Stoneraise School Curriculum Statement

Subject: Mathematics **Subject Leader:** Mr. James Webb

Overarching Curriculum Statement

At Stoneraise School, our vision statement is, 'Living and learning together to care for each other and our world.' Our curriculum has been designed to focus the children's learning on this statement. We are based on the rural outskirts of the historic city of Carlisle and the majority of our pupils travel from local housing estates within the city. We try to make the very most of our beautiful surroundings at every opportunity. From Hadrian's Wall to the mountains of the Lake District, we ensure that our children gain an awe of the majestic landscape on our doorstep. Developing friendships, keeping ourselves safe and preparing our children to be the 'citizens of tomorrow' are all key parts of our curriculum as we follow the journey on our 'Pathway to Success'.

Our curriculum ensures excellent coverage of the National Curriculum (Years 1-6) and Foundation Stage Early Years Curriculum (Reception children). We have fully embraced the higher expectations set out in both curriculums and have devised our own units of work for each subject area so that we can ensure a sound progression of learning. We also have a core team of specialist teachers who are passionate about their curriculum area; these teachers work with different groups of children each year. Our team includes PE, music, art and computing specialists.

Our 'Sticky Knowledge' approach is used to help children to be aware of what they will learn through each unit or topic and help staff and pupils to make an assessment of what has been learned. We share key knowledge that we would like to 'stick' in the children's long-term memory, present vital vocabulary they will come across to encourage the children to expand and develop their use of a wide range of words. Sticky notes (which include word banks, diagrams and other important information) are often used to support the children in the short term in their learning. Our curriculum in EYFS is on a rolling year plan, KS1 across two years and KS2 across their four years in the juniors (we have some mixed-age classes).

Subject Curriculum Statement

Right from Reception, the children are given the opportunity to develop their mathematics through a variety of concrete (hands-on), pictorial (using pictures) and abstract activities. As the children move through into Key Stage 1, they can then draw on this solid understanding of number and place value and build up their knowledge further. Through Key Stage 2 the children continue to use a variety of models and representations to assist them in complex calculations. Problem solving and reasoning activities are used alongside a variety of fluency activities on a day-to-day basis to help all children make rapid progress.

Intent

Mathematics is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. At Stoneraise School, our high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

The National Curriculum for mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can solve problems by applying their mathematics to a variety of routine and non- routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

At Stoneraise School we see mathematics very much as a multi-discipline, cross curricular, interconnected subject which should encourage creativity. We want the children to see mathematics as being relevant to their world and applicable to everyday life as well as being something that they will need as they move on through their school life and ultimately to the world of employment. To that end, a high-quality, inter-related and creative mathematics experience should be one that develops the children's ability to think mathematically and one which allows them to apply the tools to which they have been exposed in a variety of ways.

Implementation

At Stoneraise School we use small steps to help the children bite off manageable chunks in their mathematical learning. As the children progress through school we build on prior knowledge, introduce new concepts and give the children as many experiences as possible to deepen their learning and understanding. We follow the small steps progression which has been outlined by the White Rose MathsHub.

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To keep concepts 'on the boil' and make 'knowledge stick' we have employed a regular 'Stoneraise Six' challenge into our mathematics lessons. The children answer six questions in six minutes which recap previous learning.

To ensure that parents know how their children are progressing with their mathematics, there are several ways we aim to keep parents informed:

- Three parents' evenings where parents can chat to their child's class teacher and look through their maths books;
- Weekly homework tasks set through our online learning platform (Mathletics) enables parents to see what their children have been working on through the week;
- Our half-termly newsletters outline the key learning that will take place in mathematics;
- We have created two guides (see below) for parents to help when calculating with whole numbers and fractions using all operations (+ - x ÷);
- An annual school report which includes details of assessments taken, overall successes in their learning and an area to develop.

We have created our own Mathematics Calculation Policy to share the methods, models and representations that the children will use as they progress through Stoneraise School. The methods progressively build up to the most formal method for each operation (addition, subtraction, multiplication and division). We have also produced a progression document that includes details on the different models and representations and why they are so useful in building firm foundations for children's mathematics.

To further support our mathematical teaching and learning, we use a program called Mathletics. This complements the scheme of work we follow for mathematics.

Scheme of Work Selection

We follow the small steps progression as outlined by White Rose MathsHub. The scheme of learning is used as a basis for teachers to tailor and adapt to the needs of our pupils. Some content will be streamlined so that multiple small steps are covered in one lesson. At other times teachers may choose to take longer to cover a subject that pupils are finding challenging.

CPD and Training

- The Mathematics Subject Leader has worked with the local MathsHub for several years completing the Professional Development Lead course
- Teachers have access to the WRM CPD when requested
- Regular in-house training is provided by the Subject Leader
- Resources from the NCETM are used to ensure good practice
- EEF research is used to ensure high quality teaching and learning in mathematics
- ECTs have access to a range of resources and CPD through One Cumbria
- Teachers are encouraged to see good practice in other local schools and regularly visit other practitioners
- The Mathematics Subject Leader is also a Specialist Leader for Education and often disseminates what he has learned when supporting other schools

Assessment Strategy

- Two summative assessment points (July and September) using GL Assessments. These are externally set and marked and provide a standardised score which is used to measure pupil progress and compare to peers in school and nationally.
- Formative assessment strategies include:
    - Regular quizzes (Kahoot!, Google Forms, Quizziz)
    - Stoneraise Six – six questions in six minutes based on previous learning
    - Observation of teachers and Teaching Assistants
    - Exercise books – daily work
    - Questioning within class
    - End of unit assessments e.g. WRM
    - Pre-teaching and intervention work with staff
    - Use of Mathletics data
- Summative assessment results are input into our tracking system (Insight Tracking) where school leaders are able to analyse the data. This information can be used alongside Question Level Analysis (QLA) to feed into our current action plan and School Development Plan (SDP).

Inclusive Curriculum

At Stoneraise School, we believe that every child can make progress and achieve. We ensure that our curriculum and the teaching and learning opportunities provided meet the needs of all of our pupils. We respond to pupils' diverse learning needs, and seek to identify potential barriers to learning quickly. We support parents through EHCP needs assessments and work closely with specialist teachers to ensure our curriculum is accessible. Targeted support through our Assess Plan Do Review cycle and resources are then used to ensure all pupils are engaged and confident learners. Pupils with SEND are monitored regularly and communication between pupils, parents, staff and external specialists underpins their success.

The role of governors

Our governors determine, support, monitor and review the school's approach to teaching and learning. In particular they:

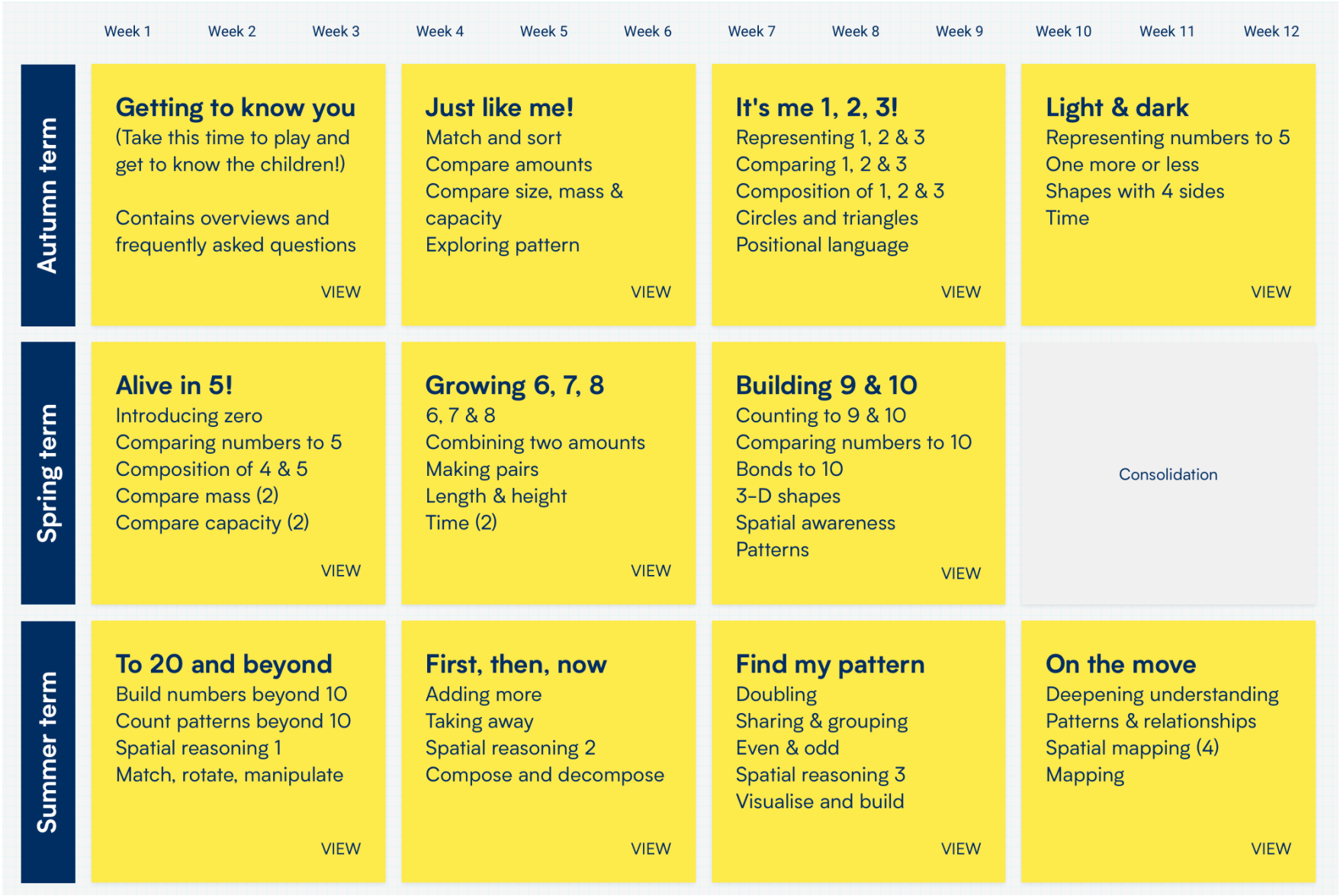
- support the use of appropriate teaching strategies by allocating resources effectively;
- ensure that the school buildings and premises are used optimally to support teaching and learning;
- check teaching methods in the light of health and safety regulations;
- seek to ensure that our staff development and our performance management
    - both promote good-quality teaching;
- monitor the effectiveness of the school's teaching and learning approaches
    - through the school's self-review processes, which include reports from the headteacher, senior leaders and subject leaders, and a review of the continuing professional development of staff.

Monitoring and review of this curriculum document

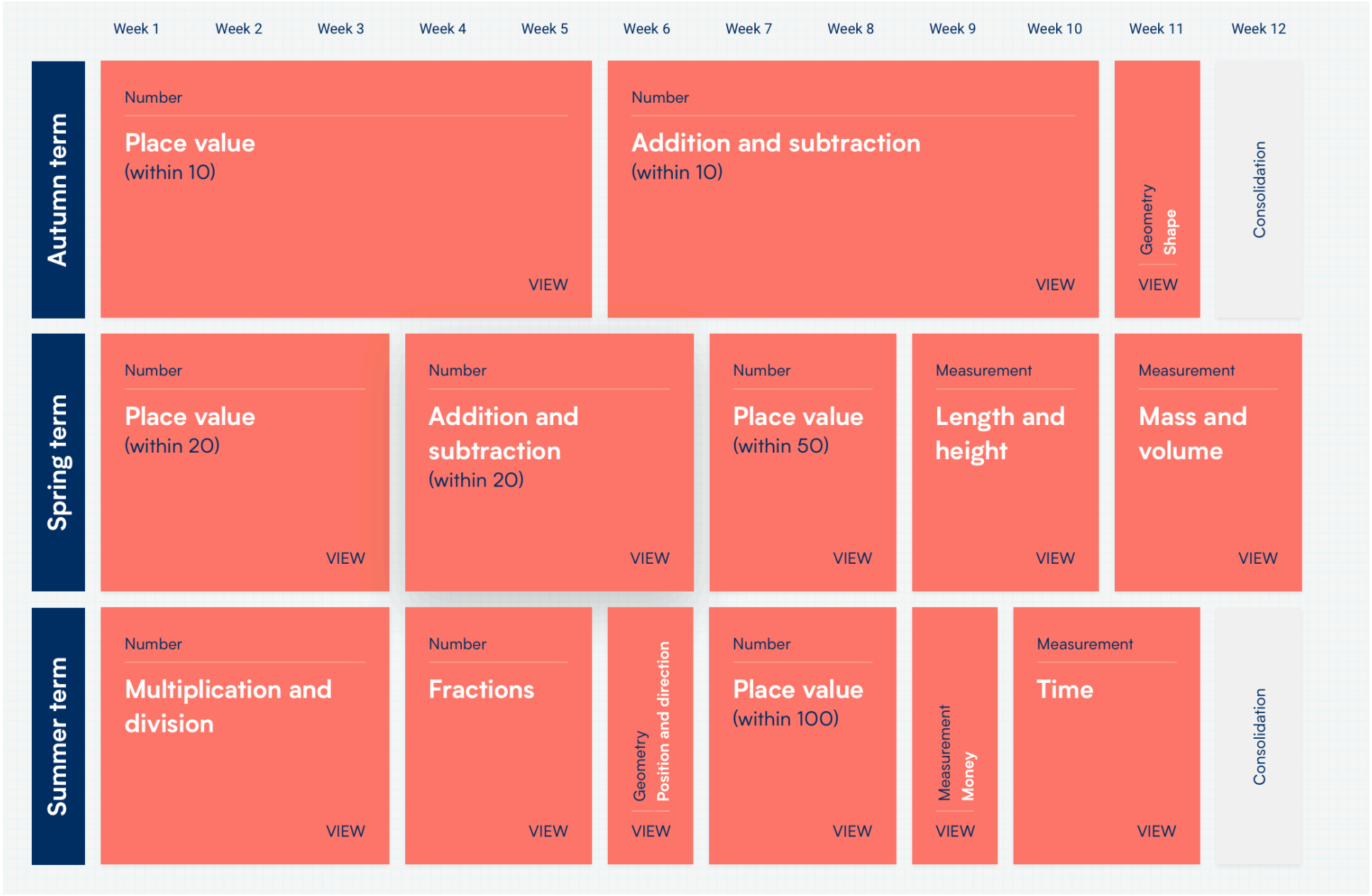
Senior leaders monitor the school's curriculum planning and implementation so that we can take account of new initiatives, research or any changes in the curriculum. We will therefore review this policy every three years or sooner if required.

Long Term Plans

Early Years



Year One


Week 1
Week 2
Week 3
Week 4
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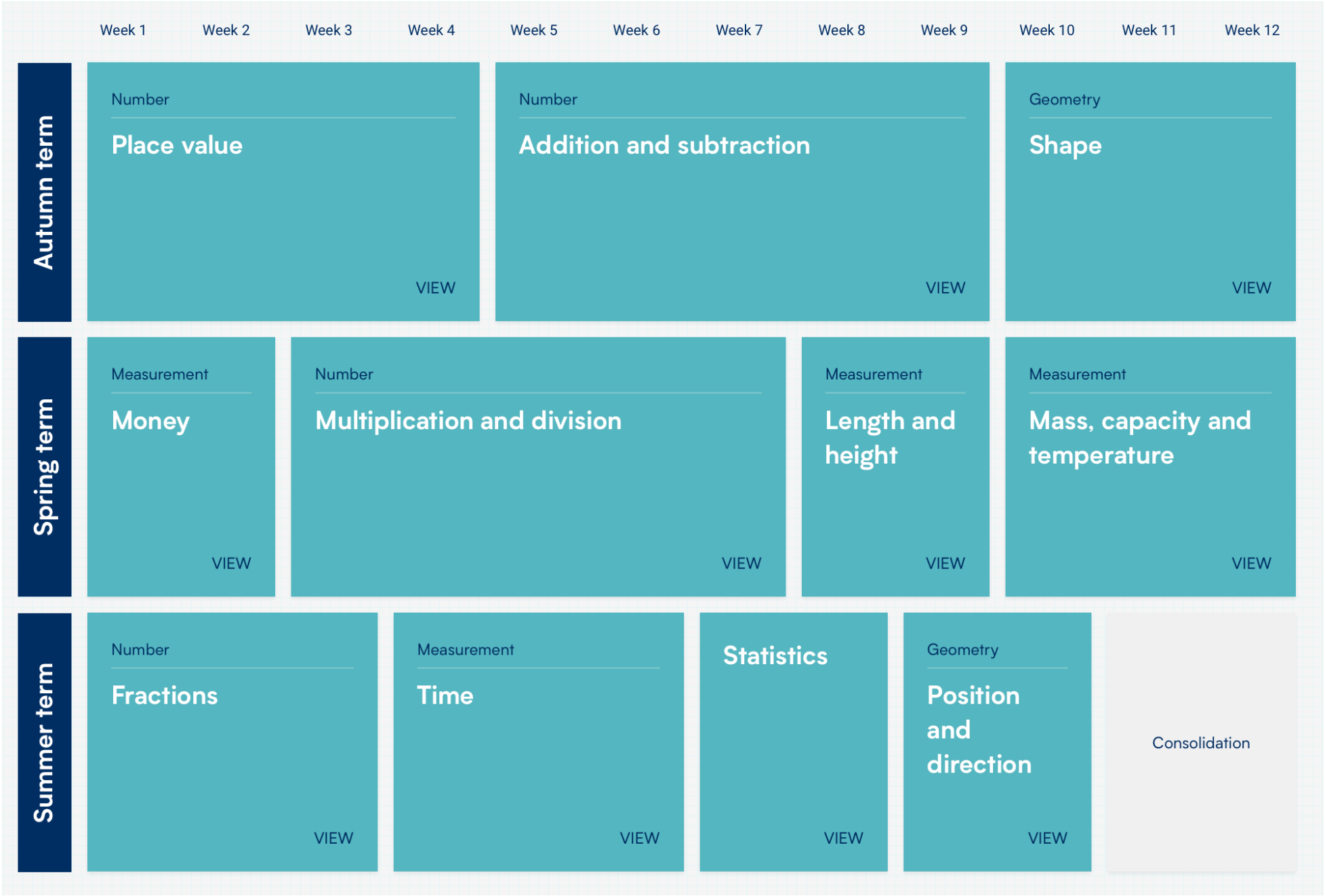
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Autumn term
Number
Place value
(within 10)
VIEW
Number
Addition and subtraction
(within 10)
VIEW
Geometry
Shape
VIEW
Consolidation
Spring term
Number
Place value
(within 20)
VIEW
Number
Addition and subtraction
(within 20)
VIEW
Number
Place value
(within 50)
VIEW
Measurement
Length and height
VIEW
Measurement
Mass and volume
VIEW
Summer term
Number
Multiplication and division
VIEW
Number
Fractions
VIEW
Geometry
Position and direction
VIEW
Number
Place value
(within 100)
VIEW
Measurement
Money
VIEW
Measurement
Time
VIEW
Consolidation

Year Two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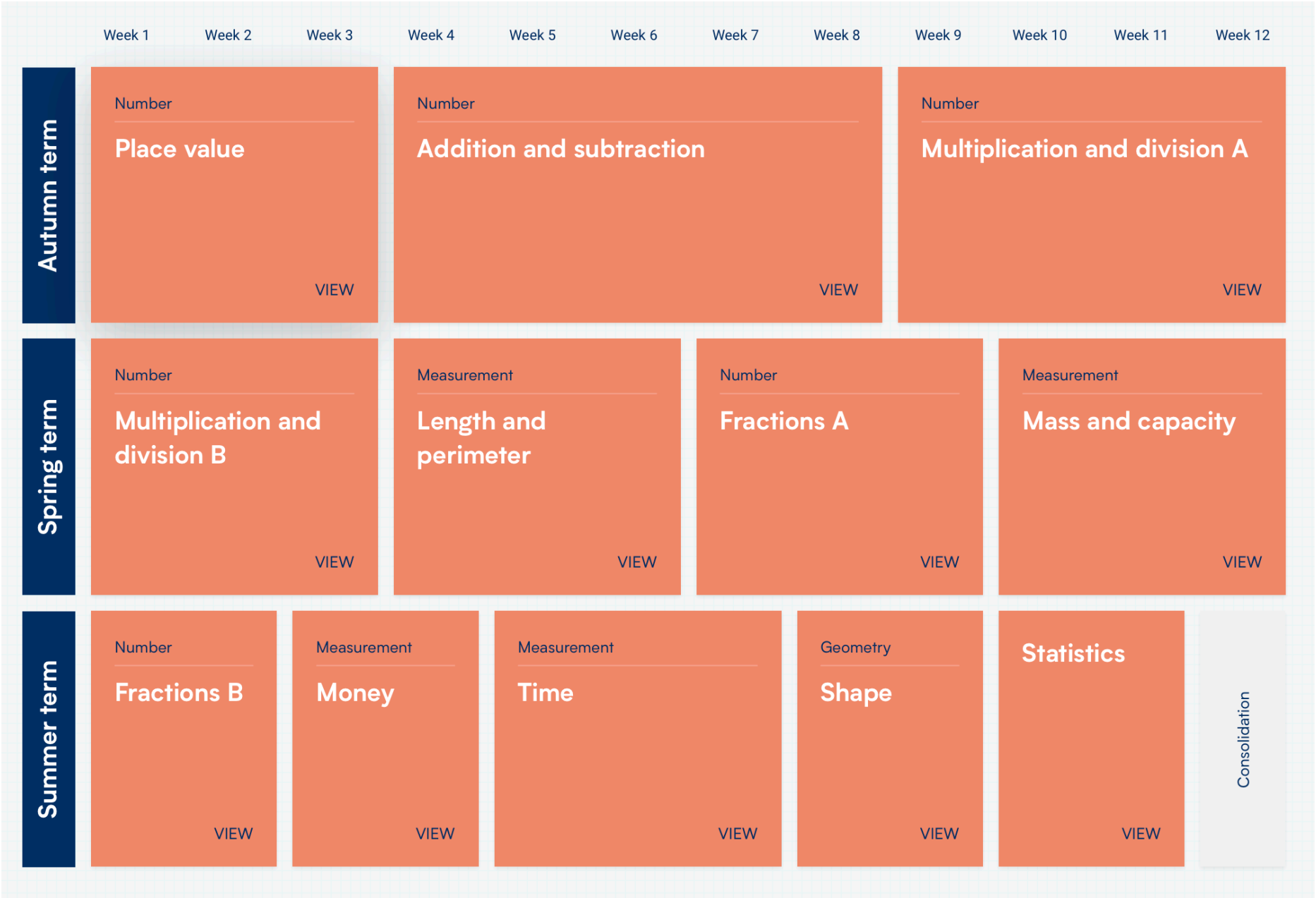
Week 12
Autumn term
Number
Place value
VIEW
Number
Addition and subtraction
VIEW
Geometry
Shape
VIEW
Spring term
Measurement
Money
VIEW
Number
Multiplication and division
VIEW
Measurement
Length and height
VIEW
Measurement
Mass, capacity and temperature
VIEW
Summer term
Number
Fractions
VIEW
Measurement
Time
VIEW
Statistics
VIEW
Geometry
Position and direction
VIEW
Consolidation

Year Three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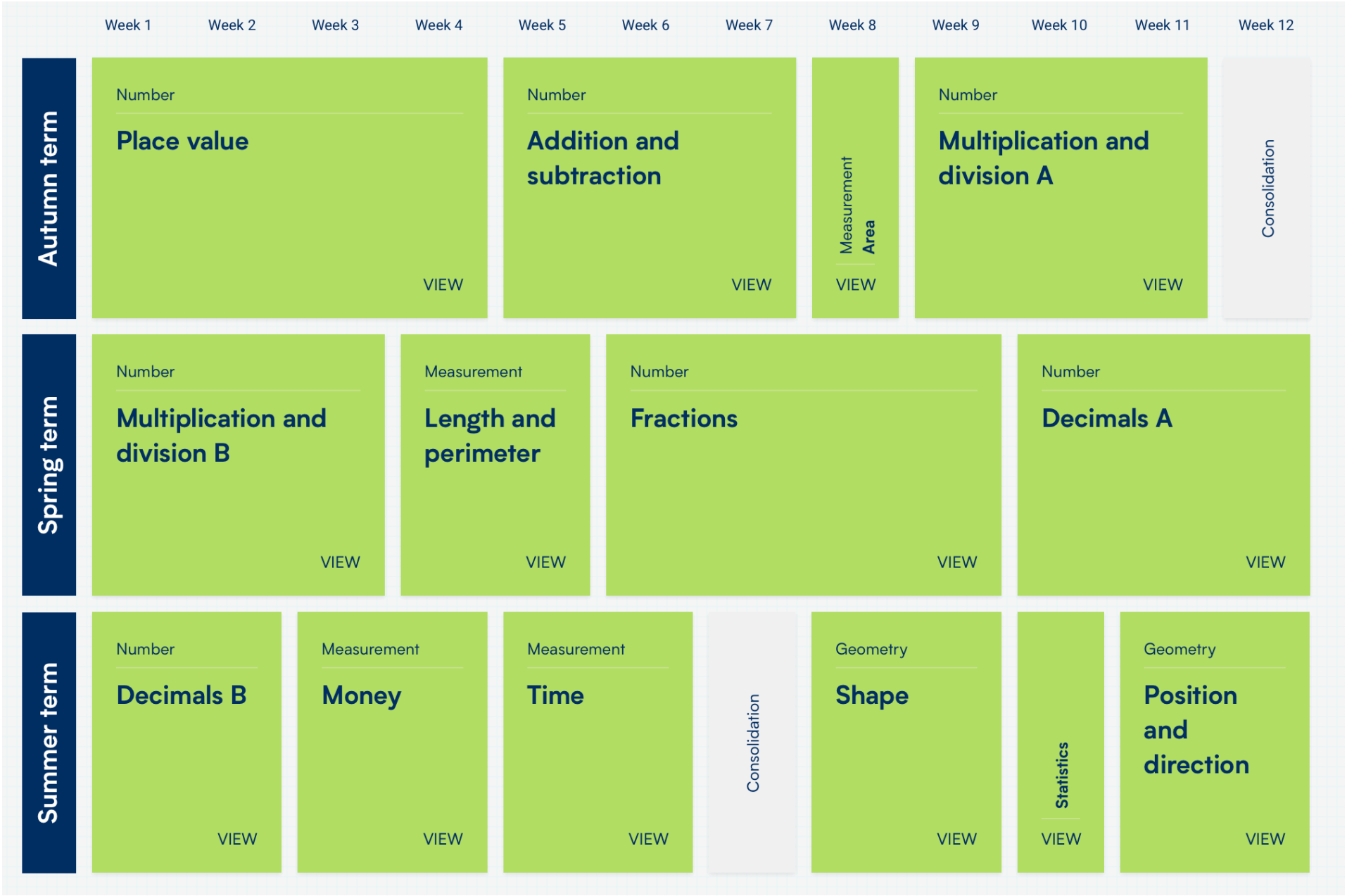
Autumn term
Number
Place value
VIEW
Number
Addition and subtraction
VIEW
Number
Multiplication and division A
VIEW
Spring term
Number
Multiplication and division B
VIEW
Measurement
Length and perimeter
VIEW
Number
Fractions A
VIEW
Measurement
Mass and capacity
VIEW
Summer term
Number
Fractions B
VIEW
Measurement
Money
VIEW
Measurement
Time
VIEW
Geometry
Shape
VIEW
Statistics
VIEW
Consolidation

Year Four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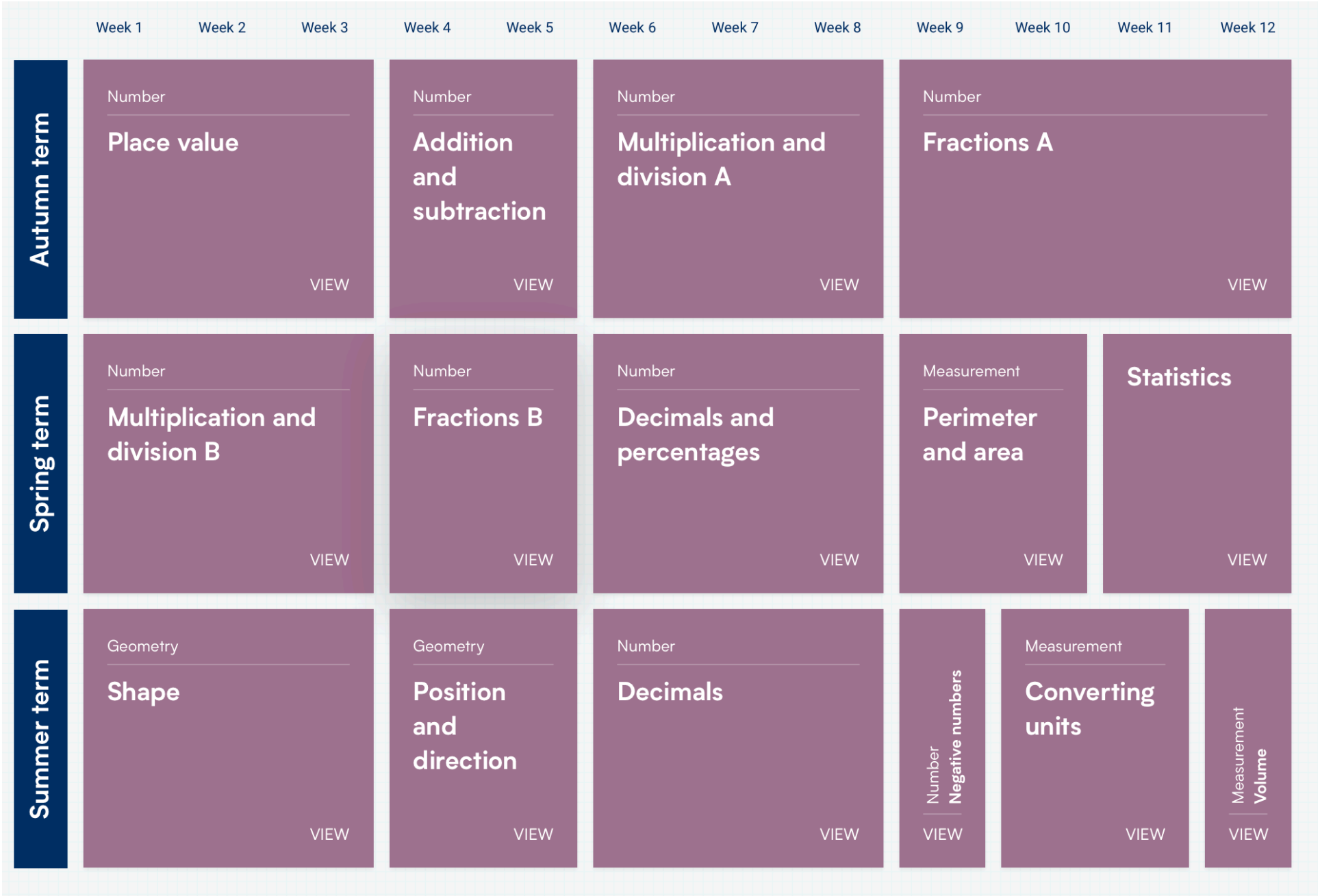
Week 11
Week 12
Autumn term
Number
Place value
VIEW
Number
Addition and subtraction
VIEW
Measurement
Area
VIEW
Number
Multiplication and division A
VIEW
Consolidation
Spring term
Number
Multiplication and division B
VIEW
Measurement
Length and perimeter
VIEW
Number
Fractions
VIEW
Number
Decimals A
VIEW
Summer term
Number
Decimals B
VIEW
Measurement
Money
VIEW
Measurement
Time
VIEW
Consolidation
Geometry
Shape
VIEW
Statistics
VIEW
Geometry
Position and direction
VIEW

Year Five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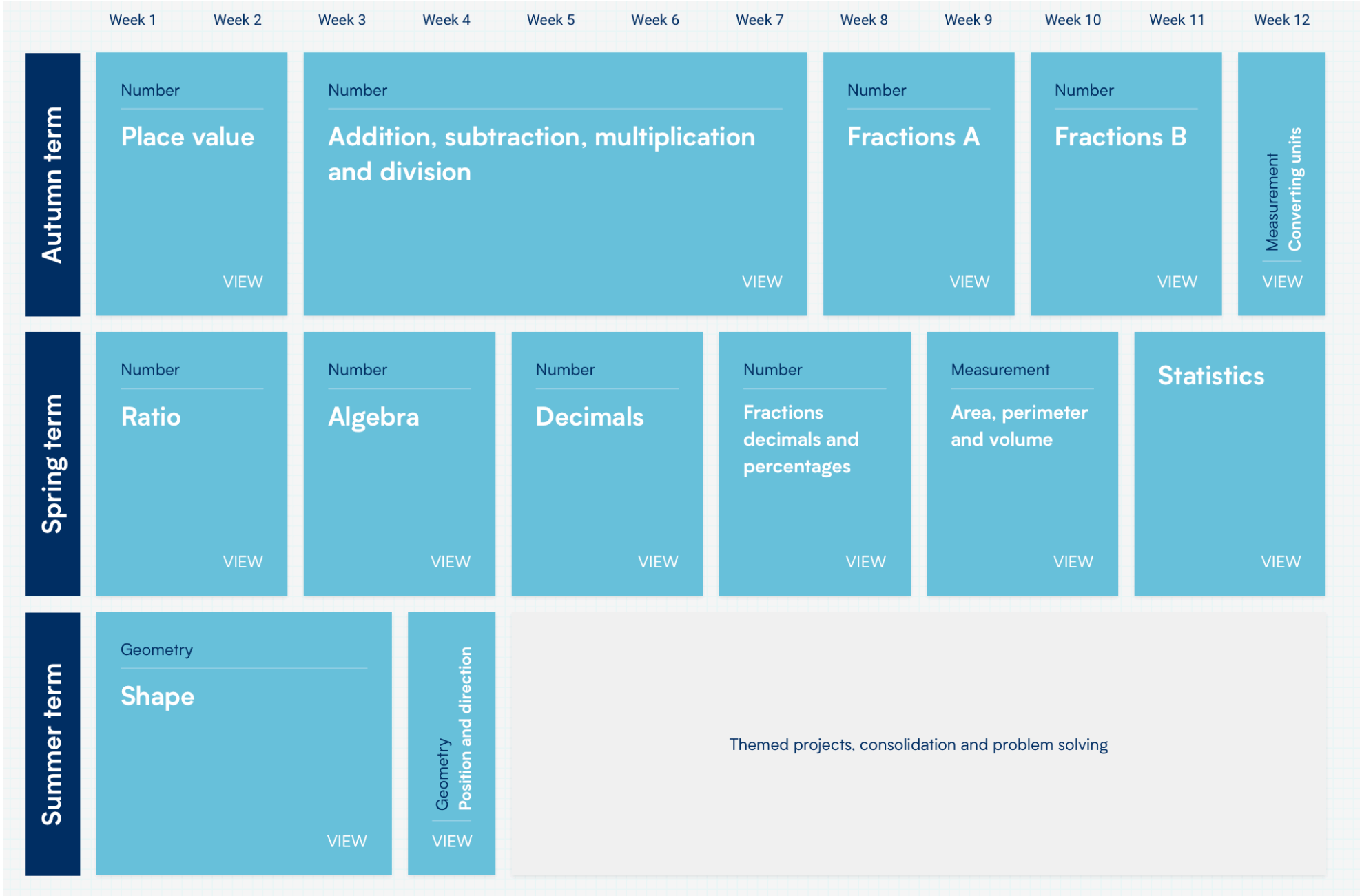
Week 10
Week 11
Week 12
Autumn term
Number
Place value
VIEW
Number
Addition and subtraction
VIEW
Number
Multiplication and division A
VIEW
Number
Fractions A
VIEW
Spring term
Number
Multiplication and division B
VIEW
Number
Fractions B
VIEW
Number
Decimals and percentages
VIEW
Measurement
Perimeter and area
VIEW
Statistics
VIEW
Summer term
Geometry
Shape
VIEW
Geometry
Position and direction
VIEW
Number
Decimals
VIEW
Number
Negative numbers
VIEW
Measurement
Converting units
VIEW
Measurement
Volume
VIEW

Year Six


Week 1
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Week 5
Week 6
Week 7
Week 8
Week 9
Week 10
Week 11
Week 12
Autumn term
Number
Place value
VIEW
Number
Addition, subtraction, multiplication and division
VIEW
Number
Fractions A
VIEW
Number
Fractions B
VIEW
Measurement
Converting units
VIEW
Spring term
Number
Ratio
VIEW
Number
Algebra
VIEW
Number
Decimals
VIEW
Number
Fractions decimals and percentages
VIEW
Measurement
Area, perimeter and volume
VIEW
Statistics
VIEW
Summer term
Geometry
Shape
VIEW
Geometry
Position and direction
VIEW
Themed projects, consolidation and problem solving

Curriculum Progression Map

The curriculum progression document is very lengthy so a digital version can be found here:

- National Curriculum 'Ready to progress' mapping
- Progression document