**Maths – Reception and Year 1 – Planning and links with NRICH**

|  |
| --- |
| ***Key skills:***  Aim: To develop an ‘I can’ attitude to maths.   * Using key equipment / models and images * Using jottings to develop thinking * Developing attitudes to maths – e.g. through use of ‘one question / multiple answers’   Aim: To use Assessment for Learning to identify children’s next-steps in learning.   * Using National Strategies ‘Securing Levels’ resources and/or NCETM ‘teaching for mastery - questions, tasks and activities to support assessment’ resources * Using sample calculations to see how (including which equipment) children choose to solve them, as well as how they choose to record any working out.   Year R: Using everyday problems communicated verbally involving addition, subtraction, multiplying and sharing fairly (e.g. fruit at snack time)  Year 1: 9 + 7 ….. 17 – 8 ….. 2 X 5 ….. 10 ÷ 2 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Column headings** | | | |
| **RECEPTION**  objectives  40-60+m is age band from Development Matters (DM), ELG is Early Learning Goal for end of Reception | **YEAR 1**  objectives | **ON THE BOIL**  5 min (or less) daily maths often not in maths session to practice number skills | **NRICH RESOURCES**  Problem solving |

|  |  |  |  |
| --- | --- | --- | --- |
| **Place Value** | | | |
| **RECEPTION** | **YEAR 1** | **ON THE BOIL** | **NRICH RESOURCES** |
| ***Comparing numbers:***  **40-60+m**  - uses the language of ‘more’ or ‘fewer’ to compare two sets of objects  **ELG:** Children say which number is one more or one less than a given number | ***Comparing numbers:***  - use the language of: equal to, more than, less than (fewer), most, least | ***Counting:***  **Reception**  **40-60+m**  - count up to 3 or 4 objects by saying one number name for each item  - count objects or actions which cannot be moved  - count objects to 10 and beginning to count beyond 10  - count an irregular arrangement of up to 10 objects  **Year 1**  - count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens  - given a number, identify one more and one less | ***Comparing numbers:***  **Reception**  **NRICH:** [**Number book**](https://nrich.maths.org/10989)  **NRICH:** [**Dressing up**](https://nrich.maths.org/9889)  **NRICH:** [**Golden beans**](https://nrich.maths.org/9969)  **NRICH:** [**Collecting**](https://nrich.maths.org/content/id/8864/Collecting.pdf)  **NRICH:** [**Playing Incy Wincy Spider**](https://nrich.maths.org/8389)  **Year 1**  **NRICH:** [**Making Sticks**](http://nrich.maths.org/public/viewer.php?obj_id=231) **\*\***  **NRICH:** [**Robot Monsters**](http://nrich.maths.org/2404) **\***  **NRICH:** [**Dotty Six**](http://nrich.maths.org/7337) **\***  **NRICH:** [**All Change**](http://nrich.maths.org/7514) **\*** |
| ***Identifying and representing and numbers:***  **40-60+m**  - estimate how many objects they can see and check by counting them  - recognise some numerals of personal significance  - recognise numerals 1 to 5  - select the correct numeral to represent 1 to 5, then 1 to 10  - record using marks that they can interpret and explain  **ELG:**  - Count reliably with numbers from 1 to 20  - They place them in order  **Exceeding:** Children estimate a number of objects and check quantities by counting up to 20 | ***Identifying, representing and estimating numbers:***  -identify and represent numbers using objects and pictorial representations including the number line | ***Identifying, representing and estimating numbers:***  **Year 1**  **NRICH:** [**What’s in a Name?**](http://nrich.maths.org/7952) **\*\***  **NRICH:** [**Count the Digits**](http://nrich.maths.org/7302) **\*** |
| ***Reading and writing numbers:***  *-* read and write numbers from 1 to 20 in numerals and words | ***Reading and writing numbers:***  **Year 1:**  **NRICH:** [**Writing Digits**](http://nrich.maths.org/public/viewer.php?time=1228319356&obj_id=161) **\***  **NRICH:** [**Shut the Box**](http://nrich.maths.org/6074) **\***  **NRICH:** [**Biscuit Decorations**](http://nrich.maths.org/public/viewer.php?obj_id=154) **\***  **NRICH:** [**Grouping Goodies**](http://nrich.maths.org/public/viewer.php?obj_id=232) **\*\*\*** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Addition and Subtraction** | | | |
| **RECEPTION** | **YEAR 1** | **ON THE BOIL** | **NRICH RESOURCES** |
| ***Estimating, Number bonds, Mental calculation:***  **40-60+m**  - count up to three or four objects by saying one number name for each  - count objects or actions which cannot be moved  - count objects to 10 and begin to count beyond 10  - count an irregular arrangement of up to 10 objects  - count out up to six objects from a larger group  - find the total number of items in two groups by counting all of them  - in practical activities and discussion begin to use the vocabulary involved in adding and subtracting  - record using marks they can interpret and explain  - begin to identify own mathematical problems based on own interests and fascinations  **ELG:** Children use quantities and objects to add and subtract two single digit numbers and count on or back to find the answer  **Exceeding:** Children estimate a number of objects and check quantities by counting up to 20 | ***Number bonds:***  - represent and use number bonds and related subtraction facts within 20 | ***Number and place value:***  **Reception**  - **40-60+m:** Use familiar objects and common shapes to create and recreate patterns and build models  - **ELG;** recognise, create and describe patterns  **Additional skills to support understanding:**  - Make numbers to 10/20 using structured apparatus  - Practise using numbers in terms of ordinality, i.e. 1st, 2nd, 3rd in context  - Subitise dots up to three /six in regular dice patterns  **Year 1**  - Partition numbers to five in as many ways as possible  - Use apparatus to create and recreate repeating patterns  - Make teens numbers using structured apparatus  - Practise using numbers in terms of ordinality, i.e. 1st, 2nd, 3rd, 4th to 10th in context  - Subitise dots up to six in regular dice patterns | ***Number bonds:***  **Reception**  **NRICH:** [**Paths**](https://nrich.maths.org/8858)  **NRICH:** [**Golden beans**](https://nrich.maths.org/9969)  **NRICH:** [**Two Dice**](https://nrich.maths.org/150)  **NRICH:** [**Making a picture**](https://www.google.co.uk/search?q=nrich+making+a+picture&oq=nrich+making+a+picture&gs_l=psy-ab.3..0.265100.269782.0.270701.23.23.0.0.0.0.166.2800.1j22.23.0....0...1.1.64.psy-ab..0.23.2775...0i22i30k1j0i67k1.HZLcwP_7gas)  **NRICH:** [**Collecting**](https://nrich.maths.org/content/id/8864/Collecting.pdf)  **NRICH:** [**Playing Incy Wincy Spider**](https://nrich.maths.org/content/id/8863/Incey%20Wincey.pdf)  **NRICH:** [**Number rhymes**](https://nrich.maths.org/8859)  **NRICH:** [**Tidying**](https://nrich.maths.org/8856)  **NRICH:** [**Queuing**](https://nrich.maths.org/content/id/8857/Queuing.pdf)  **NRICH:** [**Washing line**](https://nrich.maths.org/content/id/9891/WashingLine.pdf)  **Year 1**  **NRICH:** [**Domino Sorting**](http://nrich.maths.org/public/viewer.php?obj_id=4940) **\***  **NRICH:** [**One Big Triangle**](http://nrich.maths.org/public/viewer.php?obj_id=192) **\***  **NRICH:** [**Ladybirds in the Garden**](http://nrich.maths.org/public/viewer.php?obj_id=1816) **\*\***  **NRICH:** [**Number Lines**](http://nrich.maths.org/public/viewer.php?obj_id=5652) **\***  **NRICH:** [**Pairs of Numbers**](http://nrich.maths.org/7233) **\***  **NRICH:** [**Weighted Numbers**](http://nrich.maths.org/public/viewer.php?obj_id=4726) **\***  **NRICH:** [**Butterfly Flowers**](http://nrich.maths.org/public/viewer.php?obj_id=229) **\*** |
| ***Mental calculation:***  - add and subtract one-digit and two-digit numbers to 20, including zero  - read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs  (appears also in Written Methods) |
| ***Written methods:***  -read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs  (appears also in Mental Calculation) | ***Mental calculation:***  **Year 1**  **NRICH:** [**Two Dice**](http://nrich.maths.org/150) **\***  **NRICH:** [**Find the Difference**](http://nrich.maths.org/public/viewer.php?obj_id=6227) **\*\***  **NRICH:** [**Sort Them Out (1)**](http://nrich.maths.org/6885) **\*** |
| ***Written methods:***  **Year 1**  **NRICH:** [**2,4,6,8**](http://nrich.maths.org/public/viewer.php?time=1188566002&obj_id=175) **\*\*\***  **NRICH:** [**How Do You See it?**](http://nrich.maths.org/8296) **\*** |
| ***Problem solving:***  **40-60+m**  - begins to identify own mathematical problems based on own interests and fascinations  **ELG:** Children solve problems, including doubling, halving and sharing  **Exceeding:** They solve practical problems that involve combining groups of 2,5 or 10, or sharing into equal groups | ***Problem solving:***  - solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = 🗆 - 9 | **Reception**  **NRICH:** [**Maths story time**](https://nrich.maths.org/9718)  **NRICH:** [**Tidying**](https://nrich.maths.org/8856)  **NRICH:** [**Baskets**](https://nrich.maths.org/9716)  **NRICH:** [**Small world play**](https://nrich.maths.org/content/id/9722/SmallWorldPlay.pdf) |

|  |  |  |  |
| --- | --- | --- | --- |
| **Multiplication and Division** | | | |
| **RECEPTION** | **YEAR 1** | **ON THE BOIL** | **NRICH RESOURCES** |
| ***Problem solving:***  **40-60+m**  - begins to identify own mathematical problems based on own interests and fascinations.  **ELG:** Children solve problems, including doubling, halving & sharing  **Exceeding:** They solve practical problems that involve combining groups of 2,5 or 10, or sharing into equal groups | ***Problem solving:***  - solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher | **Reception and Year 1**  Continue number skills above/ below | **Year 1**  **NRICH:** [**Lots of Biscuits!**](http://nrich.maths.org/6883) **\***  **NRICH: [Share Bears](http://nrich.maths.org/public/viewer.php?obj_id=2358) \*** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Fractions** | | | |
| **RECEPTION** | **YEAR 1** | **ON THE BOIL** | **NRICH RESOURCES** |
| ***Recognising fractions:***  **ELG:** Children solve problems, including doubling, halving & sharing  **Exceeding:** They solve practical problems that involve … sharing into equal groups | ***Recognising fractions:***  - recognise, find & name a half as one of two equal parts of an object, shape or quantity | **Reception and Year 1**  Continue number skills above/ below | **Year 1**  **NRICH: [Halving](http://nrich.maths.org/public/viewer.php?obj_id=1788) \*\***  **NRICH:** [**Happy Halving**](http://nrich.maths.org/217) **\*\*\*** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Measurement** | | | | |
| **RECEPTION** | **YEAR 1** | | **ON THE BOIL** | **NRICH RESOURCES** |
| ***Comparing and estimating:***  **40-60+m**  - order two or three items by length or height  - order two or three items by weight or capacity  - use everyday language about time  - order and sequence familiar events  - measure short periods of time in simple ways  - begin to use everyday language related to money  **ELG:** Children use everyday language to talk about size, weight, capacity, time and money to compare quantities and objects and to solve problems  **Exceeding:** Children estimate, measure, weigh and compare and order objects | ***Comparing and estimating:***  - compare, describe and solve practical problems for:  \* lengths and heights [e.g. long/short, longer/shorter, tall/short, double/half]  \* mass/weight [e.g. heavy/light, heavier than, lighter than]  \* capacity and volume [e.g. full/empty, more than, less than, half, half full, quarter]  \* time [e.g. quicker, slower, earlier, later]  - sequence events in chronological order using language [e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] | | ***Addition and subtraction:***  **Reception:**  **40-60+m**: say the number that is one more than a given number.  - finds one more or one less from a group of up to five objects then ten objects.  **ELG:** Say which number is one more or one less than a given number.  **Additional skills to support understanding:**  - recognise that a value of objects are the same, even if they are laid out differently (conservation of number)  - use structured apparatus to understand the concept of equality  **Year 1:**  - Use stories, pictures and objects to build up the story of all numbers to five.  - find totals by counting all  - recognise that a value of objects are the same, even if they are laid out differently (conservation of number)  - use structured apparatus to understand the concept of equality | ***Comparing and estimating:***  **Reception**  **NRICH:** [**Socks**](https://nrich.maths.org/11218)  **NRICH:** [**Balances**](https://nrich.maths.org/10892)  **NRICH:** [**Scooters bikes and trikes**](https://nrich.maths.org/10795)  **NRICH:** [**Cooking**](https://nrich.maths.org/10698)  **NRICH:** [**Mud kitchen**](https://nrich.maths.org/10499)  **NRICH:** [**I have a box**](https://nrich.maths.org/10212)  **NRICH:** [**Making caterpillars**](https://nrich.maths.org/8861)  **NRICH:** [**Packing**](https://nrich.maths.org/9719)  **NRICH:** [**Presents**](https://nrich.maths.org/9720)  **NRICH:** [**Long creatures**](https://nrich.maths.org/9717)  **NRICH:** [**Shopping**](https://nrich.maths.org/9721)  **NRICH:** [**Tubes and tunnels**](https://nrich.maths.org/9724)  **Year 1:**  **NRICH:** [**Wallpaper**](http://nrich.maths.org/public/viewer.php?obj_id=4964) **\*\***  **NRICH:** [**Sizing Them Up**](http://nrich.maths.org/public/viewer.php?obj_id=4962) **\***  **NRICH:** [**The Animals’ Sports Day**](http://nrich.maths.org/7789) **\***  **NRICH:** [**Different Sizes**](http://nrich.maths.org/8117) **\***  **NRICH:** [**The Games’ Medals**](http://nrich.maths.org/7763) \*\*  **NRICH:** [**Times of Day**](http://nrich.maths.org/public/viewer.php?obj_id=6609) **\*** |
| ***Measuring and calculating:***  - measure and begin to record:  **\*** lengths and heights  \* mass/weight  \* capacity and volume  \* time (hours, minutes, seconds**)**  **-** recognise and know the different value of denominations of coins and notes | | ***Measuring and calculating:***  **Year 1**  **NRICH:** [**How Tall?**](http://nrich.maths.org/7536) **\***  **NRICH:** [**Can You Do it Too?**](http://nrich.maths.org/8327) **\*\*** |
| ***Telling the time:***  **40-60+m**  - use everyday language related to time.  - order and sequence familiar events.  - measure short periods of time in simple ways  **ELG:** Children use everyday language to talk about …time …. to solve problems  **Exceeding:** Children … talk about …. time | ***Telling the time:***  - tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.  - recognise and use language relating to dates, including days of the week, weeks, months and years | |  | **Reception**  **NRICH:** [**Timing**](https://nrich.maths.org/9723) |
| **Properties of Shapes** | | | | |
| **RECEPTION** | | **YEAR 1** | **ON THE BOIL** | **NRICH RESOURCES** |
| ***Identifying shapes and their properties:***  **40-60+m**  - Selects a particular named shape.  - Begins to use mathematical names for ‘solid’ 3D shapes and ‘flat’ 2D shapes, and mathematical terms to describe shapes  **ELG:** children explore the characteristics of everyday objects and shapes and use mathematical language to describe them  **Exceeding:** Children …. talk about properties | | ***Identifying shapes and their properties:***  - recognise and name common 2-D and 3-D shapes, including:  \* 2-D shapes [e.g. rectangles (including squares), circles and triangles]  \* 3-D shapes [e.g. cuboids (including cubes), pyramids and spheres]. | ***Counting:***  **Reception** additional skills to support understanding:  -Count to and across 5/10/20, forwards and backwards, beginning with 0 or 1, or from any given number  **Year 1**  - count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number | **Reception**  **NRICH:** [**Shapes in a bag**](https://nrich.maths.org/10387)  **NRICH:** [**Building towers**](https://nrich.maths.org/8865)  **NRICH:** [**Making a picture**](https://www.google.co.uk/search?q=nrich+making+a+picture&oq=nrich+making+a+picture&gs_l=psy-ab.3..0.213674.219582.0.223868.32.29.0.0.0.0.363.3523.1j20j2j1.24.0....0...1.1.64.psy-ab..9.23.3140...33i21k1j33i160k1j0i22i30k1j0i67k1.-9KpqzX46m4)  **NRICH:** [**Making footprints**](https://nrich.maths.org/8860)  **NRICH:** [**Exploring 2D shapes**](https://nrich.maths.org/content/id/8852/Exploring%202-d%20shape.pdf)  **NRICH:** [**Tidying**](https://nrich.maths.org/8856)  **NRICH:** [**Tubes and tunnels**](https://nrich.maths.org/9724)  **NRICH:** [**Wrapping parcels**](https://nrich.maths.org/content/id/9890/WrappingParcels.pdf)  **Year 1**  **NRICH:** [**Shaping It**](http://nrich.maths.org/7301) **\***  **NRICH:** [**What’s Happening?**](http://nrich.maths.org/7810) **\*** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Position and Direction** | | | |
| **RECEPTION** | **YEAR 1** | **ON THE BOIL** | **NRICH RESOURCES** |
| ***Position:***  **40-60+m**  - can describe their position as ‘behind’ or ‘next to’  **ELG:** Children use everyday language to talk aboutposition to compare and to solve problems  **Exceeding:** Children ..talk about time | ***Position, direction and movement:***  - describe position, direction and movement, including half, quarter and three-quarter turns. | **Reception and Year 1**  Continue number skills above | **Reception**  **NRICH:** [**Scooters bikes and trikes**](https://nrich.maths.org/10795)  **NRICH:** [**Paths**](https://nrich.maths.org/8858)  **Year 1**  **NRICH:** [**Tangram Tangle**](http://nrich.maths.org/2398) **\*\*\***  **NRICH:** [**Olympic Rings**](http://nrich.maths.org/7551) **\*\***  **NRICH:** [**2 Rings**](http://nrich.maths.org/public/viewer.php?obj_id=5330) **\***  **NRICH:** [**Turning**](http://nrich.maths.org/public/viewer.php?obj_id=5656) **\*** |