

Calculation Procedures

Level 1

L1(i) Pupils encounter activities and experiences. They may be passive or resistant. They may show simple reflex responses, *for example, startling at sudden noises or movements.*

Pupils take part in mathematical experiences, such as number rhymes or games, and have the opportunity to hear numbers, counting, simple mathematical language in lessons.

Any participation is fully prompted.

L1(ii) Pupils show emerging awareness of activities and experiences. They may have periods when they appear alert and ready to focus their attention on certain people, events, objects or parts of objects, *for example, grasping objects briefly when they are placed in their hand.* They may give intermittent reactions, *for example, sometimes showing surprise at the sudden presence or absence of an event or object.*

With assistance they touch and explore shapes, edges, corners, and experience size such as big and small. With assistance, they participate in number rhymes, games and other mathematical activities, and show an interest when counting with an adult, e.g an adult taps their hand when counting.

Level 2

L2(i) Pupils begin to respond consistently to familiar people, events and objects. They react to new activities and experiences, *for example, becoming excited or alarmed when a routine is broken.* They begin to show interest in people, events and objects, *for example, tracking objects briefly across their field of awareness.* They accept and engage in coactive exploration, *for example, lifting objects briefly towards the face in shared investigations.*

Pupils reach and attempt to grasp items in mathematical activities, look at it and hold it. Pupils watch objects or mathematical equipment, e.g a bear from 10 in a bed held 15-25cm from them. They watch human activity, animals or moving objects with interest. They recognise familiar routines and respond when a routine is changed.

L2(ii) Pupils begin to be proactive in their interactions. They communicate consistent preferences and affective responses, *for example, showing a desire to hold a favourite object.* They recognise familiar people, events and objects, *for example, looking towards their own lunch box when offered a selection.* They perform actions, often by trial and improvement, and they remember learned responses over short periods of time, *for example, repeating an action with a familiar item of equipment.* They cooperate with shared exploration and supported participation, *for example, handling and feeling the texture of objects passed to them.*

Pupils point and reach toward an object offered, and choose between a selection of 2. They manipulate and turn an object in their hands. Pupils deliberately shake and squeeze an object to make a sound, though this may begin as unintentional. With assistance they take part in putting items in an out of containers, put similar objects together, including sorting by colour with assistance. They play simple games in mathematical activities.

Level 3

L3(i)

Pupils begin to communicate intentionally. They seek attention through eye contact, gesture or action. They request events or activities, *for example, pushing an item of equipment towards a member of staff.* They participate in shared activities with less support. They sustain concentration for short periods. They explore materials in increasingly complex ways, *for example, banging or rubbing objects together.* They observe the results of their own actions with interest, *for example, as they throw or drop objects on to different surfaces.* They remember learned responses over more extended periods, *for example, remembering how to activate a pop-up object from a previous lesson.*

L3(ii)

Pupils use emerging conventional communication. They greet known people and may initiate interactions and activities, *for example, dropping objects to prompt interventions from adults.* They can remember learned responses over increasing periods of time and may anticipate known events, *for example, collecting coats and bags at the end of the school day.* They may respond to options and choices with actions or gestures, *for example, pointing to or giving one object rather than another.* They actively explore objects and events for more extended periods, *for example, manipulating objects in piles, groups or stacks.* They apply potential solutions systematically to problems, *for example, using items of equipment purposefully and appropriately.*

Calculation Procedures

Level 4			
Addition	Subtraction	Multiplication	Division
<p>In the context of counting:</p> <p>Finding Number 1 by pointing, choosing, knowing it is the first in the sequence of numbers, choosing number 1 from a selection of numbers/blank cards. Could use sensory numbers, plastic numbers, number cards, on a whiteboard.</p> <p>Opportunities to count and join in number games and songs – resources, objects to support, e.g. 5 little speckled frogs – use 5 frogs and a stick in water, support with numbers.</p> <p>Score with objects (e.g. collecting a cone when scoring in PE, counters when scoring in maths) or numbers. Count them up at the end.</p> <p>Anticipate the next part in a sequence – number songs, games, actions.</p> <p>Knowing that things change quantity - matching straws to cups etc, adding one more or taking one away when singing number songs, keeping score.</p>	<p>Opportunities to count and join in number games and songs – resources, objects to support, e.g. 5 little ducks – use 5 plastic ducks in water or on a 'pond', support with numbers, taking one away each time.</p>	<p>Begin to experience multiplication through grouping children in pairs for lining up and working in learning partners.</p> <p>Begin to experience multiplication through stories and rhymes such as Goldilocks and the Three Bears or Noah's Ark.</p>	<p>Begin to experience division through sharing in practical activities – e.g. handing out cups, plates, snacks to other pupils,</p>

Calculation Procedures

Level 5

Addition	Subtraction	Multiplication	Division
<p>Respond to and join in with familiar number rhymes, stories, songs and games, [for example, using a series of actions during the singing of a familiar song; joining in by saying, signing or indicating at least one of the numbers in a familiar number rhyme] that include adding more objects/animals etc.</p> <p>Counting – indicate 1 and 2 by their preferred means – could use objects, corresponding dots, numbers to reinforce.</p> <p>Make groups of different sizes with an adult, reinforce with numbers, dots to represent – putting objects in tubs with different numbers, pegs on different number cards, sets of animals.</p> <p>Demonstrate an awareness of contrasting quantities – one, lots by making groups or looking at groups – could label with symbols, point when prompted. Responding to vocab in addition games or songs by adding another elephant to the spider web, another passenger to a bus.</p> <p>Encounter 'more' in practical ways (e.g. putting more water in a bowl, pasta etc).</p>	<p>Respond to and join in with familiar number rhymes, stories, songs and games, [for example, using a series of actions during the singing of a familiar song; joining in by saying, signing or indicating at least one of the numbers in a familiar number rhyme] that include taking objects/animals etc away.</p> <p>Responding to vocab in addition/subtraction games or songs by taking away a duck in '5 Little Ducks' or by taking away a cake in 'The Bakers Shop'.</p> <p>Encounter 'less' in practical ways (e.g. taking away cups that aren't needed, removing pasta from a bowl etc).</p>	<p>Begin to experience multiplication through grouping children in pairs for lining up and working in learning partners.</p> <p>Begin to experience multiplication through stories and rhymes such as Goldilocks and the Three Bears or Noah's Ark.</p> <p>Making small sets that have the same number of objects in each – for example sharing out sweets into containers so that there is 1 or 2 in each, with support count the total.</p>	<p>Begin to experience division through sharing in practical activities – e.g. handing out cups, plates, snacks to other pupils,</p> <p>Making small sets that have the same number of objects in each – for example sharing out sweets into containers so that there is 1 or 2 in each.</p>

Calculation Procedures

Level 6

Addition	Subtraction	Multiplication	Division
<p>Counting to 3 – could be verbally, using symbols, with fingers; making groups of 3 objects, pictures.</p> <p>Join in <i>new</i> numbers songs, rhymes and games that include addition, e.g. rolling a dice (could be adapted to have pictures) and collecting the corresponding number of objects.</p> <p>Demonstrate an understanding of more as addition – e.g. knowing that there aren't enough cups on the table to go on the mats, wanting more raisins as a few is not enough.</p> <p>Pupils join in rote counting up to five, for example, saying or signing number names to 5 in counting activities, counting out pupils, resources needed.</p>	<p>Join in <i>new</i> numbers songs, rhymes and games that include subtraction, e.g. ten in a bed.</p> <p>Demonstrate an understanding of less as subtraction – e.g. knowing that there are too many plates or cups on the table and taking them away/putting them away/giving them to an adult to show they aren't needed.</p>	<p>Begin to experience multiplication through grouping children in pairs for lining up and working in learning partners.</p> <p>Begin to experience multiplication through stories and rhymes such as Goldilocks and the Three Bears or Noah's Ark.</p> <p>Begin to experience multiplication by sorting objects into equal sets (Links to Using & Applying) & with support find the total.</p>	<p>Begin to experience division through sharing in practical activities – e.g. handing out cups, plates, snacks to other pupils,</p> <p>Begin to experience division by sorting objects into sets (Links to Using & Applying).</p>

Calculation Procedures

Level 7

Addition	Subtraction	Multiplication	Division
<p>Counting to 5 – pupils count to 5, count out up to 5 objects, pictures reliably. They recognise numerals from one to five and to understand that each represents a constant number or amount, [for example, putting correct number of objects (1-5) into containers marked with the numeral; collecting the correct number of items up to five, putting the right number of ladybirds on a leaf]</p> <p>Pupils join in counting to 10 with preferred methods (symbols, using fingers, signing, verbally)</p> <p>Pupils put 3 or 5 objects in a tub/container and experience adding by counting out.</p> <p>In practical situations they respond to ‘add one’ to a number of objects, [for example, responding to requests such as add one pencil to the pencils in the pot, add one sweet to the dish, add one cow to the field(either to 5 or 10 depending on ability)</p> <p>Show examples and comparisons of more/less – e.g. by comparing 2 jars of beads with different amounts, 2 bottles of coloured water.</p>	<p>In practical situations they respond to ‘take one away’ from a number of objects, [for example, responding to requests such as take one pig from the farmyard, take one pen from the pot, 1 teddy from 10 in a bed song].</p>	<p>Begin to experience multiplication through grouping children in pairs for lining up and working in learning partners.</p> <p>Begin to experience multiplication through stories and rhymes such as Goldilocks and the Three Bears or Noah’s Ark.</p> <p>Begin to experience multiplication by sorting objects into sets equal sets and find the total with support (U&A)</p>	<p>Begin to experience division through sharing in practical activities – e.g. handing out cups, plates, snacks to other pupils,</p> <p>Begin to experience division by sorting objects into sets (U&A)</p>

Calculation Procedures

Level 8			
Addition	Subtraction	Multiplication	Division
<p>Indicate numbers 1-10 in preferred way – sign, verbally, using fingers, number fans, and join in counting to and above 10. Counting out up to 10 objects reliably, e.g. 10 sweets in the jar, 10 conkers in the basket, and match the correct numeral to the sets.</p> <p>Count on from a given number (first two counted by teacher) can be through singing, games, rote counting.</p> <p>Experience adding by identifying a group which has more; compare more and less as Level 7.</p> <p>Find one more than a number – add one to a group of objects, pictures and show how many are there.</p> <p>Using developing counting to solve problems in work and play – for example counting the number of aprons needed in cooking.</p>	<p>Experience subtraction by identifying a group which has less; compare more and less as Level 7.</p> <p>Find one less than a number – take one from a group of objects, pictures and show how many are left.</p>	<p>Begin to experience multiplication through grouping children in pairs for lining up and working in learning partners.</p> <p>Counting in Twos (or more if appropriate).</p> <p>Begin to experience multiplication through stories and rhymes such as Goldilocks and the Three Bears or Noah's Ark.</p>	<p>Experience division through sharing in practical activities – e.g. handing out cups, resources, food to other pupils.</p> <p>Using developing counting to solve problems in work and play – for example making groups of objects, counting the correct number out and discarding ones that aren't needed.</p>

Calculation Procedures

Level 9

Addition	Subtraction	Multiplication	Division
<p>Indicate numbers 1-10 in preferred way – sign, verbally, using fingers, number fans, symbols. and join in counting to 10 and beyond.</p> <p>Counting out up to 10 objects, sounds, actions e.g. jumps reliably, e.g. 10 sweets in the jar, 10 conkers in the basket, 5 bounces on the trampoline. Matches the correct numeral to the sets.</p> <p>Begins to use vocabulary involved in adding and subtracting – 1 more, add etc.</p> <p>Begin to experience adding through finding the total number of items in 2 groups by counting all of them.</p> <p>Finds one more from a group of up to 5 objects.</p>	<p>Begins to use vocabulary involved in subtracting – 1 less, take away etc.</p> <p>Finds one less from a group of up to 5 objects.</p>	<p>Begin to experience multiplication through grouping children in pairs for lining up and working in learning partners.</p> <p>Counting in Twos (or more if appropriate) using counting songs, chants etc.</p> <p>Begin to experience multiplication through stories and rhymes such as Goldilocks and the Three Bears or Noah's Ark.</p>	<p>Experience division through sharing in practical activities – e.g. handing out cups, resources, food to other pupils, RE - sharing – what is fair, how many each.</p> <p>Using developing counting to solve problems in work and play – for example making groups of objects, counting the correct number out and discarding ones that aren't needed as in Level 8.</p>