Reception Maths Yearly Curriculum

(This is to be used alongside the assessment schedule)

Reception Autumn 1

Assessment points

Harrow Gate Internal assessment

- Number recognition
- Shape recognition
- Rote counting to 10/20
- Count a pre-set line to 5
- Objects that can't be moved to 5
- Count 6 from a large pile
- Count irregular arrangements to 5

ELG expectation

- Subitise (recognise quantities without counting) up to 5

Activates will include

Counting to 5 including;
Actions, Objects that can and can't be moved and set and as part of a larger group, sounds.
Matching numerals to amount up to 5.
The cardinal principle up to 5
Capacity, ordering three objects according to the terms full, half full half empty and empty
Less, greater and the same in quantities
Number bonds of numbers;
1, 2, 3, 4 and 5.
The addition and subtraction facts of 1, 2, 3,4 and 5
2D shapes including but not exclusive to square, rectangle, triangle, circle, oval, hexagon. Explore the shapes with the terms, corner, edge, curve, straight.

Do it now activities will include

Subatising
Quick shape name
I'm thinking of a shape (name using clues)
Numeral - show me
Writing numerals under time pressure
Count and match numeral

Interleaving ideas

- 1,2,3 as ordinal numbers and representations
- Data handling- pictograph
- Shape, counting features
- Number bonds

Vocabulary

Count. How many? Strategy, total, amount, less, fewer, total, equal, cardinal number, numeral, number names to 10, number bond of, addition, add, subtraction, subtract.

Stem Sentence

The cardinal number is_____ that is how many there are.
I suberise there to be _____
I am using the strategy_____
There are _____ apples, bears bananas etc.
___and ___ is a number bond of _____

Mental and oral starter will include

Verbally count to 10 accurately
Number ordering and relationship between numbers
More and less value
Odd and even related to colour on the number line

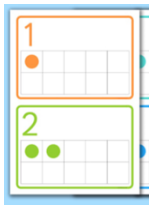
Misconceptions

- Counting 0 as the first number
- Saying number names inaccurately
- Saying the correct names but skipping objects
- Touching the objects more than once
- Striking in a cross and counting each strike
- Children need to understand when counting verbally we begin with 0 when counting objects it's 1
- Understanding 0 as an amount before understanding 1,2 and 3.

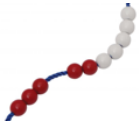
Counting strategies

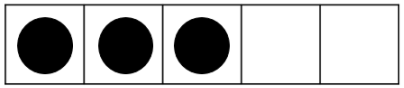
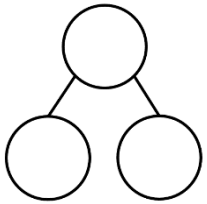
- Lining objects once they've been selected
- Touching each item as they're counted
- Moving items as they're counted
- Making one strike through items that can't be moved
- Putting up one finger for every noise or movement needed to be counted

Representations/ resources





Reception Autumn 2

Assessment

Harrow Gate internal assessment update

Verbally count to 20 accurately.
The cardinal principle up to 10

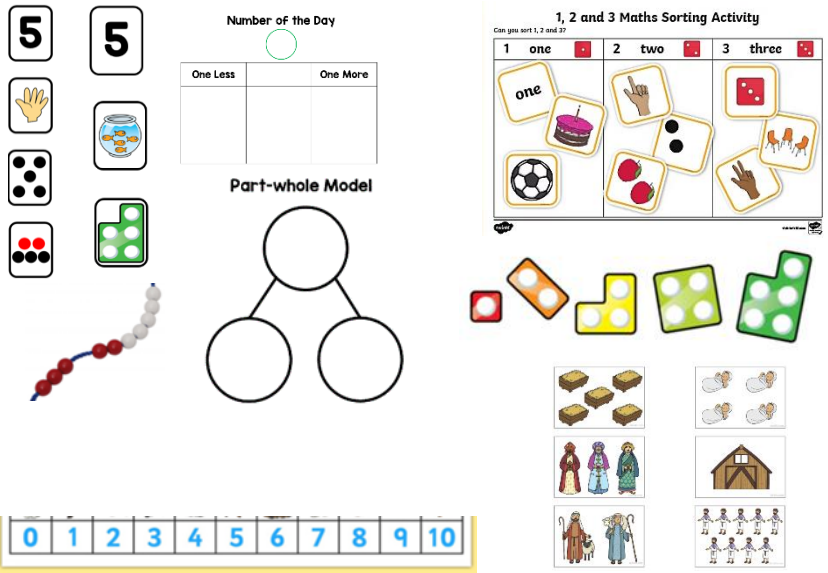
Assessment age 4-5 Years

Subatise
Count objects, actions and sounds.
Link the number symbol (numeral) with its cardinal number value.
Compare numbers.
Understand the 'one more than/one less than' relationship between consecutive numbers.
Explore the composition of numbers to 10.
Compare length, weight and capacity.
Continue, copy and create repeating patterns.

ELG

Subitise (recognise quantities without counting) up to 5;
Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;

Representations



Mental and oral starter will include

Verbally count to 20 accurately
Suberizing to 5
Number ordering and relationship between numbers
More and less value
Odd and even related to colour on the number line

Do it now activities will include

Order numbers to 10
Subatising
Quick shape name
I'm thinking of a shape (name using clues)
Numeral - show me
Writing numerals under time
Count and match numeral
Capacity, ordering three objects according to the terms full, half full half empty and empty
Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;

Main Activates will include;

1. Counting to 10 including Actions, Objects, Sounds
2. The cardinal principle up to 10
3. Matching the correct numeral to amount up to 10
4. Wight ordering items by weight using a balance scale, using words heavy, heavier, light, lighter and equal.
5. Number bonds of numbers; 1, 2, 3, 4, 5 and 10
6. The addition and subtraction facts of 1, 2, 3,4 ,5 and 10
7. One more and one less of numbers to 10
8. Height ordering items by height using the words, tall, taller, short, shorter, equal.
9. Continue, copy and create repeating patterns.

Vocabulary

Subatise, count, compare, one more/ less, a cardinal number, match, number bonds, numeral (the number is written down), number name, order,
full, half full half empty, empty, tall, taller, short, shorter, equal, capacity, weight, height, patter, repeating

Misconceptions

Begin counting at 0 for actions, sound etc. and resulting in the answer always being 1 higher.
Object counting, disorganised counting touching objects too fast/ slow not in line with number names.
Continue counting until the verbal number pattern is complete rather than realising the cardinal value.
Not realising that all number bonds can be reversed to make a separate addition/ subtraction fact.
Not realise that one more and one less is just the verbal number before or after while counting
Fail to add the number line ordering to one more and one less.

Counting strategies

Counting the physical

Lining them up
Moving them as you count
Touching each one once
Strike them out

Counting the verbal

Make marks
Putting one finger up for each action or sound to be counted

Stem Sentence

The cardinal number is
I have counted to total to be
The number to match my amount is
I have ordered the weight and have found … to be the lightest/ heaviest
… and… is a number bond of …
One less than… is ….
One more than… is …
I have ordered the height and find … to be the tallest/ shortest/

Interleaving ideas

Keeping tally of amounts then writing total
Counting how long it takes a friend to complete an action while outside (run to the fence)
Rote counting in game playing outside
Recognising the numerals on a clock- what time is it, Mr Goose.
Shapes that can be seen in a stained glass window.

Reception Spring 1

Assessment

4-5 Years

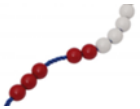
- Count beyond ten.
- Compare numbers.
- Select, rotate and manipulate shapes to develop spatial reasoning skills.

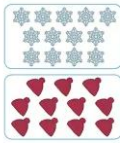
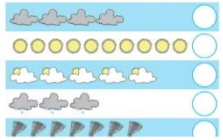
Harrow Gate Assessment

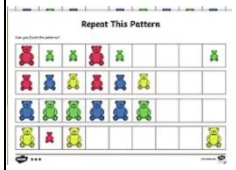
Rote count to 20
Number rec to 20
Count irregular arrangements knowing strategies.
One more verbally
One less verbally

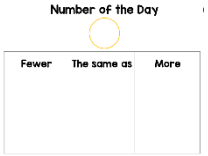
Representations

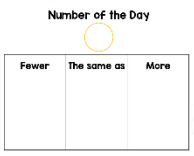










Mental and oral starter will include

Verbally count to 20 accurately
Subitising to 5
Number ordering and relationship between numbers
More and less value verbally
Odd and even related to colour on the number line
Quick shape name
I'm thinking of a shape (name using clues)

Do it now activities will include

Order numbers to 10
Numeral - show me
Writing numerals under time
Count and match numeral
Capacity, ordering three objects according to the terms full, half full half empty and empty
Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;
Counting to 10 including Actions, Objects, Sounds
Wight ordering items by weight Using words heavy, heavier, light, lighter and equal.
Height ordering items by height using the words, tall, taller, short, shorter, equal.
Continue, copy and create repeating patterns.

Main Activates will include;

The cardinal principle beyond 10
Matching the correct numeral to amount up to 20
Number bonds of numbers; 1, 2, 3, 4, 5 and 10
The addition and subtraction facts of 1, 2, 3,4 ,5 and 10
One more and one less of numbers to 10
Comparing numbers for more/ less fewer/ greater
Ordering numbers to 10
Exploring 3D shapes to examine the 2D shapes within them
Rotating and using 3D shapes to fit a purpose like going through the correct shaped hole and making prints.

Vocabulary

Cardinal number
All number names 0-20
Number bond
Addition, subtraction, total, equals
More, less, total, greater, fewer
Order
Square, Circle, Triangle, Rectangle, Oval, Hexagon, Octagon, Pentagon, Cube, Cone, Cuboid, Sphere and Cylinder
Rotate, straight, fit, turn

Misconceptions

Begin counting at 0 for actions, sound etc. and resulting in the answer always being 1 higher.
Object counting, disorganised counting touching objects too fast/ slow not in line with number names.
Continue counting until the verbal number pattern is complete rather than realising the cardinal value.
Not realising that all number bonds can be reversed to make a separate addition/ subtraction fact.
Not realise that one more and one less is just the verbal number before or after while counting
Fail to add the number line ordering to one more and one less.
Not having the words fewer or greater in their lexicon
Not realising that any shape with depth instantly becomes 3D

Counting strategies

Counting the physical

Lining them up
Moving them as you count
Touching each one once
Strike them out

Counting the verbal

Make marks
Putting one finger up for each action or sound to be counted

Stem Sentence

The cardinal number is
I have counted to total to be
The number to match my amount is
… and… is a number bond of …
One less than… is ….
One more than… is …
… subtract … is
… added to … is
My 3D shape … is made up of the 2D shapes …
My amount or total is fewer than /greater than…

Interleaving ideas

Jigsaws with interleaving pieces children have to turn rotate and fit using shape and space knowledge.
Playdough using cutters to make 3D shapes
Outside 3D shape fitting into 3D holes
Discussing more/ less fewer/ greater same, when discussing the temperature in comparison to yesterday's temperature.

Reception Spring 2

Assessment

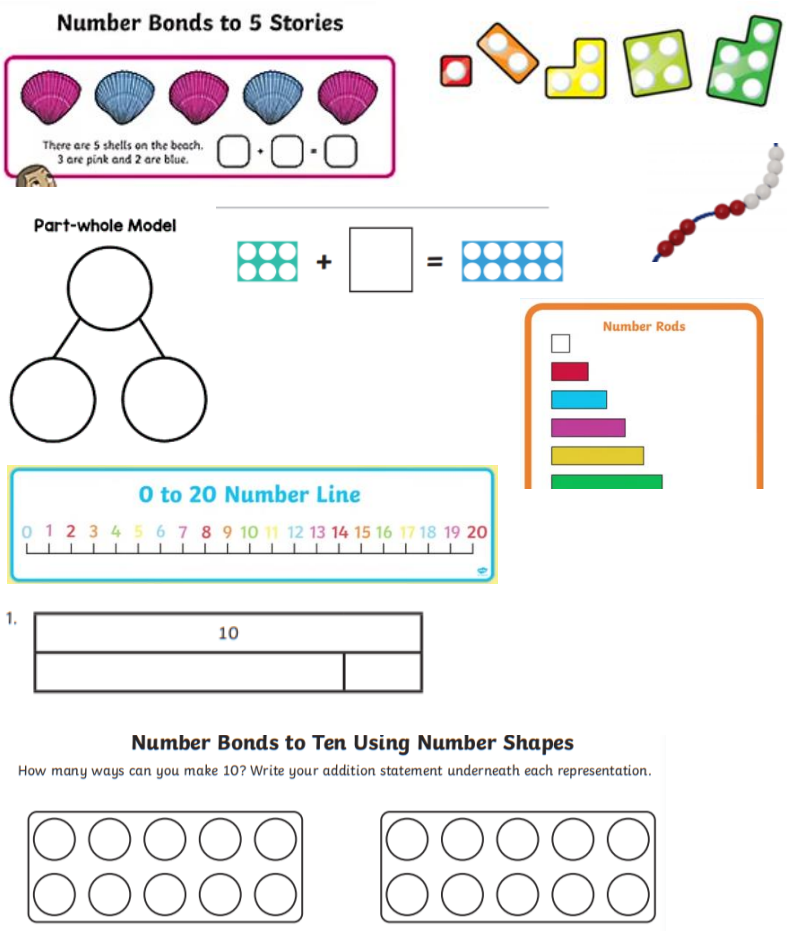
Harrow Gate assessment

- Automatically recall number bonds for numbers 0–10.

ELG

- Have a deep understanding of number to 10, including the composition of each number.
- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts

Representations



Mental and oral starter will include

Verbally count to 20 accurately
Suberizing to 5
Number ordering and relationship between numbers
More and less value verbally
Odd and even related to colour on the number line
Quick shape name
I'm thinking of a shape (name using clues)
Quick order numbers to 10
Numeral - show me
Count and match numeral
Count to the cardinal principle beyond 10

Do it now activities will include

Writing numerals
Capacity, ordering three objects according to the terms full, half full half empty and empty
Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;
Counting to 10 including Actions, Objects, Sounds
Wight ordering items by weight Using words heavy, heavier, light, lighter and equal.
Height ordering items by height using the words, tall, taller, short, shorter, equal.
Continue, copy and create repeating patterns
Matching the correct numeral to amount up to 20
Number bonds of numbers; 1, 2, 3, 4, 5 and 10
The addition and subtraction facts of 1, 2, 3,4 ,5 and 10
One more and one less of numbers to 10
Comparing numbers for more/ less fewer/ greater
Exploring 3D shapes to examine the 2D shapes within them

Main Activates will include;

All the number bonds of numbers 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10.
Number problems being solved by the knowledge of number bonds
Addition and subtraction using the number bond knowledge 0-10
Knowing number bonds to 5 from memory
Using subatising to match number bonds.
Recording number bond finings using written numbers and other needed symbols.
The cardinal number principle.

Vocabulary

Cardinal number
All number names 0-20
Number bond
Addition, subtraction, total, equals
More, less, total, greater, fewer
Representation
Problem
Solving

Misconceptions

Number bonds can only be identified or demonstrated using part-whole models.
That number bonds can be solved understanding what's missing
Not realising that we can use suabtising to support number bond reasoning
Not realising that addition and subtraction are the inverse to each other.
That addition and subtraction have to follow the order, not realising we can solve them to fond the odd one out.

Counting strategies

Counting the physical

Lining them up
Moving them as you count
Touching each one once
Strike them out

Counting the verbal

Make marks
Putting one finger up for each action or sound to be counted

Stem Sentence

The cardinal number is
I have counted to total to be
… and… is a number bond of …
… subtract … is
… added to … is
I used … to solve the problem

Interleaving ideas

Using the number line when measuring the temperature both in the UK and Africa
Line graph to measure to track the daily temperature discussing higher/ greater or lower being less.
Using shapes and pattern to make and describe African animals and art.
Positional language when completing picture talk.

Reception Summer 1

Assessment

Harrow Gate internal assessment update

- Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.

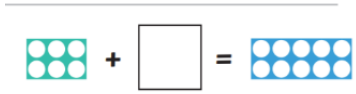
ELG

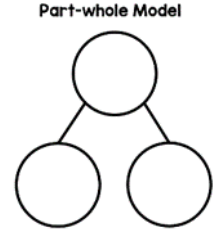
- Verbally count beyond 20, recognising the pattern of the counting system.
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

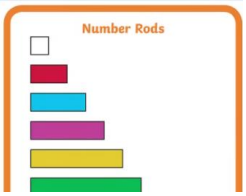
Harrow Gate Assessment

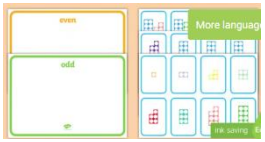
Rote count to 30
Order numbers to 20
3D shape rec

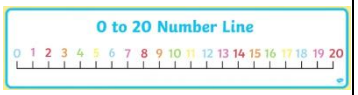
Representations

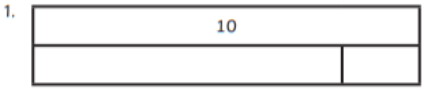


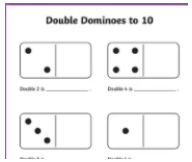


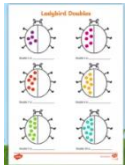












Mental and oral starter will include

Verbally count to 20 accurately
Suberizing to 5
Number ordering and relationship between numbers
More and less value verbally
Odd and even related to colour on the number line
Quick shape name
I'm thinking of a shape (name using clues)
Quick order numbers to 10
Numeral - show me
Count and match numeral
Count to the cardinal principle beyond 10
Number bonds of numbers; 1, 2, 3, 4, 5 and 10
One more and one less of numbers to 10

Do it now activities will include

Writing numerals
Capacity, ordering three objects according to the terms full, half full half empty and empty
Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;
Counting to 10 including Actions, Objects, Sounds
Wight ordering items by weight Using words heavy, heavier, light, lighter and equal.
Height ordering items by height using the words, tall, taller, short, shorter, equal.
Continue, copy and create repeating patterns
Matching the correct numeral to amount up to 20
The addition and subtraction facts of 1, 2, 3,4 ,5 and 10
Comparing numbers for more/ less fewer/ greater
Exploring 3D shapes to examine the 2D shapes within them
All the number bonds of numbers 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10.
Number problems being solved by the knowledge of number bonds

Main Activates will include;

Ordering numbers to 20
Completing missing numbers to 20
Organising number according to their odd and even pattern
Can answer if a number is odd or even using a number line to help
Double amounts of 1,2,3,4 and 5 using amounts
Explore doubles in relation to number bonds.
Sharing amounts evenly.
Exploring the nets of common 2D shapes
Odd and even related to sharing equally.

Misconceptions

Not applying their knowledge of suabtising, cardinal principle or number bonds to support doubling and halving
To not realise that sharing between 2 is halving
Not linking sharing an amount between 2 is halving it and you will need an even amount
to call a 3D shape by its 2D face-name
not using the number line to support ordering missing numbers

Counting strategies

Counting the physical

Lining them up
Moving them as you count
Touching each one once
Strike them out

Counting the verbal

Make marks
Putting one finger up for each action or sound to be counted

Stem Sentence

The number… is odd/ even
Double … is …
Half of … is …
Double … as a number bond is….
This 3D shape …. Is made up of the 2D shapes…
I shared the amount… equally, I have found that … and … is a number bond of ….
I shared this even amount and found…

Interleaving ideas

Sharing resources equally
Deciding if their age is odd or even
What double their age is and what half their age is
Applying mass, length and height to the insects topic
Measuring using standard measurements

Reception Summer 2

Assessment

Harrow Gate internal assessment update

- Pre-sent line 20

Review and plug any gaps in assessment
Move children to use mastery and variation with all the assessment points they have gained.

Representations

A collection of all used across the year.

Misconceptions,

This will depend on which element id being revisited and taught at depth.

Mental and oral starter will include

Verbally count to 20 accurately
Suberizing to 5
Number ordering and relationship between numbers
More and less value verbally
Odd and even related to colour on the number line
Quick shape name
I'm thinking of a shape (name using clues)
Quick order numbers to 10
Numeral - show me
Count and match numeral
Count to the cardinal principle beyond 10
Number bonds of numbers; 1, 2, 3, 4, 5 and 10
One more and one less of numbers to 10
Can answer if a number is odd or even using a number line to help
Answer double and half facts.

Do it now activities will include

Writing numerals
Capacity, ordering three objects according to the terms full, half full half empty and empty
Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;
Counting to 10 including Actions, Objects, Sounds
Wight ordering items by weight Using words heavy, heavier, light, lighter and equal.
Height ordering items by height using the words, tall, taller, short, shorter, equal.
Continue, copy and create repeating patterns
Matching the correct numeral to amount up to 20
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Comparing numbers for more/ less fewer/ greater
Exploring 3D shapes to examine the 2D shapes within them
All the number bonds of numbers 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10.
Number problems being solved by the knowledge of number bonds Ordering numbers to 20
Completing missing numbers to 20
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Odd and even related to sharing equally.

Counting strategies

Counting the physical

Lining them up
Moving them as you count
Touching each one once
Strike them out

Counting the verbal

Make marks
Putting one finger up for each action or sound to be counted

Interleaving ideas

Temperature measurement as the temperature climbs, comparing the numbers to that of Africa using more less, greater
Using capacity, height, mass, and with to compare the seeds and plants grown in the topic, including the water and soil needed for planting.
Data handling of plants and repressions in pictograms.