### 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.

<table>
<thead>
<tr>
<th><strong>Q1 Experience</strong></th>
<th><strong>Q2 Respond</strong></th>
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</thead>
<tbody>
<tr>
<td>In sensory activities and activity-based learning/play-based learning, pupils:</td>
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<tr>
<td>• encounter a variety of mathematical materials and equipment;</td>
<td>• interact with materials and equipment;</td>
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<td>• experience mathematical activities;</td>
<td>• respond to mathematical activities;</td>
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<tr>
<td>• experience daily routines;</td>
<td>• become aware of daily routines;</td>
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<tr>
<td>• experience a problem;</td>
<td>• become aware of the existence of a problem;</td>
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<tr>
<td>• encounter simple logical strategies;</td>
<td>• respond and interact with simple logical strategies;</td>
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<tr>
<td>• experience a variety of simple patterns;</td>
<td>• become aware of and respond to a variety of simple patterns;</td>
</tr>
<tr>
<td>• encounter collections of objects/pictures/symbols;</td>
<td>• interact with a range of objects;</td>
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<tr>
<td>• experience a range of mathematical language;</td>
<td>• interact with matching and collecting of objects/pictures/symbols;</td>
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<td></td>
<td>• respond showing some interest to a range of both natural and manufactured 2D and 3D shapes of varying sizes, colours and textures;</td>
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<td></td>
<td>• respond to a range of 2D and 3D materials (both natural and manufactured);</td>
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<tr>
<td></td>
<td>• interact with a range of objects/materials of differing shapes, sizes, textures, colours and smells (both natural and manufactured) with all/some senses.</td>
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</tbody>
</table>

### 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

- experience moving body parts within a space;
- experience moving in a range of spaces and environments;
- experience a range of both natural and manufactured 2D and 3D shapes of varying sizes, colours and textures;
- experience a range of 2D and 3D materials (both natural and manufactured);
- experience a range of objects/materials of differing shapes, sizes, textures, colours and smells (both natural and manufactured).

#### Handling Data

- become aware of moving body parts within a space;
- become aware of moving in a range of spaces and environments;
- respond showing some interest to a range of both natural and manufactured 2D and 3D shapes of varying sizes, colours and textures;
- respond to a range of 2D and 3D materials (both natural and manufactured);
### Prerequisite Skills (Q Skills) in USING MATHEMATICS across the Curriculum

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**Q3 Engage**

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

- engage with mathematical materials in response to teacher guidance/modelling;
- recognise mathematical activities in response to cues and prompts;
- engage with daily routines in response to teacher modelling;
- engage with and imitate ways of asking for help;
- recall simple logical strategies in response to teacher modelling;
- imitate simple and familiar patterns in response to teacher modelling;
- respond to and engage with objects being collected;
- engage with and imitate a simple sequence of objects/pictures/symbols that includes an element of choice;
- recognise and engage with some basic mathematical language;

**Q4 Actively Participate**

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

- recognise that a choice has to be made when selecting materials and equipment for a simple activity;
- participate in mathematical activities;
- participate in daily routines;
- demonstrate a basic understanding that problem solving requires a strategy, such as asking for help;
- participate in simple supported logical strategies;
- participate in copying simple patterns;
- actively participate in the collection of objects/information;
- represent familiar events/situations/experiences with appropriate symbols/objects/pictures;
- recall and participate in activities involving simple mathematical language;

**Q5 Consolidate**

In structured activities, in familiar situations and contexts, pupils:

- make choices in selecting specific materials and equipment for a simple activity;
- show some understanding of mathematical notation, such as numerals/words/sets;
- anticipate and follow through daily routines;
- attempt a range of problem-solving strategies, such as seeking help;
- become familiar with an increasing range of basic logical strategies;
- recognise and continue simple patterns;
- communicate basic information and assist in its organisation;
- represent a wider range of familiar/unfamiliar events/situations/experiences with appropriate symbols/objects/pictures;
- begin to understand appropriate mathematical language;

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**For example:**

- imitate moving his/her body parts or position within a space;
- imitate moving in a range of spaces and environments;
- imitate/engage in collecting specified objects from a specified area or putting specified objects in a specified area on request;
- imitate the sorting of a range of both natural and manufactured 2D and 3D shapes of varying sizes, colours and textures;
- imitate the handling of a variety of materials (both natural and manufactured);
- imitate the matching of objects to objects, picture to picture and object to picture using differing shapes, sizes, textures, colours (both natural and man-made) with some/all of the senses;
- imitate the sorting of a 'family' of objects/pictures.

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**For example:**

- participate in moving and rotating his/her body parts or changing position within a space;
- move within a range of spaces and environments;
- participate in collecting and putting familiar objects in familiar places on request;
- participate in sorting activities using a range of both natural and manufactured 2D and 3D shapes of varying sizes, colours and textures;
- change a shape using pliable materials (both natural and manufactured);
- actively 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';
- participate in activities where objects/pictures are sorted into a 'family'.

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**For example:**

- move and rotate his/her body parts or change position on request within a space;
- demonstrate an understanding of restriction within a given space;
- move to a designated position/space on request;
- collect and put unfamiliar objects in unfamiliar places on request;
- sort a range of both natural and manufactured 2D and 3D shapes of varying sizes, colours and textures according to self-chosen criteria;
- combine 2D and 3D to make simple 2D and 3D constructions;
- sort real objects for one criterion and re-sort for a different criterion;
- demonstrate an understanding that a set of objects/pictures is a 'family', that they belong together and there is some way in which they are the same and label/identify/communicate similarities.