

# Role Play

Whether you have a dedicated area for inspiring role play that changes and develops with the children's ideas, a home area or role play extends across your provision, role playing will provide children with rich and varied opportunities to apply developing mathematical ideas and practice using mathematical tools.

## Characteristics of effective teaching and learning

**playing and exploring** – children investigate and experience things, and 'have a go'

**active learning** – children concentrate and keep on trying if they encounter difficulties, and enjoy achievements

**creating and thinking critically** – children have and develop their own ideas, make links between ideas, and develop strategies for doing things

## Mathematical learning

| Area:           | What you might see:   |
|-----------------|---|
| Problem Solving | Sets and perseveres with problems e.g. "Can we have a car boot sale?" "How can we work out how much things cost?" "I don't want to pay that for the jug - the cups are only 20p." "How much will two of those be?" "How much change will I get?"                      |
| Reasoning       | Thinks through possible outcomes e.g. "If we want to know the bus time, we need to look at this timetable." "If we want the right number of plates, we need to count the people."   |
| Measures        | Plays with clocks, money, timetables and measuring tools with knowledge of how they work, e.g. "We need to weigh the flour and butter to mix my birthday cake." "I'm the doctor, I need to measure your temperature." "My appointment time was 10 o'clock, I'm late!" |

## Adults might ...

**Step back and observe children's open-ended play.**  
What are they showing us?  
What are they thinking about?  
What are the possible links to mathematical learning?

**Play alongside, working with the children, following their lead.**  
Model your thinking out loud e.g., "If I buy this, I am wondering if I have enough left to buy that too..." and participate in sustained shared thinking. Pose 'What if...?' questions e.g. "What if we... wanted to open a café?" "... measure our feet for those shoes?" "...used these scales to bake mud cake?"

**Guide play to extend learning, modelling key vocabulary and language.**  
Set a challenge e.g. who can work out how much I owe you? Who can make a poster with the opening times?

**Analyse what you see and consider next steps.**  
How will this inform future planning and teaching? For example, money.

## Look for progress in...

Children's stamina and perseverance in their play.

Children revisiting and using their previous learning.

Children using and applying knowledge and skills from other areas of the curriculum e.g., geography, history and English.



## Have a go...

### Core Resources:

- Open-ended resources e.g. fabrics, cushions, curtains, large card/dividers etc.
- Furniture, pallets or platforms
- Coins, notes and bank cards.
- Any topic-specific resources e.g. stamps for a post office.
- Badges to indicate roles e.g. stall holder

### Enhancements:

- Magazines and TV times
- Timetables
- Working clocks – analogue and digital
- Ideally space for a shop/café etc as well as a 'home'
- Measurement resources e.g., rulers, tape measures, scales
- Calculators, laptops and mobile phones, phone books, pad and pens
- Dressing up clothes



**Key vocabulary:** As the role play area can transform into almost anything, the key vocabulary possibilities are endless. For example, in a shop you may focus on language of value and exchange of money.



# Block Play

This works best with a set of wooden unit blocks but can be adapted to whatever you have available, such as unloved blocks at the bottom of a cupboard. This area will provide children with ample opportunities to learn and discover.

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## Mathematical learning

| Area:              | What you might see:  |
|--------------------|--|
| Problem Solving    | Sets and perseveres with problems e.g. “How build a ceiling for my model?”   |
| Reasoning          | Thinks through possible outcomes e.g. “If you put that there, it’s not going to balance any more!”   |
| Pattern            | Selects and explores blocks for a specific purpose e.g. “I need this block here to match.”   |
| Ratio & Proportion | Recognises connections between unit blocks e.g. “I need more big blocks.... Maybe I can use two little ones instead.”                                      |
| Geometry           | Predicts and rotates objects to fit the space e.g. “Flip it! Flip it!”   |
| Measures           | Makes and discusses length and height comparisons, paying attention to accuracy e.g. “It needs to be downer!” “One more block and it’ll be taller than me” |

## Adults might ...

### Step back and observe children’s open-ended play.

What are they showing us?  
What are they thinking about?  
What are the possible links to mathematical learning?

### Play alongside, working with the children, following their lead.

Model your thinking out loud e.g., “What about using these blocks to make a staircase/ceiling?”, Participate in rich discussions and sustained shared thinking. Pose “What if...?” questions and “I wonder” statements e.g. “What if we wanted to make this reach across this road/river?” “I wonder what would happen if we tried to fit this tractor under this bridge, rather than just the cars?”

### Guide play to extend learning, modelling key vocabulary and language.

Set a challenge e.g. who can build the longest bridge? Who can build a tower taller than their friend?

### Analyse what you see and consider next steps.

How will this inform future planning and teaching? For example, position and direction.

## Look for progress in...

Children’s stamina and perseverance in their play.

Children revisiting and using their previous learning.

Children using and applying knowledge and skills from other areas of the curriculum e.g., geography, history and English.



## Have a go...

### Core Resources:

- A good amount of floor space, on a hard surface, indoors or outdoors
- Ideally, a high-quality set of wooden blocks in various shapes & sizes
- A clear storage solution e.g., shadowing on a shelf
- Space to display finished models
- Drawing/writing material e.g., clip boards with paper and pencil attached

### Enhancements:

- Fiction and non-fiction books about buildings/structures/designers
- Pictures of buildings, bridges, towns etc. for inspiration
- Small world toys/characters/scenes to encourage open-ended play
- Loose parts resources
- Measurement resources e.g., rulers, tape measures
- Wooden train set



### Key vocabulary:

- Cube, cuboid, cylinder and other shape names
- Rectangular, circular
- Outside, inside, in front of, opposite and other positional language
- Similar, different
- Taller than, much longer than ...
- Wide, narrow
- Level, sloping
- Steep, shallow
- Curved, straight
- Stable, unstable
- Centre
- Route



This area offers multiple opportunities for mathematical conversations, for example how things fit together, or which shape represents the creature they have in their head. This works best when the area is well organised and children are responsible for its upkeep. They should have access to a wide range of materials of different shapes, sizes and textures.

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### Area:

## Mathematical learning

### What you might see:

|                    |  |
|--------------------|--|
| Problem Solving    | Planning, making and testing e.g. making a boardgame.  |
| Reasoning          | Thinking through possibilities and selecting resources. Intentionally selecting shapes to fit their purpose e.g. when making a family of robots: “This one is the baby one, for his legs I chose the long, thin small boxes.”      |
| Pattern            | Selecting and exploring resources e.g. placing different shaped and coloured bobbles to create a repeating border pattern around a card, paying close attention to the little bit (the unit) that repeats..                        |
| Ratio & Proportion | Beginning to develop an understanding of ratio e.g. mixing powder paint for the week ahead. Ensuring the correct amount of water to paint to create the desired consistency. “It’s hard to mix it, I need a bit / lot more water.” |
| Geometry           | Placing and arranging objects, selecting appropriate shapes for their project or design e.g. “This shape is more pointy, so it is perfect for my rocket top.”  |
| Measures           | Comparing length and height paying attention to accuracy e.g. making beds for the three bears or making letters to fit in envelopes. Exploring measuring tools such as tapes.  |

## Adults might ...

### Step back and observe children’s open-ended play.

What are they showing us?  
What are they thinking about?  
What are the possible links to mathematical learning?

### Play alongside, working with the children, following their lead.

Model your thinking out loud e.g. “I want to make a crocodile. I need lots of small triangles for the teeth.”, participate in rich discussions and sustained shared thinking. Pose ‘What if...?’ questions and “I wonder” statements e.g. “What if we folded this in half? Would it fit in the box?” “I wonder how I would make a vase for these flowers.”

### Guide play to extend learning, modelling key vocabulary and language.

Set a challenge e.g. “Can you make a parachute for this egg?” “Can you make sure your parachute lets your egg land with no cracks?”

### Analyse what you see and consider next steps.

How will this inform future planning and teaching? For example, measures.

## Look for progress in...

Children’s stamina and perseverance in their play.

Children revisiting and using their previous learning.

Children using and applying knowledge and skills from other areas of the curriculum e.g., geography, history and English.



## Have a go...

### Core Resources:

- A range of good quality pens, pencils and crayons
- Pencil sharpeners
- Scissors
- A selection of different paper
- Glues and spatulas
- Different tapes and a sticky tape dispenser
- Fasteners e.g. paper clips, treasury tags, split pins
- String, wool, ribbon, fabrics
- Hole punch
- Pipe cleaners
- Junk materials

### Enhancements:

- Fiction and non-fiction books
- Pictures to prompt thinking
- Annotated photos of children using the area
- Clay and tools
- Paper trimmer and stapler
- Seasonal/special occasion resources
- Measuring tools e.g. rulers and tapes
- Haberdashery items e.g. braids, buttons
- Mechanical items that are or can safely be taken apart for their components e.g. watches and clocks (excluding batteries)
- Recycled cards and postcards
- Small off cuts of wood

### Key vocabulary:

- Sort, classify and group
- Taller than, smaller than, fit inside and other language of size, shape and measure
- In, on, under, above, beside and other positional language
- Unit of repeat, continue, follow, alternating and other language of pattern.
- Language of sequencing e.g. first, second, then, last.
- Language of quantities e.g. “I need three more of those”

