Mastering Maths Action Plan September 2023 - 24

Desirable outcome for Mastery Maths programme

To dovetail and bespoke the teaching and delivery of Power Maths and mastering number programmes, so there in consistency across the school in:

- Understanding of and use of CPA.
- Use of stem sentences to scaffold and link topic specific vocabulary.
- Pupils accessing manipulates to scaffold to further develop their deep understanding.
- Teacher modelling and linking of CPA
- Teacher talk and effective questioning.
- Working walls to aid
- Fluency
- Lesson design

Success criteria	Actions	Monitoring
Teachers are bespoking Power maths to ensure all children are accessing age related tasks and classes are being kept together.	▪ VC and CM to use KS meetings to train teachers in lesson design. ▪ All staff to observe VC & CM using 'mastering maths' proforma to analyse the story of lesson ▪ VC and CM to work in collaboration with staff in lesson design – joint planning ▪ Staff identify learning goals for their teaching ▪ VC and CM to create a timetable of support teachers in bespoking lessons.	▪ All children are being kept together on age related content. ▪ Adaptive teaching methods are being use to mitigate potential barriers to learning ▪ Appropriate models and images are used to support and deepen understanding ▪ Stem sentences are used to scaffold children's responses and explicit use of mathematical language used in reflect and classroom discussion.
Improve fluency skills for all pupils giving children automaticity of recall.	▪ Audit skills of KS1 and Year 3 pupils using the 'Number facts progression square. ▪ Audit current resources being used to support fluency – BM, flashback, fluent in 5 etc ▪ Audit Big maths and evaluate impact	▪ Monitoring use of big maths ▪ Analysis of known facts – gaps identified ▪ Decided best resources to support fluency ▪ All classes are accessing 'mastering number'

	▪ Identify pupils for precision teaching for fluency ▪ New homework policy year R→4 set Mathletics, TTRS and 1 minute maths for homework ▪ Adopt Fluency BEE by WR for explicit teaching of fluency skills across the school ▪ CM to train new staff on use of Mastering number. ▪ Embed Mastering number in Reception, KS1 and Year 2	
TAs are working effective to bring learning forward for all children	Explore lesson drop ins to assess: ▪ Effectiveness of TA deployment ▪ Use of language ▪ Modelling of images / vocab to take learning forward ▪ Questionnaire to TAs to ascertain skills and areas in which they wish to develop. ▪ Trial use of pre teach in Year 2 and 5 VC & CM ▪ Create a list of pupil for precision teaching.	▪ TAs are deployed in correct classes ▪ TAs are upskilled in use of language, images to support learning. ▪ CPD training ear marked ▪ Preteach is effective in enabling pupils to engage effectively in a lesson ▪ Precision teaching is being implemented. ▪ Improvement in fluency skills assessed by 'Number facts progression square test at the end of each term for pupils in R → Year 4
Monitoring tasks		
Teachers have good understanding and clear rationale for using particular manipulatives.	▪ Continued CPD training for staff on the rational and use of concrete and pictorial variations ▪ Staff plan for specific manipulative to be used in lessons ▪ Reflect part of session makes reference to images.	▪ 'Explore' lessons drop in prior and post training to assess impact. ▪ Informal drop in to check pupil use of manipulatives – ▪ Pupil interviews ▪ 'Explore' lessons drop ins to monitor 'reflect' session.
Teachers are confident in using a range of pictorial representation to scaffold pupils' deep understanding.	▪ CPD training for staff on the rational and use of concrete and pictorial variations ▪ Staff plan for specific manipulative to be used in lessons.	▪ Annotated planning with specifies manipulative on ▪ Joint lesson drop in to observe how manipulatives are being used.

	▪ Peer coaching and explore drop ins to lessons	
Stem sentences are being used in all classes to scaffolds maths talk.	▪ 'Explore' lessons drop to monitor use and impact of stem sentences ▪ Explore' lessons drop to see impact of effective 'Math's talk' ▪ Maths working walls in all classrooms with stem sentences linked to topic displayed and referred to. ▪ 'Stem sentence' documents shared with staff.	▪ Learning walk by SLT to review working walls. ▪ Discussion with pupils on reflect section of PM ▪ Book scrutiny – reflect section ▪ Stem sentences on display in all classes –
Pupils are able to use variation in methods of representations to explain their answers.	▪ Explicit teacher modelling of variation methods. ▪ HAP encouraged to 'show using a different way / model / image' ▪ Use of manipulates for all pupils ▪ Teacher planning specifically for manipulative use. (move to Yr 2)	▪ Pupil interviews ▪ Lesson drop ins ▪ Scrutiny of reflect section of PM
Pupils are using topic specific vocabulary in discussions and written answers.	▪ Subject specific vocab displayed in class. ▪ Vocab assessment made prior to start of unit. ▪ Use of PM teaching guides to identify key words ▪ Teaching explicit exposition of key vocab during lessons. ▪ Reflect section – pupils use correct terminology.	▪ Pupil interviews ▪ Lesson drop ins ▪ Learning walk ▪ Scrutiny of reflect section of PM
Staff are clear about how they can begin to further develop their practice in their KS	▪ ▪ Teachers to pinpoint one change they will make in their practice. ▪ CPD on key elements to improving maths teaching. Staff meetings (adaptive teaching and instructional coaching) ▪ VC & CM peer coaching of staff.	▪ Pre and post explore lesson drop ins. ▪ Collaborative lessons observations ▪ Explore lesson drop ins prior and post training to evaluate impact.

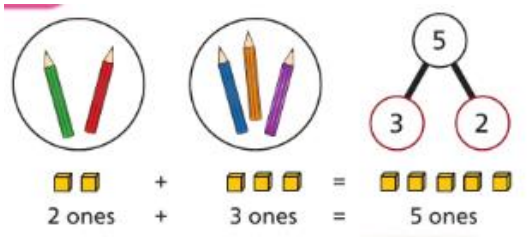
Future actions 2024 - 2 Year 2 Embedding	▪ Assess gaps in learning through robust and meaningful tasks – low stake, open ended tasks. ▪ Signpost relevant resources to support, consolidate concepts – website ▪ Develop effective interventions to close the gap – girls ▪ Embed fluency Bee to ensure teaching of automaticity is consistent.	▪

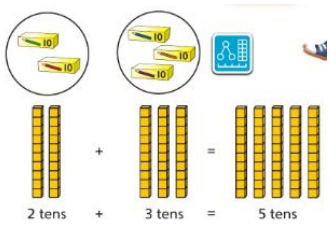
Glossary

CPA – *concrete, pictorial abstract.*

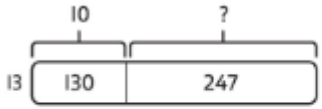
Concrete (Manipulatives) – use of physical resources. This can be a mixture of maths resources e.g. deans, place value counters or everyday objects (EYFS / KS1)

Pictorial – use of pictures and diagrams to show concepts.





Abstract – number sentences, formal and informal methods of calculations.



13	3	7	7	
–	1	3	0	10
	2	4	7	

Stem sentences

These are sentences pupil can use to discuss their methods. Each topic in maths will have a variety of sentence.

I know 5 and 3 make 8 so I know that 50 and 30 make 80.

4 and 4 make 8. Double 4 is 8.

Correct terminology

Subject specific words related to maths topic being taught.

factor
common factor
common multiple
prime
composite
squared (^{2})
cubed (^{3})
order of operations
brackets
inverse operation

V Charman October 2022 Updated July 2023