# Beckfoot Priestthorpe Teaching Maths Guidance



# **Maths Mastery from Ark+**

Website link: Welcome! - Ark Curriculum Plus

Username: Your email or ppscgu@beckfootpriestthorpe.org

Password: yours or 32Mammoths!

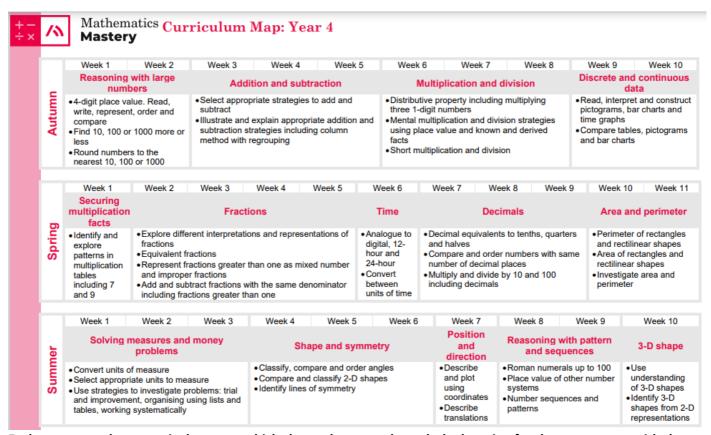
At Beckfoot Priestthorpe we use Maths Mastery to teach Maths. The programme is designed to save planning time while building maths subject expertise and confidence.

Maths Mastery follows an evidence-based approach and focuses on deepening pupils' understanding of key concepts. The programme is proven to give pupils an average of one months' additional progress after one year. It helps you to:

- Engage students by opening their eyes to key maths concepts
- Offer targeted additional support where needed
- . Develop confidence in teaching maths to a range of different abilities

Maths Mastery is a meticulously sequenced and interlinked maths curriculum with integrated professional development and planning tools to support teachers' knowledge and develop pedagogical expertise. It has fully resourced classroom and intervention materials, allowing pupils of all abilities to make explicit, observable progress throughout the primary years.

# **Curriculum Maps**



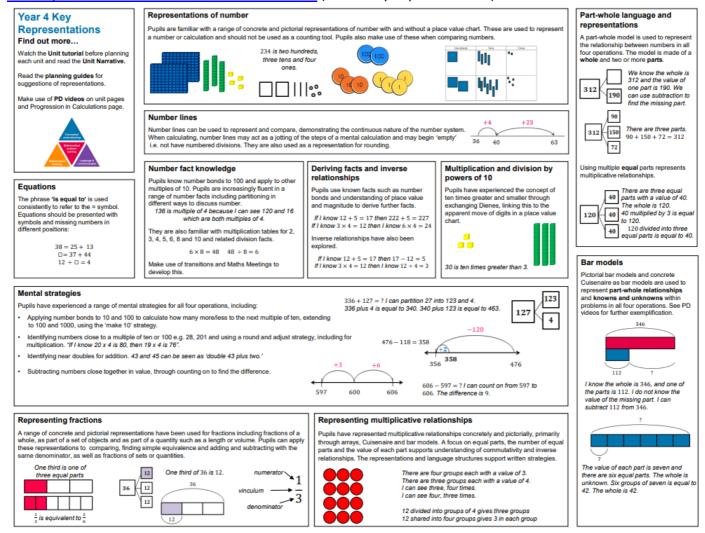
Each year group has a curriculum map which shows the route through the learning for that year group with the suggested weekly allocation for each unit. The curriculum map covers 31 weeks which allows time to build in extra teaching time where needed, assessments and interventions as appropriate.

Primary Overview - Maths - Ark Curriculum Plus (Link to Curriculum Maps)

## **Key Representations**

Key representations for each year group show the models, images and resources that you will use when teaching across the year. These will be used with the children and also displayed on your maths working wall. Select the appropriate ones to display from the Unit Narratives.

Primary Overview - Maths - Ark Curriculum Plus (Link to Key Representations)



## **Vocabulary Document**

This document highlights the vocabulary introduced throughout the primary curriculum – from Reception to Year 6. The vocabulary listed here is vocabulary that pupils are expected to use and understand on a daily basis within that year group, though the definitions are written for teacher reference and would not necessarily be shared with children as they stand. The vocabulary listed is cumulative and builds on the vocabulary previously introduced. Teachers should also consult with the Mathematics Mastery Primary Glossary.

Vocabulary List Reception to Year 6.pdf

## **Maths Mastery Glossary of Terms**

MM Primary Glossary.pdf (arkcurriculumplus.org.uk)

## **Progression in Calculations Document**

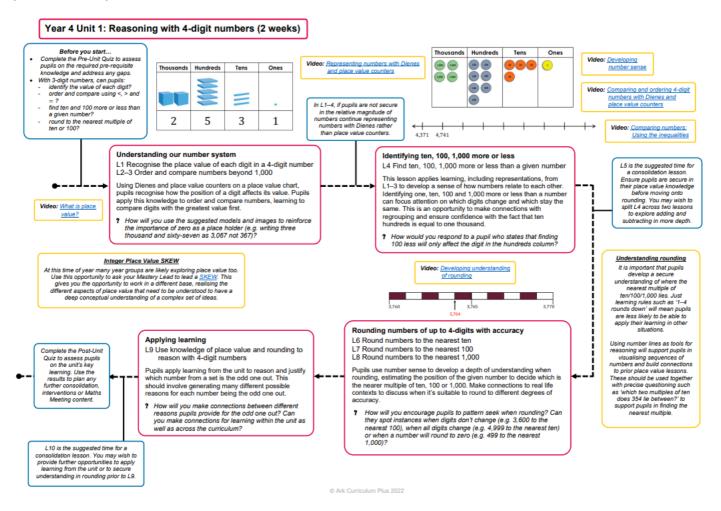
For each of the four rules of number, different strategies are laid out, together with examples of what concrete materials can be used and how, along with suggested pictorial representations. Please note that the concrete and pictorial representation examples are not exhaustive, and teachers and pupils may well come up with alternatives. The purpose of using multiple representations is to give pupils a deep understanding of a mathematical concept and they should be able to work with and explain concrete, pictorial and abstract representations, and explain the links between different representations. Depth of understanding is achieved by moving between these representations.

Primary Overview - Maths - Ark Curriculum Plus

#### Unit Narrative – Start here!

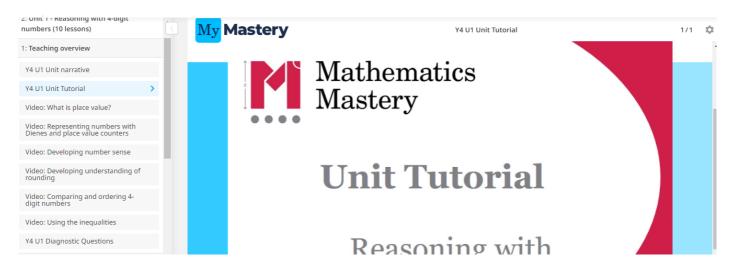
The Unit Narrative sets out a suggested route through the planned sequence of lessons. It starts and ends with the diagnostic quizzes and provides links to CPD videos to support the teaching and learning process.

You can decide whether you need to alter this to spend more/less time on particular concepts. You can edit the downloadable lesson plans to reflect this. It also indicates which of the Key Representations you will use at that point in the sequence.



#### **Unit Tutorials**

The Unit Tutorial are short videos which help support teacher subject knowledge and should always be watched before you start to plan the unit.

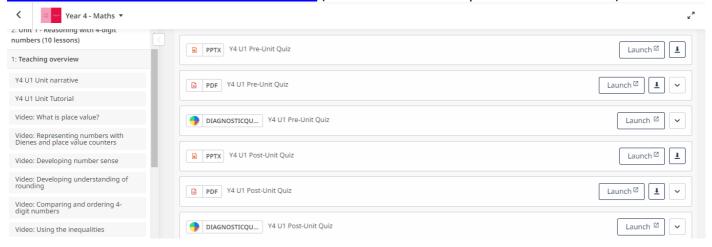


There are often a number of videos to develop subject knowledge and support the teaching of key concepts.

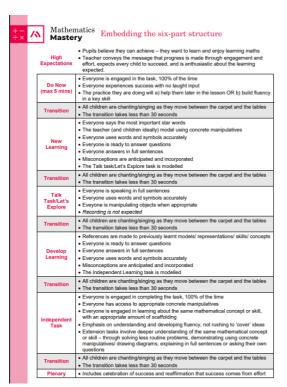
## **Pre- and Post-Unit Quizzes**

Pre- and Post-Unit quizzes help you assess where there may be gaps in knowledge before you start to plan and where there may be more work to do to secure understanding at the end of the unit. These come in a range of formats. The links to DiagnostocQu... requires a further subscription that we do not currently have. Detailed marking guidance suggests next steps to support planning and intervention if required.

Primary Overview - Maths - Ark Curriculum Plus (Link to video which explains the use of these)



# **Lesson Planning**



## Planning Guidance and the six-part lesson structure

Primary Overview - Maths - Ark Curriculum Plus

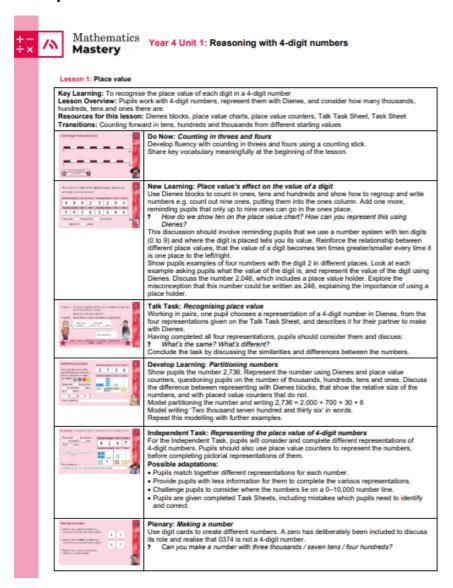
## **Planning Guidance Tool**

## Primary Overview - Maths - Ark Curriculum Plus

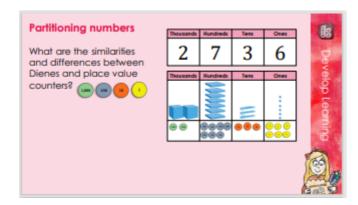
Maths Mastery Lessons are constructed with a six-part structure which guides you through the teaching each day. Above are the links to the structure itself and also a guidance tool which breaks down each section.

All lesson plans are downloadable in Word format so that they can be edited to suit you and your class. You must follow the 6-part lesson structure, but the activities are open to your professional judgement.

# **Example Lesson Plan**



## **Lesson Slides**



Lesson slides are available but should be used with care. They can be useful but equally they are very busy and contain too much information in many cases. The children need to see worked examples set out in the way you expect them to be so only use the slides to support you when they help rather than hinder.

MODEL ON A WHITEBOARD AS MUCH AS POSSIBLE SO IT IS SEEN, NOT JUST SAID

# Task Sheets/Banks

These can be very useful for ideas but please carefully consider your use of them. Do they need to be printed? Can it just be displayed? Is there a better way to do the same thing? Does it show their thinking?

Children's maths books should NOT become a scrap book for worksheets, as much as possible put the work straight in to their own book.

## **Maths Meetings**

Maths Meetings are a vital part of the Mathematics Mastery programme. Their purpose is to consolidate key areas of mathematics and develop fluency in recall of key knowledge. To be most effective, it is recommended that Maths Meetings occur daily for 10-15 minutes. A Maths Meeting should cover several curricular areas, broken down into short segments; each segment should take approximately 2-3 minutes. Maths meetings allow for the curriculum to become more of a spiral as you revisit and consolidate and address any misconceptions from assessment.

Maths Meeting Guidance sets out what should be taught and reviewed each term and there are some examples and ideas to get you started.



#### Important concepts for Year 4 Maths Meetings

The topics below <u>must</u> be included each term for both fluency and because some key learning will not be revisited until a later term and requires ongoing consolidation. Teachers should also consult the more detailed guidelines in this document for suggested activities and other areas to include.

Throughout Year 4, times tables and Roman numerals should be regularly incorporated into Maths Meetings.

Term	Detail
Autumn	Number:  Count in multiples of 6, 8, 25, 100 and 1000 Using the multiplication tables up to 12 × 12 Roman numerals to 100 (I to C) Derive facts from known facts (number bonds and multiplication facts, using knowledge of place value, inverse relationship, commutativity etc.) 'If I know, what else do I know?' using all four operations Add and subtract 3-digit numbers mentally using a range of calculation strategies Calculate multiplications and divisions mentally using a range of strategies (including known facts, halving, doubling, applying place value, inverse, commutativity etc). Compare and order fractions Find fractions of simple amounts and quantities (linking this to division) Count in tenths and hundredths forwards and backwards Shape and Pattern: Recognise 3-D shapes in different orientations and describe their properties I dentify right angles, compare angles and classify angles as acute or obtuse Recognise quarter, half, three-quarter and whole turns and their equivalent number of right angles I dentify lines of symmetry in the surrounding environment and regular 2-D shapes Identify horizontal and vertical lines and pairs of perpendicular and parallel lines Time: Tell and write the time from an analogue clock, including Roman numerals from I to XII and 12-hour and 24-hour clocks Estimate and read the time to the nearest minute Money: Add and subtract money, including mixed units, and give change in practical contexts
Spring	Number:  Divide by ten and 100 (using knowledge of place value) to get a decimal fraction  Use the number line to represent numbers (including decimals), fractions (including mixed numbers) and measures  Recognise and use factor pairs and commutativity in mental calculations  Multiply three numbers together  Geometry and shape:  Calculate the perimeters of rectilinear 2-D shapes on cm grids  Identify lines of symmetry in 2-D shapes  Measures including money:  Solve problems, including missing number problems using number facts, place value and more complex addition and subtraction problems  Add and subtract money, including mixed units, and give change in practical contexts  Time:  Estimate and read time to the nearest minute  Compare time in terms of seconds, minutes and hours  Convert units of time e.g. minutes to seconds, weeks to days

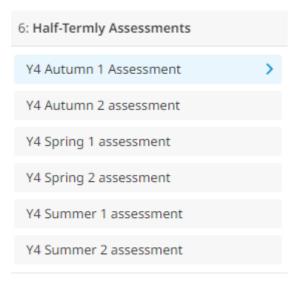
- 1. Go to maths meeting guidance.
- 2. Look at the terms objectives and make a slide to fit each bullet point.
- 3. Each day, tweak the slide to change the details/numbers whilst keeping the concept the same. You may also want to change the order of the slides to ensure that all content is covered. These tweaks are minor and should take 5 minutes.



- All work produced within these sessions should be on whiteboards to ensure that the session is quickfire and supports daily formative assessment.
- Any errors that the children make should be addressed quickly within that session.
- Don't worry if you don't get through all of the slides to begin with, this is why you may want to alter the order of them. The children will build up speed as they become more confident with each concept.

Year 2 maths meeting.pptx (Link to an example for Autumn in Y2)

## HALF TERMLY ASSESSMENTS



Half-termly assessments will be carried out in all year groups. They are SAT's style questions and should be used formatively to support the planning process.

An end of year standardised assessment (PUMA) will also be used to assess the children's overall attainment.