learning focus	Example vocabulary	Oracy / sentence stem	Representation approach
Core vocabulary	ones; tens; hundreds; thousands; millions; column; value; standard partition; non-standard partition	Pupils name the value of a digit and explain how its position determines its value.	Teacher-created place-value chart; place-value counters or base-ten equipment where appropriate.
Compare and order	compare; order; ascending; descending; less than; greater than	"___ is greater than ___ because..." "I ordered these by first comparing the ___ column."	Number line; inequality symbols; ordered numeral cards.
Locate and round	start point; mid point; quarter point; three-quarter point; multiple of 10; round; nearest; degrees of accuracy; closest	"___ is closer to ___ because..." "The midpoint is ___, so..."	Teacher-created number line with labelled intervals and benchmark points.
Integers and difference	negative; positive; integer; difference; known facts	"The difference between ___ and ___ is..." "I used the known fact ___ to..."	Number line crossing zero; teacher-created examples showing positive and negative integers.

How the approach progresses

Throughout the school, pupils encounter consistent mathematical vocabulary, associated visuals and mathematical representations. Adults explicitly model mathematical language and the use of representations to support understanding. As pupils progress through the curriculum, they use mathematical vocabulary with increasing precision and independence, moving from concrete and pictorial representations towards more abstract thinking. This enables them to explain, justify and communicate their mathematical reasoning with confidence.

Non-negotiables across Eastfield

- Key vocabulary is identified before or during new learning and revisited through retrieval.
- Teachers model vocabulary in complete mathematical sentences and expect pupils to use it when explaining reasoning.
- Images and representations are selected because they expose the mathematical structure, not simply for decoration.
- Pupils move between concrete, pictorial and abstract forms when this strengthens understanding.
- Sentence stems scaffold talk where helpful but are reduced as pupils become more independent.
- Pupils are expected to explain, reflect and extend, not only give an answer.

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