

# Prerequisite Skills (Q Skills) in Using Mathematics across the Curriculum

## Q

### Measure

- » Assessment Framework
- » Examples

## Q

### Number and Money

- » Assessment Framework
- » Examples

## Q

### Shape and Space/Handling Data

- » Assessment Framework
- » Examples



NON-STATUTORY

# Requirements for Using Mathematics

Across the curriculum, at a level appropriate to their ability, pupils should be enabled to:

- choose the appropriate materials, equipment, and mathematics to use in a particular situation;
- use mathematical knowledge and concepts accurately;
- work systematically and check their work;
- use mathematics to solve problems and make decisions;
- develop methods and strategies, including mental mathematics;
- explore ideas, make and test predictions and think creatively;
- identify and collect information;
- read, interpret, organise, and present information in mathematical formats;
- use mathematical understanding and language to ask and answer questions, talk about and discuss ideas, and explain ways of working;
- develop financial capability;
- use ICT to solve problems and/or present their work;

using their **Knowledge and Understanding** of:

**Measure (weight)**

**Measure (length)**

**Measure (capacity)**

**Measure (area)**

**Measure (time)**

## Prerequisite Skills (Q Skills) in **Using Mathematics** across the Curriculum

Measure

Progress is also demonstrated by decreasing levels of support from adults: with direction, with decreasing direction, without direction. Communication can be both verbal and nonverbal.

Q1 Experience (experience/encounter)	Q2 Respond (become aware, respond, interact intermittently)
In sensory, structured activities, and in familiar and accessible contexts within activity-based and/or play-based learning, pupils:	
<ul style="list-style-type: none"> <li>• encounter a variety of mathematical materials and equipment for use in a particular situation;</li> </ul>	<ul style="list-style-type: none"> <li>• interact intermittently with appropriate mathematical materials and equipment for use in a particular situation;</li> </ul>
<ul style="list-style-type: none"> <li>• experience mathematical activities;</li> <li>• experience daily routines and work systems;</li> </ul>	<ul style="list-style-type: none"> <li>• interact intermittently with mathematical activities;</li> <li>• become aware of daily routines and work systems;</li> </ul>
<ul style="list-style-type: none"> <li>• experience problem-solving activities;</li> </ul>	<ul style="list-style-type: none"> <li>• interact intermittently with problem-solving activities;</li> </ul>
<ul style="list-style-type: none"> <li>• experience a variety of simple patterns;</li> </ul>	<ul style="list-style-type: none"> <li>• become aware of and respond to a variety of simple patterns;</li> </ul>
<ul style="list-style-type: none"> <li>• encounter collections of mathematical objects;</li> <li>• encounter a variety of mathematical objects/pictures/symbols;</li> </ul>	<ul style="list-style-type: none"> <li>• interact intermittently with a range of mathematical objects;</li> <li>• interact intermittently with a collection of mathematical objects/pictures/symbols;</li> </ul>
<ul style="list-style-type: none"> <li>• experience a range of mathematical language;</li> </ul>	<ul style="list-style-type: none"> <li>• respond to a range of basic mathematical language;</li> </ul>
<ul style="list-style-type: none"> <li>• experience shopping activities;</li> </ul>	<ul style="list-style-type: none"> <li>• interact intermittently with shopping activities;</li> </ul>
<ul style="list-style-type: none"> <li>• experience the digital devices being used to problem-solve;</li> </ul>	<ul style="list-style-type: none"> <li>• interact intermittently with the digital devices being used to problem-solve;</li> </ul>
<ul style="list-style-type: none"> <li>• experience the language associated with weight, for example heavy and light;</li> </ul>	<ul style="list-style-type: none"> <li>• respond intermittently to the language of weight, for example heavy and light;</li> </ul>
<ul style="list-style-type: none"> <li>• experience the language associated with length, for example tall and short;</li> </ul>	<ul style="list-style-type: none"> <li>• respond intermittently to the language associated with length, for example tall and short;</li> </ul>
<ul style="list-style-type: none"> <li>• experience the language associated with capacity, for example full, empty, more and stop;</li> </ul>	<ul style="list-style-type: none"> <li>• respond intermittently to the language of capacity, for example full, empty or more;</li> </ul>
<ul style="list-style-type: none"> <li>• experience covering a surface with a range of paints/crayons and sizes and shapes of paper;</li> </ul>	<ul style="list-style-type: none"> <li>• respond by staying within the specified area, for example the PE hall, the classroom or the playground;</li> </ul>
<ul style="list-style-type: none"> <li>• experience a daily routine in school.</li> </ul>	<ul style="list-style-type: none"> <li>• respond intermittently to language associated with time, for example 'now'/'later' and 'first'/'then'.</li> </ul>
<b>More Examples of Q1</b>	<b>More Examples of Q2</b>



NON-STATUTORY

# Requirements for Using Mathematics

Across the curriculum, at a level appropriate to their ability, pupils should be enabled to:

- choose the appropriate materials, equipment, and mathematics to use in a particular situation;
- use mathematical knowledge and concepts accurately;
- work systematically and check their work;
- use mathematics to solve problems and make decisions;
- develop methods and strategies, including mental mathematics;
- explore ideas, make and test predictions and think creatively;
- identify and collect information;
- read, interpret, organise, and present information in mathematical formats;
- use mathematical understanding and language to ask and answer questions, talk about and discuss ideas, and explain ways of working;
- develop financial capability;
- use ICT to solve problems and/or present their work;

using their **Knowledge and Understanding** of:

- Measure (weight)**
- Measure (length)**
- Measure (capacity)**
- Measure (area)**
- Measure (time)**

## Prerequisite Skills (Q Skills) in **Using Mathematics** across the Curriculum

Measure

### Q3 Engage

(engage with/imitate modelled behaviour, direct attention, focus, recognise)

In sensory, structured activities, and in familiar and accessible contexts within activity-based and/or play-based learning, pupils:

- engage with appropriate mathematical materials and equipment for use in a particular situation in response to teacher guidance/modelling;
- engage in/with mathematical activities in response to cues and prompts;
- engage in/with simple and familiar work systems in response to teacher modelling;
- engage with and imitate a range of mathematical problem-solving strategies;
- engage with simple mathematical strategies by imitating teacher modelling;
- imitate simple and familiar patterns in response to teacher modelling;
- engage with the collection of mathematical objects;
- engage with and/or imitate in the representation of their work with appropriate symbols/objects/pictures;
- recognise, engage with, and imitate some basic mathematical language;
- engage with shopping activities;
- engage with digital devices being used to problem-solve;

- engage by imitating handling a group of similar objects that are different in weight;
- engage by imitating handling a group of similar objects that are different in length;
- engage by imitating handling a range of materials, and different sizes and shapes of containers;
- engage by imitating teacher modelling of covering the surface of a page with paint;
- engage in a range of turn-taking activities.

**More Examples of Q3**

### Q4 Actively Participate

(interact, share, actively participate, collaborate, anticipate)

- actively participate in making choices when selecting specific materials and equipment for a simple mathematical activity;
- interact with activities based on mathematical concepts;
- actively participate in simple and familiar work systems;
- actively participate in a range of mathematical problem-solving strategies such as guessing;
- participate in simple supported mathematical strategies;
- participate in copying simple patterns;
- actively participate in the collection of mathematical objects/information;
- actively participate in the representation of their work with appropriate symbols/objects/pictures;
- actively participate in communicating simple mathematical language;
- actively participate with shopping activities;
- actively participate with digital devices being used to problem-solve;

- participate in activities to identify objects that are heavy and light;
- participate in identifying objects that are long or short;
- participate in identifying containers that are full or empty;
- participate in setting a table for an appropriate number of people, depending on the size of the table;
- dress appropriately for the seasons/weather.

**More Examples of Q4**



## NON-STATUTORY

# Requirements for Using Mathematics

Across the curriculum, at a level appropriate to their ability, pupils should be enabled to:

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- work systematically and check their work;
- use mathematics to solve problems and make decisions;
- develop methods and strategies, including mental mathematics;
- explore ideas, make and test predictions and think creatively;
- identify and collect information;
- read, interpret, organise, and present information in mathematical formats;
- use mathematical understanding and language to ask and answer questions, talk about and discuss ideas, and explain ways of working;
- develop financial capability;
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using their **Knowledge and Understanding** of:

**Measure (weight)**

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**Measure (area)**

**Measure (time)**

## Q5 Consolidate

(begin to develop an understanding, recall)

In sensory, structured activities, and in familiar and accessible contexts within activity-based and/or play-based learning, pupils:

- develop an understanding of making choices when selecting specific materials, equipment, and mathematical processes for a simple mathematical activity;
- show some understanding of mathematical notation, such as + , - or =;
- begin to show some organisation in their work;
- recall the use of simple and familiar work systems;
- demonstrate a basic understanding that mathematical problem-solving requires a strategy, such as trial and error;
- recall an increasing range of basic mathematical strategies;
- copy and continue simple patterns;
- begin to develop an understanding of methods used to collect basic mathematical objects/information;
- begin to develop an understanding of representing their work using familiar and appropriate symbols/objects/pictures;
- begin to understand and communicate using appropriate mathematical language in response to questions about their work;
- recall what to do in shopping activities and put it into practice;
- begin to develop an understanding of selecting and using the most appropriate digital device for a mathematical activity;

- find everyday objects that weigh the same or different, such as chairs, mugs or schoolbags;
- sort a range of clothing into shop sizing categories such as small, medium and large;
- sort containers that are full and empty;
- be able to estimate how many clothes could be hung on a given washing line space;
- identify daily routines.

**More Examples of Q5**

## Level 1

In structured activities, in familiar and accessible contexts, pupils can:

- talk about and use the materials and equipment provided to carry out an activity;
- use some mathematical notation;
- show some organisation in their practical work;
- talk about ways to solve simple everyday problems;
- use counting strategies when carrying out activities;
- look for and talk about patterns;
- talk about and collect information required;
- represent their work using pictures and objects;
- use appropriate mathematical language to respond to questions about their work;
- use everyday language associated with length, 'weight', capacity and area to describe, compare and order three objects;
- sequence familiar events;
- know the days of the week and their sequence;
- recognise 'special' times on the clock.

## Q1 Framework | Examples for Using Mathematics: Measure

### Q1 – Experience (experience/encounter)

<b>Weight</b>	<ul style="list-style-type: none"> <li>• experience sensory play that has two contrasting weighted materials, such as stones and sand, or apples and rice;</li> <li>• experience filling and emptying scales in a sensory play scenario using a range of food ingredients such as water, flour, rice and sugar;</li> <li>• experience a range of heavy and light pressure applied through multisensory activities such as Tac Pac, Sensory Massage or reflex therapy;</li> <li>• experience the language associated with weight, for example heavy and light;</li> </ul>
<b>Length</b>	<ul style="list-style-type: none"> <li>• experience a wide range of tools through playful experiences that are used to measure length, such as cubes, feet, rulers or measuring tape;</li> <li>• experience a range of items of clothing that are a variety of sizes through role play;</li> <li>• experience length and distance in relation to space available through physical movement, such as by playing outside or going for a walk;</li> <li>• experience the language associated with length, for example tall and short;</li> </ul>
<b>Capacity</b>	<ul style="list-style-type: none"> <li>• experience filling and emptying containers of varying sizes and shapes using a range of sensory materials, for example water, dry sand, wet sand, rice, oats and pasta;</li> <li>• experience the language associated with capacity, for example full, empty, more and stop;</li> </ul>
<b>Area</b>	<ul style="list-style-type: none"> <li>• experience covering a surface with a range of paints/crayons and sizes and shapes of paper;</li> <li>• experience moving around a specific area, for example the playground, the PE hall or the classroom;</li> </ul>
<b>Time</b>	<ul style="list-style-type: none"> <li>• experience the language associated with time, for example the terms 'now'/'later' and 'first'/'then';</li> <li>• experience a daily routine in school.</li> </ul>

## Q2 Framework | Examples for Using Mathematics: Measure

### Q2 – Respond (become aware, respond, interact intermittently)

<b>Weight</b>	<ul style="list-style-type: none"> <li>• respond to sensory play that has two contrasting weighted materials (such as stones and sand) by touching and lifting each material;</li> <li>• respond by intermittently interacting with scales by filling each side to experience weighing a range of food ingredients such as flour, rice and sugar;</li> <li>• respond by intermittently interacting with a range of heavy and light pressure applied through multisensory activities such as Tac Pac, Sensory Massage and reflex therapy;</li> <li>• respond intermittently to the language of weight, for example heavy and light;</li> </ul>
<b>Length</b>	<ul style="list-style-type: none"> <li>• respond by picking up a range of tools to measure length such as cubes, feet, rulers or measuring tape;</li> <li>• respond to clothes that are not theirs, or do not fit their size, for example a jumper that is too long, or socks that are too small;</li> <li>• respond to a verbal comment such as 'that is too big/small for you' by removing the item;</li> <li>• respond to a gestural prompt, such as by showing pleasure when someone takes their hand to join in during a physical activity such as a walking club to reach a desired distance (for example 1K a day);</li> <li>• respond to stimuli at different distances, for example music being played at a range of distances, such as close by and then further away;</li> <li>• respond intermittently to the language associated with length, for example tall and short;</li> </ul>
<b>Capacity</b>	<ul style="list-style-type: none"> <li>• respond to sensory play that involves filling and emptying containers of varying sizes and shapes using a range of sensory materials, for example water, dry sand, wet sand, rice, oats and pasta;</li> <li>• respond intermittently to the language of capacity, for example full, empty or more;</li> </ul>
<b>Area</b>	<ul style="list-style-type: none"> <li>• respond with interest to covering a surface with a range of paints/crayons and paper of different shapes and sizes;</li> <li>• respond by staying within the specified area, for example the PE hall, the classroom or the playground;</li> </ul>
<b>Time</b>	<ul style="list-style-type: none"> <li>• respond intermittently to language associated with time, for example 'now'/'later' and 'first'/'then';</li> <li>• respond to the daily routine in school by beginning to show awareness of the various parts of the day, for example snack time, lunchtime, tabletop time.</li> </ul>

## Q3 Framework | Examples for Using Mathematics: Measure

### Q3 – Engage (engage with/imitate modelled behaviour, direct attention, focus, recognise)

<b>Weight</b>	<ul style="list-style-type: none"> <li>• engage by imitating handling a group of similar objects that are different in weight;</li> <li>• engage by imitating simple words related to weight (such as heavy/light) verbally or nonverbally, by using Makaton, PECS or other forms of communication;</li> <li>• engage by imitating handling of different weighted objects, such as a very light bowl or a heavy bag;</li> <li>• engage by imitating handling food of different serving sizes and portions, for example using a non-standard measure such as a handful/spoonful to show a portion size of food groups;</li> <li>• engage by imitating some Makaton signs associated with weight such as heavy, light, same or different;</li> <li>• engage by imitating the use of IWB software to explore the scales and weighing;</li> <li>• engage by recognising and intermittently responding to a range of heavy and light pressure applied through multisensory activities such as Tac Pac, Sensory Massage and reflex therapy;</li> </ul> <p><b>Post-Primary</b></p> <ul style="list-style-type: none"> <li>• engage with activities that involve exploring weight kinesthetically, such as carrying a shopping basket with something heavy, like juice;</li> <li>• engage with placing food items such as fruit and vegetables on a scale during educational outings;</li> <li>• engage by directing attention towards the weighing of a range of ingredients from a recipe during Home Economics;</li> </ul>
<b>Length</b>	<ul style="list-style-type: none"> <li>• engage by imitating handling a group of similar objects that are different in length;</li> <li>• engage by imitating simple words related to length (such as long/short) verbally or nonverbally by using Makaton, PECS or other forms of communication;</li> <li>• engage by taking part in being measured by length or by height for a class comparison;</li> <li>• engage by exploring personal height and responding to growth over time, for example by observing how much taller they have got;</li> <li>• engage by exploring a range of non-standard and standard tools (such as hand span, people, feet, rulers, meter wheel and laser measuring tape) to measure the length of everyday items such as tables, people and outdoor spaces;</li> <li>• engage by imitating trying on clothes for size, for example a jumper that is too long or socks that are too small, or by displaying an awareness that something doesn't fit by removing it (such as shoes that are too small);</li> <li>• engage by imitating staff or peers to engage in physical activity such as a walking club to reach a desired distance (for example 1K a day);</li> <li>• engage by imitating selecting items according to the size described (such as a small spoon) when given a prompt such as 'get a small spoon for your yogurt';</li> <li>• engage by imitating using Numicon shapes (in response to verbal support) by putting them into the category of small and big;</li> <li>• engage by imitating using Numicon shapes to find a length the same as an everyday object, such as a book;</li> <li>• show interest by responding to multisensory stimuli by moving the head or eyes in the direction of, for example, music being played at a range of distances (such as close by, then further away);</li> </ul>

Continued

## Q3 Framework | Examples for Using Mathematics: Measure

### Q3 – Engage Continued

<b>Capacity</b>	<ul style="list-style-type: none"> <li>engage by imitating handling a range of materials, and different sizes and shapes of containers;</li> <li>engage by imitating simple words related to capacity (such as full/empty/more) verbally or nonverbally by using Makaton, PECS or other forms of communication;</li> <li>engage by imitating filling a range of containers such as pasta in pots, water in cleaning bottles, and books packed in a schoolbag;</li> <li>respond to the word 'stop' while filling a range of containers to an appropriate point, for example a kettle, mop bucket, cup of tea or the recycling bin;</li> <li>imitate conservation activities, for example by pouring juice from one container to another, such as a bottle to a jug;</li> <li>imitate pouring ingredients when cooking and respond to language such as more, less, how much and how many;</li> <li>imitate everyday tasks that need estimation, for example practising squeezing the correct quantity of toothpaste that is needed onto the toothbrush;</li> <li>experience and engage with the differences in capacity through multisensory water exploration or body submersion such as a hand basin, foot spa or bath/therapy pool;</li> </ul> <p><b>Post-Primary</b></p> <ul style="list-style-type: none"> <li>engage by imitating using an appropriate container for a specific need, for example a glass for a drink, a pot for cooking rice, or a watering can for tending to flowers;</li> </ul>
<b>Area</b>	<ul style="list-style-type: none"> <li>engage by imitating teacher modelling of covering the surface of a page with paint;</li> <li>imitate hanging up washing by using the space available on the washing line to hang up as many clothes as will fit;</li> <li>engage with setting a table for a given number of people so that each set of cutlery fits the table;</li> <li>direct their attention towards a Numicon Baseboard and cover it by selecting a range of Numicon shapes;</li> </ul> <p><b>Post-Primary</b></p> <ul style="list-style-type: none"> <li>engage by imitating teacher modelling of spreading a table with a cloth;</li> <li>engage by imitating the teacher wrapping boxes with different areas of wrapping paper – for example, the smaller area will need the smaller piece of wrapping paper;</li> </ul>
<b>Time</b>	<ul style="list-style-type: none"> <li>engage in an increasing number of daily routines and activities;</li> <li>engage in a range of turn-taking activities;</li> <li>engage in activities about personal recent/past/future events, such as birthdays and news time;</li> <li>engage with vocabulary involving time, such as snack time, lunchtime and bus;</li> <li>recognise and tolerate the terms 'now'/'later' and 'first'/'then'.</li> </ul>



## Q4 Framework | Examples for Using Mathematics: Measure

### Q4 – Actively Participate (interact, share, actively participate, collaborate, anticipate)

#### Weight

- participate in weighing food items such as fruit and vegetables on a scale while shopping during educational outings or when engaging in role play;
- participate in communicating simple language related to weight (for example heavy and light/light, lighter, lightest) verbally or nonverbally, by using Makaton, PECS or other forms of communication;
- participate in using some Makaton to indicate whether two objects weigh 'the same' or 'different';
- participate in indicating their preference in a range of heavy and light pressure applied through multisensory leisure activities such as Tac Pac, Sensory Massage and reflex therapy;
- participate in activities to identify objects that are heavy and light;
- participate in handling food in relation to different serving sizes and portion sizes, for example using a non-standard measure such as a handful/spoonful to show a portion size of food groups;
- participate in using Numicon IWB software to explore the scales and weighing, and finding equivalent weights of things;

#### Post-Primary

- participate by interacting with everyday objects that weigh the same or different through class jobs, such as stacking chairs/lifting their peers' schoolbags;
- participate in handling very light or very heavy objects, for example by walking more slowly when carrying something heavy to protect their back, or working together to carry benches in the assembly hall;
- participate in identifying objects that are heavy/light, for example by using carrier bags or a shopping basket to experience visually and kinesthetically the weight of everyday items, such as two cartons of milk in one carrier bag compared to two loaves of bread;
- participate in weighing a range of ingredients from a recipe during Home Economics;
- participate in experimenting with using non-standard units to find an amount equal to a range of food items, for example how many cubes equal a bag of sugar;
- participate in handling food in relation to different serving sizes and portion sizes, for example using a non-standard measure such as a handful or a spoonful to show a portion size of food groups;
- participate in reading some numbers on a range of scales, including iPad app scales;

Continued

## Q4 – Actively Participate Continued

### Length

- participate with/explore/handle similar objects that are different in length;
- participate in identifying objects that are long or short;
- participate in measuring the length or height of two objects, such as the pupils in the class (standing or lying down);
- participate in measuring pupils' feet and exploring shoe size;
- participate in measuring personal height and observing growth over time, for example on a visual class growth chart;
- participate in trying on clothes for size, for example a jumper that is too long or socks that are too small;
- can share their awareness of clothing sizes appropriate for themselves, for example by removing a piece of clothing that is too small;
- participate in communicating simple language related to length (for example long, short, tall, taller, shorter) verbally or nonverbally, by using Makaton, PECS or other forms of communication;
- participate in using a non-standard and standard specific tool (such as hand span, people, feet, meter wheel and laser measuring tape) to measure the length of everyday items such as tables, people and outdoor spaces;
- participate in counting steps to reach a desired distance, for example 1K a day;
- participate in sorting Numicon shapes into short and long categories;
- participate in using Numicon shapes as non-standard units of measure to measure a range of everyday items such as tables or people;
- listen to and show interest in multisensory stimuli such as music or birds at different distances by indicating what it is, where it might be coming from, and how far away they think it is;

Continued

## Q4 Framework | Examples for Using Mathematics: Measure

### Q4 – Actively Participate Continued

<p><b>Capacity</b></p>	<ul style="list-style-type: none"> <li>participate in selecting an appropriate container for a specific need, for example a glass for a drink, a pot for cooking rice, or a watering can for tending to flowers;</li> <li>participate in identifying containers that are full or empty;</li> <li>indicate wanting 'more' food or being 'full' by using Makaton or other communication methods to communicate at breaktime;</li> <li>participate in filling a range of containers such as pasta in pots, water in cleaning bottles and books packed into a schoolbag;</li> <li>develop an awareness of what can fit inside another item;</li> <li>participate in using non-standard units of measure, for example cups, eggcups and spoons;</li> <li>participate in conservation activities, for example by pouring juice from one container to another, such as from a bottle to a jug;</li> <li>participate in everyday tasks that involve estimation, for example by practising squeezing the correct quantity of toothpaste that is needed onto the toothbrush;</li> <li>participate in exploring capacity through multisensory water exploration or body submersion, for example by using a hand basin, foot spa or bath/therapy pool;</li> </ul> <p><b>Post-Primary</b></p> <ul style="list-style-type: none"> <li>participate in filling a range of containers to an appropriate level, for example a kettle, mop bucket, cup of tea or recycling bin;</li> <li>participate in measuring quantity for small/medium/large drinks, or how much food fits in a particular plate or bowl;</li> <li>develop an awareness of portion sizes;</li> <li>participate in creating portion sizes for different times of the day (breakfast, lunch, dinner) and for different people (baby, toddler, big sister, daddy) to identify who needs 'more' or 'less';</li> <li>explore the amount of each nutrient they need to stay healthy, for example how much carbohydrate should I (the pupil) eat each day for me to stay healthy;</li> <li>participate in using recipes and ingredients when cooking that include language such as more, less, how much and how many;</li> <li>participate in estimating and measuring how many bags they need to carry grocery items;</li> <li>participate in making a drink (diluting juice and water/milk and water for tea) to explore the ratio needed for each;</li> </ul>
<p><b>Area</b></p>	<ul style="list-style-type: none"> <li>participate in an activity that involves the covering of a surface (such as a page) with paint or a table with a cloth;</li> <li>participate in hanging up washing by using the space available on the washing line to hang up as many clothes as will fit;</li> <li>participate in setting a table for an appropriate number of people, depending on the size of the table;</li> <li>participate in finding out how much of something is needed to cover an area, for example flowers to fill a specific planter/space or paint to cover a fence;</li> <li>participate in covering a specific area or picture image using a baseboard template by using the Numicon baseboard, and cover it by selecting a range of Numicon shapes;</li> </ul>

Continued

## Q4 Framework | Examples for Using Mathematics: Measure

### Q4 – Actively Participate Continued

#### Time

- participate in a range of turn-taking activities, for example interacting by using a sand timer to turn-take;
- recall personal recent/past/future events such as today, tomorrow, yesterday or 'time to';
- participate in activities that use language and terms associated with time, for example anticipating the end of an activity by responding to a visual timer;
- respond to requests such as 'slow down when you are eating' or 'let's get this job done quicker';
- participate in activities that show an acceptance/understanding of the terms 'now'/'later' and 'first'/'then' used in context;
- use some Makaton to indicate their awareness of the day of the week;
- demonstrate an understanding of the terms today/tomorrow/yesterday;
- develop an awareness of time patterns, for example the similar events that happen such as day and night, months, seasons (weather patterns) and years (celebrations on specific dates);
- follow a class/personal schedule to reinforce the concept of time throughout the daily routine, for example morning/afternoon/night;
- dress appropriately for the seasons/weather;
- be familiar with significant times during the day and on the clock such as breakfast, school starts, break, outside, lunch and home time;
- participate in sequencing or retelling stories and memories;
- participate in timekeeping by using a visual timer to indicate when an activity is over;
- participate in following task schedules in the correct sequence (first, next, then, finally) for classroom jobs or tasks;
- participate in preparing for a special occasion, date, day or celebration;
- participate in measuring how long it takes to carry out daily tasks such as brushing their teeth, getting dressed, having their break and cooking a specific food item;
- experience time passing through a multisensory tactile stimulus, for example tapping on the pupil's shoulders in sync to the seconds on the clock, or feeling the physical countdown timer on a pedestrian crossing;
- participate by following an object-based or sensory schedule as a cue for different times of the day;
- participate in activities that introduce the language of the days of the week, such as a daily/weekly pictorial timetable;
- participate in sequencing personal pictures to create a timeline from birth to now;
- participate in activities that explore a range of ways to measure time, for example by using the sun, a clock, a timer (in cookery) or a stopwatch (in PE);
- display an awareness of preferred time patterns, such as when their favourite TV programme is on;

Continued

## Q4 – Actively Participate Continued

<b>Time</b> (Continued)	<b>Post-Primary</b> <ul style="list-style-type: none"><li>• be aware that different daily activities take different amounts of time, for example one second, one minute, one hour or one day;</li><li>• participate in activities that involve looking back at different times (such as yesterday, last week, last month) to remember what they have done (the teacher can use photos as prompts);</li><li>• participate in investigating how long it takes to travel to different places (local or further away) by walking or taking a bus;</li><li>• participate in using the computer or iPad to check the opening times of local shops, delivery slots or bus times;</li><li>• participate in creating a travel plan by using a timetable for a bus or train online, or reading public transport maps;</li><li>• participate in entering important dates into a digital calendar (iPad/phone).</li></ul>
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## Q5 Framework | Examples for Using Mathematics: Measure

### Q5 – Consolidate (begin to develop an understanding, recall)

#### Weight

- find everyday objects that weigh the same or different, such as chairs, mugs or schoolbags;
- sort objects that are heavy and light – for example, experience visually and kinesthetically the weight of everyday items (such as two cartons of milk in one carrier bag compared to two loaves of bread);
- communicate simple language related to weight (such as heavy and light, heavier/lighter) verbally or nonverbally, by using Makaton, PECS or other forms of communication;
- estimate which food items will be heavier or lighter when participating in shopping during educational outings or when engaging in role play;
- discuss weight using a range of verbal and nonverbal communication, such as ‘the pot is heavier than the spoon’ or ‘the cup and glass are about the same’;
- choose a preferred multisensory input from a range of heavy and light pressure applied through multisensory leisure activities such as Tac Pac, Sensory Massage and reflex therapy;

#### Post-Primary

- know how to handle very light and very heavy objects, for example walking slower when carrying something heavy to protect their back, or working together to carry benches in the assembly hall;
- weigh a range of ingredients to follow a recipe during Home Economics, with support;
- change a recipe, for example from one that serves six to serving three people – ‘how much of each ingredient do we need now?’;
- use non-standard units to find the equivalents of a range of food items, for example how many cubes equals a bag of sugar;
- handle and prepare food in relation to different serving sizes and portion sizes, for example by using a non-standard measure such as a handful to show a portion size of food groups;

Continued

## Q5 Framework | Examples for Using Mathematics: Measure

### Q5 – Consolidate Continued

<p><b>Length</b></p>	<ul style="list-style-type: none"> <li>• use an appropriate way to measure personal height and observe growth over time, for example on a visual class growth chart;</li> <li>• compare measurements of pupils' feet size and link it with shoe size – for example, bigger feet means that we need bigger shoes;</li> <li>• sort and order up to three objects according to length, for example Numicon shapes or class members;</li> <li>• identify clothing for size, for example by saying that a child's jumper may be too small for a grown man;</li> <li>• sort a range of clothing into shop sizing categories such as small, medium and large;</li> <li>• communicate simple language related to length (for example long and short) verbally or nonverbally by using Makaton, PECS or other forms of communication;</li> <li>• discuss length using a range of communication means including verbal and nonverbal, for example 'my hair is shorter/longer than my friend's', or 'my hair is the longest/shortest';</li> <li>• set a goal or count steps during physical activity such as a walking club to reach a desired distance (for example 1K a day);</li> <li>• follow a range of instructions to share their awareness of the properties of everyday items, for example by placing the long shovel into the tall bucket;</li> <li>• listen to and show interest in multisensory stimuli at different distances by indicating what it is, where it might be coming from, and how far away they think it is;</li> </ul> <p><b>Post-Primary</b></p> <ul style="list-style-type: none"> <li>• will have an awareness of clothing sizes appropriate for different sizes of individuals such as a baby, toddler, parent or grandparent;</li> <li>• select an appropriate tool to carry out a specific activity, for example by using a measuring tape to measure length to cut a piece of wood for a flowerbox;</li> </ul>
<p><b>Capacity</b></p>	<ul style="list-style-type: none"> <li>• sort containers that are full and empty;</li> <li>• order up to three real-life objects according to capacity, for example teaspoon, eggcup and mug;</li> <li>• understand the uses of a range of appropriate containers for a specific need or task, for example a glass for a drink, a pot for cooking rice, or a watering can for tending to flowers;</li> <li>• understand what can fit inside another item, for example filling a range of containers such as pasta in pots, water in cleaning bottles and books packed into a schoolbag;</li> <li>• communicate simple language related to capacity (for example full/empty) verbally or nonverbally by using Makaton, PECS or other communication methods;</li> <li>• discuss capacity using a range of communication means, including verbal and nonverbal, such as 'my cup is fuller than yours';</li> </ul> <p><b>Post-Primary</b></p> <ul style="list-style-type: none"> <li>• follow instructions to fill a range of containers to an appropriate point, for example by filling the mop bucket to half-full;</li> <li>• find specific items of food while shopping, for example a small tin of beans or two litres of milk;</li> <li>• apply portion sizes during class break or school cafe to select and fill small/medium/large drinks based on class/customer orders;</li> <li>• follow recipes and add ingredients when cooking in response to language such as more, less, how much and how many;</li> </ul>

## Q5 Framework | Examples for Using Mathematics: Measure

### Q5 – Consolidate Continued

<b>Area</b>	<ul style="list-style-type: none"> <li>• demonstrate an understanding of the language associated with area, for example length or width;</li> <li>• be able to estimate how many clothes could be hung on a given washing line space;</li> <li>• estimate the number of people that can fit around a particular sized table and set up tables and chairs to fit the space they are in, for example a cafe;</li> <li>• participate in measuring to find out how much of something is needed to cover an area, for example flowers to fill a specific planter/space or paint to cover a fence;</li> </ul>
<b>Time</b>	<ul style="list-style-type: none"> <li>• identify daily routines;</li> <li>• demonstrate an understanding of following a timetable, such as ‘what we need to do first, then, then, and finally’;</li> <li>• demonstrate an understanding of turn-taking, such as waiting for their turn;</li> <li>• demonstrate an understanding of personal recent/past/future events using terms such as today, tomorrow, yesterday, ‘time to ...’ and so on;</li> <li>• demonstrate an understanding that a clock can indicate specific times, such as home time, lunchtime, playtime;</li> <li>• demonstrate an acceptance/understanding of the terms ‘now’/‘later’ and ‘first’/‘then’ used in context;</li> <li>• have an awareness of preferred time patterns, such as when their favourite TV programme is on;</li> <li>• participate in preparing for a special occasion/date/day/celebration;</li> <li>• keep a photo diary of school events over a month;</li> <li>• sequence personal pictures to create a timeline from birth to now;</li> <li>• look at and discuss learners’ baby photos;</li> <li>• plan to watch a TV show at the weekend on a specific day;</li> <li>• take part in different daily activities that take different amounts of time, for example one second, one minute, one hour or one day;</li> <li>• use timers to manage different daily activities, for example brushing teeth;</li> </ul> <p><b>Post-Primary</b></p> <ul style="list-style-type: none"> <li>• participate in preparing for a special occasion/date/day/celebration and taking part in planning how many days/weeks until this occasion, what can be done in that time, and how long it will take (Young Enterprise);</li> <li>• write a diary to keep a record of what they do in school for a month;</li> <li>• sequence personal pictures to create a timeline from birth to now, highlighting significant times including their age, dates, and how long ago it was;</li> <li>• can participate in planning ahead by putting one future date on the timeline that they are looking forward to, such as a birthday, formal, or summer;</li> <li>• know that different daily activities take different amounts of time, for example one second, one minute, one hour or one day;</li> <li>• use the computer or iPad to check opening times of local shops, delivery slots or bus times;</li> <li>• take part in making a travel plan by using a timetable for a bus or train, either by going online or reading public transport maps;</li> <li>• enter important dates into a digital calendar (iPad/phone), for example by identifying the day of the week and the time to set a reminder.</li> </ul>





NON-STATUTORY

# Requirements for Using Mathematics

Across the curriculum, at a level appropriate to their ability, pupils should be enabled to:

- choose the appropriate materials, equipment, and mathematics to use in a particular situation;
- use mathematical knowledge and concepts accurately;
- work systematically and check their work;
- use mathematics to solve problems and make decisions;
- develop methods and strategies, including mental mathematics;
- explore ideas, make and test predictions and think creatively;
- identify and collect information;
- read, interpret, organise, and present information in mathematical formats;
- use mathematical understanding and language to ask and answer questions, talk about and discuss ideas, and explain ways of working;
- develop financial capability;
- use ICT to solve problems and/or present their work;

using their **Knowledge and Understanding** of:

**Number**

**Money**

## Prerequisite Skills (Q Skills) in **Using Mathematics** across the Curriculum

Progress is also demonstrated by decreasing levels of support from adults: with direction, with decreasing direction, without direction. Communication can be both verbal and nonverbal.

**Number and Money**

Q1 Experience (experience/encounter)	Q2 Respond (become aware, respond, interact intermittently)
In sensory, structured activities, and in familiar and accessible contexts within activity-based and/or play-based learning, pupils:	
<ul style="list-style-type: none"> <li>• experience a variety of mathematical materials and equipment for use in a particular situation;</li> </ul>	<ul style="list-style-type: none"> <li>• respond to appropriate mathematical materials and equipment for use in a particular situation;</li> </ul>
<ul style="list-style-type: none"> <li>• experience mathematical activities;</li> <li>• experience daily routines and work systems;</li> </ul>	<ul style="list-style-type: none"> <li>• respond to mathematical activities;</li> <li>• respond to daily routines and work systems;</li> <li>• respond to objects of reference/symbols that mark specific activities/times;</li> <li>• anticipate familiar routines by moving/increasing eye contact before a favoured activity;</li> </ul>
<ul style="list-style-type: none"> <li>• experience problem-solving activities;</li> </ul>	<ul style="list-style-type: none"> <li>• respond to problem-solving activities;</li> </ul>
<ul style="list-style-type: none"> <li>• experience a variety of simple patterns;</li> <li>• experience two stimuli in two different positions;</li> </ul>	<ul style="list-style-type: none"> <li>• become aware of and respond to a variety of simple patterns;</li> </ul>
<ul style="list-style-type: none"> <li>• experience collections of mathematical objects;</li> </ul>	<ul style="list-style-type: none"> <li>• respond to a range of mathematical objects;</li> <li>• respond to the collection of mathematical objects/pictures/symbols;</li> </ul>
<ul style="list-style-type: none"> <li>• experience a range of mathematical language;</li> </ul>	<ul style="list-style-type: none"> <li>• respond to a range of basic mathematical language;</li> </ul>
<ul style="list-style-type: none"> <li>• experience a range of number rhymes, songs and activities;</li> <li>• experience/encounter simple two factor patterns;</li> </ul>	<ul style="list-style-type: none"> <li>• respond to number rhymes/songs/activities;</li> <li>• respond to mathematical apps/computer programs;</li> </ul>
<ul style="list-style-type: none"> <li>• experience a range of real or play coins;</li> <li>• experience trips to a range of shops/cafes.</li> </ul>	<ul style="list-style-type: none"> <li>• respond to/interact with a range of real or play coins;</li> <li>• respond to trips to a range of shops.</li> </ul>
<u>More Examples of Q1</u>	<u>More Examples of Q2</u>



NON-STATUTORY

# Requirements for Using Mathematics

Across the curriculum, at a level appropriate to their ability, pupils should be enabled to:

- choose the appropriate materials, equipment, and mathematics to use in a particular situation;
- use mathematical knowledge and concepts accurately;
- work systematically and check their work;
- use mathematics to solve problems and make decisions;
- develop methods and strategies, including mental mathematics;
- explore ideas, make and test predictions and think creatively;
- identify and collect information;
- read, interpret, organise, and present information in mathematical formats;
- use mathematical understanding and language to ask and answer questions, talk about and discuss ideas, and explain ways of working;
- develop financial capability;
- use ICT to solve problems and/or present their work;

using their **Knowledge and Understanding** of:

**Number**

**Money**

## Prerequisite Skills (Q Skills) in **Using Mathematics** across the Curriculum

**Number and Money**

Progress is also demonstrated by decreasing levels of support from adults: with direction, with decreasing direction, without direction. Communication can be both verbal and nonverbal.

**Q3 Engage**  
 (engage with/imitate modelled behaviour, direct attention, focus, recognise)

**Q4 Actively Participate**  
 (interact, share, actively participate, collaborate, anticipate)

In sensory, structured activities, and in familiar and accessible contexts within activity-based and/or play-based learning, pupils:

- engage with appropriate mathematical materials and equipment for use in a particular situation in response to teacher guidance/modelling;
- engage in/with mathematical activities in response to cues and prompts;
- engage in/with simple and familiar work systems in response to teacher modelling;
- engage with and imitate a range of mathematical problem-solving strategies;
- recall simple mathematical strategies in response to teacher modelling;
- imitate simple and familiar patterns in response to teacher modelling;
- engage with the collection of objects;
- engage with or imitate presenting their work with appropriate symbols/objects/pictures;
- engage with some basic mathematical language;

- actively participate in making choices when selecting specific materials and equipment for a simple activity;
- actively participate in activities based on mathematical concepts;
- actively participate in simple and familiar work systems;
- actively participate in a range of mathematical problem-solving strategies such as guessing;
- participate in simple supported mathematical strategies;
- actively participate in copying simple patterns;
- actively participate in the collection of objects/information;
- actively participate in presenting their work with appropriate symbols/objects/pictures;
- actively participate in communicating simple mathematical language;

- engage with and/or imitate some actions during number rhymes and songs;
- engage with touch counting up to three, then five, then 10;

- participate in matching numerals up to three, then five, then ten;
- recognise sets up to 10;

- engage with/imitate modelled choosing of objects they would like to buy;
- engage with/imitate the matching of individual coins.

- participate in matching and sorting individual coins;
- participate in posting/placing coins in a moneybox/till.

[More Examples of Q3](#)

[More Examples of Q4](#)



NON-STATUTORY

# Requirements for Using Mathematics

Across the curriculum, at a level appropriate to their ability, pupils should be enabled to:

- choose the appropriate materials, equipment, and mathematics to use in a particular situation;
- use mathematical knowledge and concepts accurately;
- work systematically and check their work;
- use mathematics to solve problems and make decisions;
- develop methods and strategies, including mental mathematics;
- explore ideas, make and test predictions and think creatively;
- identify and collect information;
- read, interpret, organise, and present information in mathematical formats;
- use mathematical understanding and language to ask and answer questions, talk about and discuss ideas, and explain ways of working;
- develop financial capability;
- use ICT to solve problems and/or present their work;

using their **Knowledge and Understanding** of:

**Number**

**Money**

## Prerequisite Skills (Q Skills) in **Using Mathematics** across the Curriculum

Progress is also demonstrated by decreasing levels of support from adults: with direction, with decreasing direction, without direction. Communication can be both verbal and nonverbal.

**Number and Money**

### Q5 Consolidate (begin to develop an understanding, recall)

In sensory, structured activities, and in familiar and accessible contexts within activity-based and/or play-based learning, pupils:

- begin to develop an understanding of making choices when selecting specific materials, equipment, and mathematics for a simple activity;
- show some understanding of mathematical notation, such as +, − or =;
- begin to develop an understanding of some organisation in their work;
- demonstrate a basic understanding that mathematical problem-solving requires a strategy, such as trial and error;
- become familiar with an increasing range of basic mathematical strategies;
- recognise and continue simple patterns;
- begin to develop an understanding of methods used to collect basic mathematical objects/information;
- begin to develop an understanding of presenting their work using familiar and appropriate symbols/objects/pictures;
- begin to understand and communicate using appropriate mathematical language in response to questions about their work;

- match numerals using different fonts up to 10;
- estimate sets up to five;
- identify the number on a coin;
- distinguish real coins from pretend coins.

More Examples of Q5

### Level 1

In structured activities, in familiar and accessible contexts, pupils can:

- talk about and use the materials and equipment provided to carry out an activity;
- use some mathematical notation;
- show some organisation in their practical work;
- talk about ways to solve simple everyday problems;
- use counting strategies when carrying out activities;
- look for and talk about patterns;
- talk about and collect information required;
- represent their work using pictures and objects;
- use appropriate mathematical language to respond to questions about their work;

- use, estimate, add and subtract numbers up to at least 10;
- understand conservation of number;
- create and describe repeating patterns using objects, numbers or pictures;
- recognise and use coins.

## Q1 – Experience (experience/encounter)

<p><b>Number</b></p>	<ul style="list-style-type: none"> <li>• experience a range of mathematical resources, including an abacus, Numicon, and counting/sorting resources;</li> <li>• experience a range of number rhymes, songs and activities;</li> <li>• experience games where objects are hidden or rearranged (object permanence);</li> <li>• experience/encounter simple two factor patterns;</li> <li>• experience numbers/counting/sorting materials using the 'Attention Autism' approach;</li> <li>• experience numbers/counting/sorting materials using the 'Curiosity Programme' approach;</li> <li>• experience/encounter a range of natural materials, such as shells, feathers, leaves, twigs and stones;</li> <li>• experience sensory play that includes numbers/counting/sorting materials;</li> <li>• experience objects of reference/symbols that mark specific activities/times;</li> <li>• experience patterns in natural/manufactured resources such as material/tiles/leaves;</li> <li>• experience Tac Pac rhythm of activities to music by using various brushes, tapping and rolling;</li> <li>• experience collections of manufactured/natural objects;</li> <li>• experience/encounter a variety of mathematical objects/pictures/symbols;</li> <li>• experience parachute games/sensory activities that start 'one-two-three-go!';</li> <li>• experience ordinal numbers, for example you are first, second; or we will do art 'first', then break;</li> <li>• experience counting games/songs/rhymes/activities on the interactive whiteboard/app;</li> <li>• experience simple turn-taking games, where the teacher must react to the pupil's vocalisation/movement/sign to start again;</li> </ul>
<p><b>Money</b></p>	<ul style="list-style-type: none"> <li>• experience a range of real or play coins;</li> <li>• experience sensory play that includes coins;</li> <li>• experience trips to a range of shops/cafes;</li> <li>• experience objects being selected and placed in a trolley or basket;</li> <li>• experience the exchange of money, such as the use of a card or phone to pay for something.</li> </ul>

## Q2 – Respond (become aware, respond, interact intermittently)

<p><b>Number</b></p>	<ul style="list-style-type: none"> <li>• respond to number rhymes/songs/activities;</li> <li>• respond with some interest to a range of mathematical resources, including an abacus, Numicon, or counting/sorting resources;</li> <li>• respond to/search for objects that are out of sight (object permanence);</li> <li>• respond to/show awareness of a range of simple two factor patterns;</li> <li>• find numerals/objects/Numicon pieces in a sand/water tray;</li> <li>• respond to mathematical apps/computer programs;</li> <li>• respond to pause during feeding/drinking/singing;</li> <li>• reach out to activate a switch intermittently to reactivate a favourite toy;</li> <li>• respond to numbers/sorting materials/counting using the 'Attention Autism' approach;</li> <li>• respond to numbers/sorting materials/counting using the 'Curiosity Programme' strategy;</li> <li>• respond to patterns in natural/manufactured resources – material/tiles/leaves;</li> <li>• respond to objects of reference/symbols that mark specific activities/times;</li> <li>• respond to Tac Pac patterns of touches/music;</li> <li>• respond to questions such as 'what's next?';</li> <li>• respond to parachute games/sensory activities that start 'one-two-three-go!';</li> <li>• respond to ordinal numbers, for example you are first, second; or we will do art 'first', then break;</li> <li>• respond to counting games/songs/rhymes/activities on the interactive whiteboard/app;</li> <li>• respond to simple turn-taking games, where the teacher must react to the pupil's vocalisation/movement/sign to start again;</li> </ul>
<p><b>Money</b></p>	<ul style="list-style-type: none"> <li>• respond to/interact with a range of real or play coins;</li> <li>• respond to trips to a range of shops;</li> <li>• respond to objects being selected and placed in a trolley or basket;</li> <li>• respond to the exchange of money, such as the use of a card/phone to pay for something.</li> </ul>

### Q3 – Engage (engage with/imitate modelled behaviour, direct attention, focus, recognise)

**Number**

- engage with and/or imitate some actions during number rhymes and songs;
- engage with and/or copy rote counting in ones, going up to 10;
- engage with touch counting up to three, then five, then 10;
- engage with the matching of numerals up to three, then five, then 10;
- engage with different ways of making sets (using a range of different materials) for a given number within 10;
- engage with ordinal number terminology – first, second, third;
- engage with ordering of sets up to three, then five, then 10;
- engage with mathematical games in which objects are rearranged and/or concealed;
- engage with/imitate a range of simple two factor patterns;
- engage with teacher-led number activities;
- engage with tactile number activities such as sandpaper numerals/counters;
- focus attention between two objects, for example by looking from one to the other (noisy/flashing toys); by showing awareness that two objects are present; or by engaging with/imitating the teacher to use a schedule/work system;
- engage with/imitate staff to search for a favoured item when it's been put in a box/covered with a cloth in front of them;
- engage with/imitate Primary Movement action songs, for example by repeating patterns of claps/taps/stamps;
- engage with/imitate/recognise a familiar pattern of dance moves/PE activities, such as five bounces on the trampoline, four times on the scooter board, and so on;
- engage with looking for patterns/numbers when out on their daily mile/1K a day, and with the teacher photographing them to discuss/display in class;
- engage with following a sensory circuit, such as five hops, three stretches and so on;
- engage with parachute games or sensory activities that start 'one-two-three-go!';
- engage with/imitate ordinal numbers, for example you are first, second; or we will do art 'first', then break;
- engage with counting games/songs/rhymes/activities on the interactive whiteboard/app;
- engage with turn-taking games, where the teacher must react to the pupil's vocalisation/movement/sign to start again;

**Post-Primary**

- engage with/imitate sorting activities, for example sorting cutlery into a cutlery tray with one piece already in each section;
- sort washing – how many are clean, or dirty;
- sort materials from a litter pick by picking out what is recyclable and non-recyclable, and then counting and labelling them;
- engage with/imitate asking or signing for more cutlery/cups when setting the table;
- engage with/imitate carrying out surveys with pictures and numbers, such as a pet survey – 'Do people have more dogs or cats?';
- engage with/imitate carrying out a traffic survey, such as patterns in the colours of cars, in the numerals on number plates, or in the numbers of lorries and cars;

## Q3 – Engage Continued

**Money**

- engage with/imitate the exchange of coins in the context of play or role play, and in pretend or real-life shopping activities;
- engage with/imitate modelled choosing of objects they would like to buy;
- engage with/imitate the exchange of coins in a range of everyday activities;
- engage with/imitate the matching of individual coins;
- engage with/imitate the sorting of real coins from pretend coins and classifying them according to worth;
- engage with/imitate describing coins (for example colour, size, shape) by using Makaton, communicating in print, verbal communication, and so on;

**Post-Primary**

- engage with/imitate simple budgeting activities;
- engage with/imitate making shopping lists for different meals;
- engage with/imitate making shopping lists for personal hygiene;
- engage with/imitate making shopping lists for household cleaning and daily chores.

## Q4 – Actively Participate (interact, share, actively participate, collaborate, anticipate)

### Number

- participate in matching a range of materials, numerals and sets, and demonstrate an understanding of 1:1 correspondence;
- participate in communicating at least one number from a familiar rhyme/song/story;
- participate in counting forwards, from numbers up to three, then five, then ten;
- participate in identifying numerals on request, from numbers up to three, then five, then 10;
- participate in touch counting consistently from numbers up to three, then five, then 10;
- participate in rote counting backwards, from three, then five, then 10;
- participate in matching numerals up to three, then five, then ten;
- participate in different ways of making sets using a range of different materials for a given number, within three, then five, then 10;
- participate in activities that involve adding one more to change the label of a set for a given number, within three, then five, then 10;
- recognise sets up to 10;
- participate in activities using ordinal number terminology, such as first, second, third or last;
- participate in ordering sets up to three, then five, then 10;
- participate in combining two sets using concrete objects;
- participate in different ways of dividing sets into sub-sets;
- participate in mathematical games in which objects are rearranged or concealed, and recall what is missing (object permanence);
- participate in/continue simple two factor patterns using pictures, shapes and numbers;
- say or sign the next number/Numicon piece in a What Comes Next? game;
- participate in activities where they have to recall phone or house numbers;
- participate in using a visual work system to independently complete work tasks;
- participate in guessing how many, such as the number of sweets in the jar, balls in the ball pool, and so on;
- fix it when they miss a button when doing up buttons (1:1 correspondence);
- participate in searching for a favoured item when it is put in a box/covered with a cloth in front of them;
- try another method when a toy doesn't work when tapped, for example by giving it to an adult;
- participate in Primary Movement action songs, for example by repeating patterns of claps/taps/stamps;
- participate in drawing a pattern in sand or making it in dough, for example 1,1,2,1,1,2;
- participate in copying a drumming pattern, for example by tapping to the beats;
- participate in/recall/anticipate a PE routine, for example five star jumps, four hops, three squats, and so on;
- participate in simple games, for example Dominoes or Snap;
- participate in sorting activities, for example sorting for colour, shape and size;
- participate in Scavenger hunts, for example 'did we collect more leaves than flowers?';
- participate in Beetles/Bug hunts, for example by counting the number of legs/spots/antennae/eyes;
- participate in collecting objects on a nature walk;
- begin to make representations of amounts/numerals;
- participate in signing/asking for more or less of something such as food, tickles, playtime or pushes on a swing;



## Q4 – Actively Participate Continued

<p><b>Number</b> (Continued)</p>	<p><b>Post-Primary</b></p> <ul style="list-style-type: none"> <li>• participate in sorting activities, for example sorting cutlery into a cutlery tray with one piece already in each section;</li> <li>• participate in sorting washing – how many are clean or dirty;</li> <li>• sort materials from litter by picking out what is recyclable and non-recyclable, and then counting and labelling them;</li> <li>• ask or sign for more cutlery/cups when setting the table;</li> <li>• participate in carrying out surveys, such as a pet survey with pictures/numbers, for example ‘do more people have dogs or cats?’;</li> <li>• participate in carrying out a traffic survey, such as patterns in the colours of cars, in the numerals on number plates, or the numbers of lorries and cars;</li> </ul>
<p><b>Money</b></p>	<ul style="list-style-type: none"> <li>• participate in exchanging coins for goods in the context of play and/or role play;</li> <li>• participate in choosing objects they would like to buy from a limited selection of two or three items;</li> <li>• participate in exchanging coins in simple transactions when out shopping;</li> <li>• participate in matching and sorting individual coins;</li> <li>• participate in the sorting and classifying of real coins and pretend coins;</li> <li>• participate in posting/placing coins in a moneybox/till;</li> <li>• participate in a class reward system where they can earn coins in class for good behaviour/work and save these to purchase their reward from the class shop;</li> </ul> <p><b>Post-Primary</b></p> <ul style="list-style-type: none"> <li>• participate in simple budgeting activities;</li> <li>• participate in making shopping lists for different meals;</li> <li>• participate in making shopping lists for hygiene;</li> <li>• participate in making shopping lists for household cleaning and daily chores.</li> </ul>

## Q5 – Consolidate (begin to develop an understanding, recall)

**Number**

- match and demonstrate an understanding of 1:1 correspondence and the terms 'more than', 'less than', 'not enough', and 'the same';
- participate in number rhymes/songs/stories involving numbers up to 10;
- count forwards in ones from different starting points with numbers up to five, then 10;
- touch count consistently up to ten, and know that the size of a set is given by the last number;
- rote count backwards (within five) in ones from different starting points;
- practice subtraction within 10, using a practical approach;
- match numerals using different fonts up to 10;
- order numbers within five, then 10;
- investigate different ways of making sets (using a range of different materials) for a given number within five, then 10;
- explore and demonstrate understanding that one more changes the label of a set;
- explore and demonstrate understanding that one less changes the label of a set;
- recognise sets of up to ten, and label them with the correct numeral;
- order sets up to five, then 10;
- estimate sets up to five;
- use ordinal number terminology such as first, second, third, fourth or fifth;
- practice addition by combining two sets and give the total;
- explore different ways of dividing sets into sub-sets and communicate the outcome;
- understand that the number of objects stays the same when objects are rearranged and/or concealed (object permanence);
- understand that, in counting activities, 'none' is represented by 0/zero;
- choose the correct materials from a range to support them in a counting activity, for example number lines, counters or 100 squares;
- draw/make the shape of a numeral next to the corresponding set within 10;
- park the corresponding numbers of toy cars (in parking boxes) beside numbered squares that the teacher has drawn on a tuff tray;
- estimate how many cups of milk are in a carton;
- try to place numeral pieces in an inset puzzle;
- explore number patterns, for example door numbers – 'what number comes next – are they going up in ones or in twos?';
- understand class numbers on doors, for example 'after class 3, what comes next?';
- actively participate in carrying out a traffic survey, such as patterns in the colours of cars, in the numerals on number plates, or the numbers of lorries and cars;
- continue a pattern made from manufactured/natural materials;
- use apps/computer programs to create and continue a range of patterns, including numbers, shapes and pictures;
- recognise a pattern of dance steps and continue or extend them;
- create patterns with buttons or counters in an ice cube tray;
- roll a dice and colour the corresponding numeral or number of dots on a worksheet, or make the set with objects/counters;
- count pupils present/absent, and place the correct numeral/Numicon piece on a wall chart;

## Q5 – Consolidate Continued

<p><b>Number</b> (Continued)</p>	<p><b>Post-Primary</b></p> <ul style="list-style-type: none"> <li>actively participate in sorting washing – how many are clean or dirty;</li> <li>actively participate in sorting materials from a litter pick by picking out what is recyclable and non-recyclable, and then counting and labelling the amounts of each;</li> <li>recall cutlery/cups when setting the table;</li> <li>actively participate in a traffic survey – for example ‘can you find a pattern in the colours of the cars, in the numerals on number plates, or in the numbers of lorries or cars?’;</li> </ul>
<p><b>Money</b></p>	<ul style="list-style-type: none"> <li>exchange coins for goods in the context of real-life money activities, such as buying food at a tuck shop or a canteen;</li> <li>understand the concept of waiting for change;</li> <li>understand the concept that cash can be represented by cards and vouchers;</li> <li>indicate (verbally or nonverbally) the objects that they would like to buy from a wider range;</li> <li>identify the number on a coin;</li> <li>distinguish real coins from pretend coins;</li> </ul> <p><b>Post-Primary</b></p> <ul style="list-style-type: none"> <li>estimate how many items they can buy with a given amount;</li> <li>work to a budget to purchase items for a recipe – ‘can you afford a treat at the end?’;</li> <li>identify where we should keep money to keep it safe, for example a wallet, a bank or a moneybox;</li> <li>explore safety around credit and debit cards, for example ‘don’t allow people to know your PIN’;</li> <li>make shopping lists for different meals;</li> <li>make shopping lists for hygiene;</li> <li>make shopping lists for household cleaning and daily chores.</li> </ul>



NON-STATUTORY

# Requirements for Using Mathematics

Across the curriculum, at a level appropriate to their ability, pupils should be enabled to:

- choose the appropriate materials, equipment, and mathematics to use in a particular situation;
- use mathematical knowledge and concepts accurately;
- work systematically and check their work;
- use mathematics to solve problems and make decisions;
- develop methods and strategies, including mental mathematics;
- explore ideas, make and test predictions and think creatively;
- identify and collect information;
- read, interpret, organise, and present information in mathematical formats;
- use mathematical understanding and language to ask and answer questions, talk about and discuss ideas, and explain ways of working;
- develop financial capability;
- use ICT to solve problems and/or present their work;

using their **Knowledge and Understanding** of:

- Shape and Space**
- Handling Data**

## Prerequisite Skills (Q Skills) in Using Mathematics across the Curriculum

Shape and Space/  
Handling Data

Progress is also demonstrated by decreasing levels of support from adults: with direction, with decreasing direction, without direction. Communication can be both verbal and nonverbal.

Q1 Experience (experience/encounter)	Q2 Respond (become aware, respond, interact intermittently)
In sensory, structured activities, and in familiar and accessible contexts within activity-based and/or play-based learning, pupils:	
<ul style="list-style-type: none"> <li>• experience a variety of mathematical materials and equipment for use in a particular situation;</li> </ul>	<ul style="list-style-type: none"> <li>• respond to appropriate mathematical materials and equipment for use in a particular situation;</li> </ul>
<ul style="list-style-type: none"> <li>• experience mathematical activities;</li> <li>• experience daily routines and work systems;</li> </ul>	<ul style="list-style-type: none"> <li>• respond to mathematical activities;</li> <li>• respond to daily routines and work systems;</li> <li>• respond to objects of reference/symbols that mark specific activities/times;</li> <li>• anticipate familiar routines, such as moving or increasing eye contact before a favoured activity;</li> </ul>
<ul style="list-style-type: none"> <li>• experience problem-solving activities;</li> </ul>	<ul style="list-style-type: none"> <li>• respond to problem-solving activities;</li> </ul>
<ul style="list-style-type: none"> <li>• experience a variety of simple patterns;</li> </ul>	<ul style="list-style-type: none"> <li>• become aware of and respond to a variety of simple patterns;</li> </ul>
<ul style="list-style-type: none"> <li>• encounter collections of mathematical objects;</li> <li>• encounter a variety of mathematical objects/pictures/symbols;</li> </ul>	<ul style="list-style-type: none"> <li>• respond to a range of mathematical objects;</li> <li>• interact intermittently with a collection of mathematical objects/pictures/symbols;</li> </ul>
<ul style="list-style-type: none"> <li>• experience a range of mathematical language;</li> </ul>	<ul style="list-style-type: none"> <li>• respond to some basic mathematical language;</li> </ul>
<ul style="list-style-type: none"> <li>• experience the digital devices being used to problem-solve;</li> </ul>	<ul style="list-style-type: none"> <li>• respond to digital devices being used to problem-solve;</li> </ul>
<ul style="list-style-type: none"> <li>• experience inset shape puzzles;</li> <li>• experience structured tasks related to shapes;</li> </ul>	<ul style="list-style-type: none"> <li>• respond to a range of 2D and 3D materials (both natural and manufactured);</li> <li>• respond by intermittently interacting with inset shape puzzles;</li> </ul>
<ul style="list-style-type: none"> <li>• experience adults and peers expressing a preference for a favourite shape, colour and so on;</li> <li>• experience adults and peers sorting a 'family' of objects/pictures.</li> </ul>	<ul style="list-style-type: none"> <li>• respond by intermittently expressing preferences, for a favourite shape, colour, and so on;</li> <li>• respond by intermittently interacting with the sorting of a 'family' of objects/pictures.</li> </ul>
<u>More Examples of Q1</u>	<u>More Examples of Q2</u>



NON-STATUTORY

# Requirements for Using Mathematics

Across the curriculum, at a level appropriate to their ability, pupils should be enabled to:

- choose the appropriate materials, equipment, and mathematics to use in a particular situation;
- use mathematical knowledge and concepts accurately;
- work systematically and check their work;
- use mathematics to solve problems and make decisions;
- develop methods and strategies, including mental mathematics;
- explore ideas, make and test predictions and think creatively;
- identify and collect information;
- read, interpret, organise, and present information in mathematical formats;
- use mathematical understanding and language to ask and answer questions, talk about and discuss ideas, and explain ways of working;
- develop financial capability;
- use ICT to solve problems and/or present their work;

using their **Knowledge and Understanding** of:

**Shape and Space**

**Handling Data**

## Prerequisite Skills (Q Skills) in **Using Mathematics** across the Curriculum

Shape and Space/  
Handling Data

Progress is also demonstrated by decreasing levels of support from adults: with direction, with decreasing direction, without direction. Communication can be both verbal and nonverbal.

**Q3 Engage**  
(engage with, imitate modelled behaviour, direct attention, focus, recognise)

In sensory, structured activities, and in familiar and accessible contexts within activity-based and/or play-based learning, pupils:

- engage with appropriate mathematical materials and equipment for use in a particular situation in response to teacher guidance/modelling;
- engage in/with mathematical activities in response to cues and prompts;
- engage in/with simple and familiar work systems in response to teacher modelling;
- engage with and imitate a range of mathematical problem-solving strategies;
- engage with simple mathematical strategies by imitating teacher modelling;
- imitate simple and familiar patterns in response to teacher modelling;
- engage with the collection of mathematical objects;
- engage with and/or imitate in the representation of their work with appropriate symbols/objects/pictures;
- recognise, engage with and imitate some basic mathematical language;
- experience the digital devices being used to problem-solve;

- engage by imitating singing/signing songs about shapes;
- engage by imitating adult modelling of structured tasks related to shapes;
- engage by imitating the sorting of a 'family' of objects/pictures;
- engage with sensory sorting activities for colour, smell, size, texture and taste.

More Examples of Q3

**Q4 Actively Participate**  
(interact, share, actively participate, collaborate, anticipate)

- actively participate in making choices when selecting specific materials and equipment for a simple mathematical activity;
- actively participate/interact with activities based on mathematical concepts;
- actively participate in daily routines;
- actively participate in simple and familiar work systems;
- actively participate in a range of mathematical problem-solving strategies such as guessing;
- participate in simple supported mathematical strategies;
- participate in copying simple patterns;
- actively participate in the collection of mathematical objects/information;
- actively participate in the representation of their work with appropriate symbols/objects/pictures;
- actively participate in communicating simple mathematical language;
- actively participate with the digital devices being used to problem-solve;

- participate in singing/signing songs about shapes;
- participate in structured tasks related to shapes;

- participate in activities where objects/pictures are sorted into a 'family';
- participate by expressing preferences, for a favourite shape, colour and so on.

More Examples of Q4



NON-STATUTORY

# Requirements for Using Mathematics

Across the curriculum, at a level appropriate to their ability, pupils should be enabled to:

- choose the appropriate materials, equipment, and mathematics to use in a particular situation;
- use mathematical knowledge and concepts accurately;
- work systematically and check their work;
- use mathematics to solve problems and make decisions;
- develop methods and strategies, including mental mathematics;
- explore ideas, make and test predictions and think creatively;
- identify and collect information;
- read, interpret, organise, and present information in mathematical formats;
- use mathematical understanding and language to ask and answer questions, talk about and discuss ideas, and explain ways of working;
- develop financial capability;
- use ICT to solve problems and/or present their work;

using their **Knowledge and Understanding** of:

**Shape and Space**

**Handling Data**

## Prerequisite Skills (Q Skills) in Using Mathematics across the Curriculum

Progress is also demonstrated by decreasing levels of support from adults: with direction, with decreasing direction, without direction. Communication can be both verbal and nonverbal.

<b>Q5 Consolidate</b> (begin to develop an understanding, recall)	<b>Level 1</b>
In sensory, structured activities, and in familiar and accessible contexts within activity-based and/or play-based learning, pupils:	In structured activities, in familiar and accessible contexts, pupils can:
<ul style="list-style-type: none"> <li>• begin to develop an understanding of making choices when selecting specific materials, equipment, and mathematical processes for a simple mathematical activity;</li> </ul>	<ul style="list-style-type: none"> <li>• talk about and use the materials and equipment provided to carry out an activity;</li> </ul>
<ul style="list-style-type: none"> <li>• show some understanding of mathematical notation, such as +, - or =;</li> <li>• begin to show some organisation in their work;</li> <li>• recall the use of simple and familiar work systems;</li> </ul>	<ul style="list-style-type: none"> <li>• use some mathematical notation;</li> <li>• show some organisation in their practical work;</li> </ul>
<ul style="list-style-type: none"> <li>• demonstrate a basic understanding that mathematical problem-solving requires a strategy, such as trial and error;</li> <li>• recall an increasing range of basic mathematical strategies;</li> </ul>	<ul style="list-style-type: none"> <li>• talk about ways to solve simple everyday problems;</li> <li>• use counting strategies when carrying out activities;</li> </ul>
<ul style="list-style-type: none"> <li>• copy and continue simple patterns;</li> </ul>	<ul style="list-style-type: none"> <li>• look for and talk about patterns;</li> </ul>
<ul style="list-style-type: none"> <li>• begin to develop an understanding of methods used to collect basic mathematical objects/information;</li> <li>• begin to develop an understanding of representing their work using familiar and appropriate symbols/objects/pictures;</li> </ul>	<ul style="list-style-type: none"> <li>• talk about and collect information required;</li> <li>• represent their work using pictures and objects;</li> </ul>
<ul style="list-style-type: none"> <li>• begin to understand and communicate using appropriate mathematical language in response to questions about their work;</li> </ul>	<ul style="list-style-type: none"> <li>• use appropriate mathematical language to respond to questions about their work;</li> </ul>
<ul style="list-style-type: none"> <li>• begin to develop an understanding of selecting and using the most appropriate digital device for a mathematical activity;</li> </ul>	
<ul style="list-style-type: none"> <li>• move to a designated position/space on request;</li> <li>• play whiteboard activities and games related to shapes;</li> </ul>	<ul style="list-style-type: none"> <li>• sort 2-D and 3-D shapes and make and describe 2-D and 3-D constructions;</li> <li>• use language and follow instructions, in practical situations, for position and movement;</li> </ul>
<ul style="list-style-type: none"> <li>• sort real objects for one criterion and re-sort for a different criterion;</li> <li>• express preferences, for a favourite shape, colour and so on.</li> </ul>	<ul style="list-style-type: none"> <li>• sort and classify real objects for one criterion and re-sort for a different criterion using Venn, Carroll and Tree diagrams;</li> <li>• collect information and record using real objects or drawings.</li> </ul>
<p><u><a href="#">More Examples of Q5</a></u></p>	

## Q1 Framework | Examples for Using Mathematics: Shape and Space/Handling Data

## Q1 – Experience (experience/encounter)

<b>Shape and Space</b>	<ul style="list-style-type: none"> <li>• experience a range of 2D and 3D materials (both natural and manufactured);</li> <li>• experience a range of both natural and manufactured 2D and 3D shapes of varying sizes, colours and textures;</li> <li>• experience shapes of different size and colour in their personal space;</li> <li>• experience touching the shapes while the adult uses simple words, for example 'circle', 'shape' or 'round';</li> <li>• experience the taste of a variety of foods of different shapes;</li> <li>• experience the smell of a variety of foods that are different shapes, for example a circle-shaped pancake;</li> <li>• experience the position of shapes and objects, for example placing objects in and out of boxes or hoops;</li> <li>• experience Attention Autism activities related to Shape and Space;</li> <li>• experience changing a shape using pliable materials (both natural and manufactured);</li> <li>• experience stacking and joining objects, for example construction materials;</li> <li>• experience collecting specified objects from a particular area or putting specified objects in a particular place on request, for example hand-over-hand tidying up after playtime, or putting resources into an 'all done' box;</li> <li>• experience iPad apps related to problem-solving and shapes;</li> <li>• experience whiteboard activities and games related to shapes, including tolerating songs and videos about shapes;</li> <li>• experience inset shape puzzles;</li> <li>• experience structured tasks related to shapes;</li> <li>• experience moving their body parts within a space, including tolerating adult assistance to move body parts, while the adult uses simple instructions, for example 'arms up' or 'arms down';</li> <li>• experience moving in a range of spaces and environments, including moving with an adult in the school environment, around the school grounds, or in unfamiliar surroundings;</li> </ul>
<b>Handling Data</b>	<ul style="list-style-type: none"> <li>• experience a range of objects/materials of differing shapes, sizes, textures, colours and smells (both natural and manufactured) with all/some of the senses;</li> <li>• experience Attention Autism activities that use a range of objects/materials of differing shapes, sizes, textures, colours and smells;</li> <li>• experience sensory sorting activities for colour, smell, size, texture and taste, intermittently expressing preferences;</li> <li>• experience adults and peers expressing a preference for a favourite shape, colour and so on;</li> <li>• experience adults and peers matching object to object, picture to picture and object to picture, using differing shapes, sizes, textures, colours (both natural and manufactured) with some/all of the senses;</li> <li>• experience adults and peers sorting a 'family' of objects/pictures.</li> </ul>

## Q2 – Respond (become aware, respond, interact intermittently)

<p><b>Shape and Space</b></p>	<ul style="list-style-type: none"> <li>• respond to a range of 2D and 3D materials (both natural and manufactured);</li> <li>• respond by showing some interest in a range of both natural and manufactured 2D and 3D shapes of varying sizes, colours and textures, including intermittently tolerating touching the shapes while the adult uses simple words, for example 'circle', 'shape' or 'round';</li> <li>• respond to the taste of a variety of foods that are different shapes, for example a square cake or a round orange;</li> <li>• respond to the smell of a variety of foods that are different shapes, for example a circle-shaped pancake;</li> <li>• respond by intermittently exploring the position of shapes and objects, for example placing objects in and out of boxes or hoops;</li> <li>• respond by intermittently interacting with Stage 3 Attention Autism activities related to Shape and Space;</li> <li>• respond by intermittently interacting with changing a shape using pliable materials (both natural and manufactured) and stacking and joining objects, for example construction materials;</li> <li>• respond by intermittently interacting with collecting specified objects from a particular area or putting specified objects in a particular place on request, for example tidying up after playtime or putting resources into an 'all done' box;</li> <li>• respond by intermittently interacting with iPad apps related to problem-solving and shapes;</li> <li>• respond by intermittently interacting with whiteboard activities and games related to shapes, including songs and videos about shapes;</li> <li>• respond by intermittently interacting with inset shape puzzles;</li> <li>• respond by intermittently interacting with structured tasks related to shapes;</li> <li>• respond by becoming aware of moving body parts within a space (perhaps helped by an adult), including intermittently moving body parts, while the adult uses simple instructions, for example 'arms up' or 'arms down';</li> <li>• respond to movement by becoming aware of moving in a range of spaces and environments, including moving with an adult in the school environment, around the school grounds, or in unfamiliar surroundings;</li> </ul>
<p><b>Handling Data</b></p>	<ul style="list-style-type: none"> <li>• respond by intermittently interacting with a range of objects/materials of differing shapes, sizes, textures, colours and smells (both natural and manufactured) with all/some of the senses;</li> <li>• respond by intermittently interacting with Attention Autism activities that use a range of objects/materials of differing shapes, sizes, textures, colours and smells;</li> <li>• respond by intermittently interacting with sensory sorting activities for colour, smell, size, texture and taste;</li> <li>• respond by intermittently expressing preferences, for a favourite shape, colour, and so on;</li> <li>• respond by intermittently interacting with the matching of object to object, picture to picture and object to picture using differing shapes, sizes, textures, colours (both natural and manufactured) with some/all of the senses;</li> <li>• respond by intermittently interacting with the sorting of a 'family' of objects/pictures.</li> </ul>



## Q3 – Engage (engage with, imitate modelled behaviour, direct attention, focus, recognise)

### Shape and Space

- engage by imitating the handling of a variety of materials (both natural and manufactured);
- engage by imitating the sorting of a range of both natural and manufactured 2D and 3D shapes of varying sizes, colours and textures, including touching the shapes while the adult uses simple words, for example 'circle', 'shape', or 'round';
- engage by imitating simple words related to Shape and Space (verbally or nonverbally) by using Makaton, PECS or other forms of communication;
- engage by imitating the tasting of a variety of foods that are different shapes, for example a square cake or a round orange;
- engage by imitating smelling a variety of foods that are different shapes, for example a circle-shaped pancake;
- engage by imitating exploring the position of shapes and objects, for example by placing objects in and out of boxes or hoops;
- engage by imitating adult modelling during Stage 3 and 4 of Attention Autism activities related to Shape and Space;
- engage by imitating changing a shape using pliable materials (both natural and manufactured) and stacking and joining objects, for example construction materials;
- engage by imitating collecting specified objects from a particular area or putting specified objects in a particular place on request, for example by tidying up after playtime, or putting resources into an 'all done' box;
- engage by imitating adult modelling of learning and problem-solving by using iPad apps related to shapes;
- engage by imitating adult modelling of whiteboard activities and games related to shapes;
- engage by imitating singing/signing songs about shapes;
- engage by imitating adult modelling of completing inset/jigsaw puzzles related to shapes;
- engage by imitating adult modelling of structured tasks related to shapes;
- engage by imitating moving his/her body parts or position within a space;
- engage by imitating moving body parts while the adult uses simple instructions, for example 'arms up', 'arms down';
- engage by imitating moving in a range of spaces and environments with an adult, such as moving within the school environment, around the school grounds, or in unfamiliar surroundings;
- engage by imitating the modelling of using OT equipment to explore space and movement;
- engage by imitating the modelling for placing objects or shapes in, under, on top of, beside, and below;

Continued

## Q3 – Engage Continued

### Handling Data

- engage by imitating the matching of object to object, picture to picture and object to picture using differing shapes, sizes, textures, colours (both natural and manufactured) using some or all of the senses;
- engage by imitating the sorting of a 'family' of objects/pictures;
- engage with a range of objects/materials of differing shapes, sizes, textures, colours and smells (both natural and manufactured) using some or all of the senses;
- engage with sensory sorting activities for colour, smell, size, texture and taste;
- engage with Attention Autism activities that use a range of objects/materials of differing shapes, sizes, textures, colours and smells;
- engage by imitating expressing preferences, for a favourite shape, colour, and so on;

### Post-Primary

- engage with the same learning activities (for this level, the teacher should attempt to use age-appropriate resources and activities that relate to each pupil's interests).

## Q4 – Actively Participate (interact, share, actively participate, collaborate, anticipate)

<p><b>Shape and Space</b></p>	<ul style="list-style-type: none"> <li>• participate in sorting activities using a range of both natural and manufactured 2D and 3D shapes of varying sizes, colours and textures, including sorting the shapes while the adult uses simple shape words, for example 'circle', 'shape' or 'round';</li> <li>• participate in communicating simple language (verbally or nonverbally) related to Shape and Space, by using Makaton, PECS or other forms of communication;</li> <li>• participate in tasting a variety of foods that are different shapes, for example a square cake or a round orange;</li> <li>• participate in smelling a variety of foods that are different shapes, for example a circle-shaped pancake;</li> <li>• participate in exploring the position of shapes and objects, for example placing objects in and out of boxes or hoops;</li> <li>• participate during Stage 3 and 4 of Attention Autism activities related to Shape and Space;</li> <li>• participate with changing a shape using pliable materials (both natural and manufactured) and stacking and joining objects, for example construction materials;</li> <li>• participate in collecting and putting familiar objects in familiar places on request, for example tidying up after playtime or putting resources into an 'all done' box;</li> <li>• participate in learning and problem-solving by using iPad apps related to shapes;</li> <li>• participate in whiteboard activities and games related to shapes;</li> <li>• participate in singing/signing songs about shapes;</li> <li>• participate in completing inset/jigsaw puzzles related to shapes;</li> <li>• participate in structured tasks related to shapes;</li> <li>• participate in moving and rotating his/her body parts or changing position within a space, including imitating moving body parts while the adult uses simple instructions, for example 'arms up' or 'arms down';</li> <li>• participate in moving within a range of spaces and environments by moving with an adult, in the school environment, around the school grounds, or in unfamiliar surroundings;</li> <li>• participate in activities using OT equipment to explore movement;</li> <li>• participate in activities for placing objects in, under, on top of, beside, or below;</li> </ul>
<p><b>Handling Data</b></p>	<ul style="list-style-type: none"> <li>• participate in the matching of a range of objects/materials of differing shapes, sizes, textures, colours and smells and become familiar with the terms 'different', 'same', 'match' and 'belong together';</li> <li>• participate in activities where objects/pictures are sorted into a 'family';</li> <li>• participate in sensory sorting activities for colour, smell, size, texture and taste;</li> <li>• participate in Attention Autism activities that use a range of objects/materials of differing shapes, sizes, textures, colours and smells;</li> <li>• participate by expressing preferences, for a favourite shape, colour and so on.</li> </ul>

## Q5 – Consolidate (begin to develop an understanding, recall)

<b>Shape and Space</b>	<ul style="list-style-type: none"> <li>• sort a range of both natural and manufactured 2D and 3D shapes of varying sizes, colours and textures according to self-chosen criteria;</li> <li>• combine 2D and 3D to make simple 2D and 3D constructions;</li> <li>• collect and put unfamiliar objects in unfamiliar places on request;</li> <li>• fill a shopping bag with different-shaped items from the grocery shop;</li> <li>• pack a suitcase for holidays and make sure everything fits into it;</li> <li>• move and rotate his/her body parts or change position on request within a space;</li> <li>• demonstrate an understanding of restriction within a given space – for example, a limited number of apples will fit in a bowl, or a long pencil cannot fit sideways into a long narrow pencil case;</li> <li>• move to a designated position/space on request;</li> <li>• use simple language related to Shape and Space (verbally or nonverbally) by using Makaton, PECS or other forms of communication;</li> <li>• taste a variety of foods that are different shapes, for example a square cake or a round orange;</li> <li>• smell a variety of foods that are different shapes, for example a circle-shaped pancake;</li> <li>• explore the position of shapes and objects, for example placing objects in and out of boxes or hoops;</li> <li>• complete Stage 3 and 4 of Attention Autism activities related to Shape and Space;</li> <li>• change a shape using pliable materials (both natural and manufactured), and stacking and joining objects, for example construction materials;</li> <li>• collect and put familiar objects in familiar places on request, for example tidying up after playtime or putting resources into an 'all done' box;</li> <li>• use learning and problem-solving iPad apps related to shapes;</li> <li>• play whiteboard activities and games related to shapes;</li> </ul>
<b>Handling Data</b>	<ul style="list-style-type: none"> <li>• sort real objects for one criterion and re-sort for a different criterion;</li> <li>• demonstrate an understanding that a set of objects/pictures is a 'family', that they belong together and that there is some way in which they are the same, and label/identify/communicate those similarities;</li> <li>• complete Attention Autism activities that use a range of objects/materials of differing shapes, sizes, textures, colours and smells;</li> <li>• express preferences, for a favourite shape, colour and so on;</li> <li>• begin to record information in teacher-led activities by using simple real objects or drawings, for example by using pictures.</li> </ul>

