

MATHEMATICAL THINKING AND PROBLEM SOLVING



1. Build and Construct

As children build and construct their magnificent creations, model and encourage the use of different mathematical language for counting and measuring, such as longer, shorter, wide, tall, etc.

2. Count

Can the children count the bricks or reels as they build? Explore and compare different towers and structures, for example:

- Who has built the tallest tower?
- Which type of resource is the best for making the shortest tower?
- How many bricks do we need to add to make the towers equal?

3. Measuring

Use the resources as a non-standard unit of measure and measure a range of objects using them e.g. a friend, the fence or sand pit. Try this activity again with a different resource. Do they always get the same number regardless of which one they use? Encourage children to experiment by using the resources in different orientations.

4. Shapes

Make different shapes with the resources e.g. can they build a cube, cuboid, triangle or square? Are there any shapes that would be difficult to create?

5. Time to Talk...

- Discuss what is the same and what is different about each of the resources.
- How many similarities and differences can they find?
- Explore different criteria for sorting and try to sort the resources in different ways.



CONSTRUCTION



1. Strongest Structure

Wonder alongside the children about which resources would make the sturdiest or strongest structures. Will it be the bricks that have flat faces or the stone wall boulders with their irregular bumpy surfaces? Try it out to find which ones are the easiest to build with and why.

2. Build It!

Add a selection of photos showing real life structures, buildings and landmarks. Can the children have a go at recreating some of the structures such as a farm wall, a skyscraper or a house?

3. Material Spotting

Challenge the children to think of where they have seen similar materials and resources being used in everyday life. Take a walk and see if they can spot any of them being used within their environment, both indoors and outdoors.

4. Fit For Purpose

Discuss that most things are built to suit a certain purpose, for example a house to keep us safe and warm, a bridge for travelling over water or a train to help us travel. Choose your own criteria, such as something to sit on, a vehicle to travel in or bridge to travel over, and challenge the children to design and build a structure or vehicle that matches this. You could link this to a book, such as a new chair for Daddy Bear.

5. Time to Talk...

- Explore different materials and talk about what they are best used for.
- Create stories around the different structures that are made and created.



INSPIRING IMAGINATION



1. Symbolic Play

Bricks go beyond the world of construction and are ideal for symbolic play. They could become cars racing along a track, the latest mobile phone or an aeroplane whizzing through the sky.

2. Story Settings

Bring books to life by designing and building story sets. Create designs for particular characters e.g. a wolf proof house, a home for Elmer or a rocket for baby bear.

3. Stage Shows

Build catwalks for a show, props for a production or a stage for performing. What ideas do the children have? Watch in awe and fascination as ideas come to life and children start to think outside of the box.

4. Build The Future

Challenge the children to use their imaginations to build the future. Can they invent, design and build a robot, a car or a space rocket? What will these look like? What special features will they have? Will the robot be able to tidy up our toys or make our dinner?

5. Time to Talk...

- Retell stories aloud as children perform or create story props and settings.
- As children create and design, encourage them to take on different roles within the process to ask and answer questions about their new inventions and creations.



PHYSICAL DEVELOPMENT



1. Building Structures

Create opportunities for children to build structures of varying heights and sizes. As the children lift, stretch, carry or crouch, important muscles needed for future activities will be developed whilst at the same time, keeping them active and healthy.

2. Obstacle Course

Design and build obstacle courses for friends to navigate around, using the different types of bricks, reels and boulders to create walls and other barriers. Can the children move around them, knock them down or jump over them? Extend this activity by timing how long it takes to complete the course.

3. Travelling and Transporting

Invite children to think of the different ways in which they can transport and move their construction. What are the best ways to carry them? Can they find equipment which may help them? Equipment such as pull along carts, wheelbarrows or pulleys are all great for developing those large body movements.

4. Co-ordination

The assorted materials promote the development of spatial awareness along with hand-eye coordination. Children may grasp the irregular shaped boulders or use the holes in the bricks to enable them to carry and build more easily.

5. Time to Talk...

- Talk about the benefits of using our muscles in different ways.
- Extend children's language around weight by discussing how heavy the resources are and what happens when you try to carry more than one item at a time.



SCHEMATIC BEHAVIOURS



1. Orienteering

Some children may show an interest in positioning themselves or objects in different ways. They may build something to sit on or place the bricks and boulders in different positions within their play.

2. Positioning

Children may gain a sense of satisfaction from exploring how the bricks look and feel when positioned in different ways relative to each other. Can a bigger item be placed on a smaller object or can a smaller brick stack on top of a bigger one? Some children may just simply enjoy lining up or stacking the bricks.

3. Transporting

Keen transporters may enjoy exploring lots of different ways to move the resources from one place to another. Provide a selection of resources that can facilitate or support this learning, such as a large sheet, wheelbarrow or bucket.

4. Enclosing

Provide opportunities for children to build and create houses or dens for teddies or friends to hide in or to use the materials to enclose items within, including themselves.

5. Time to Talk...

- Explore different positional language as children build, enclose and transport the resources.
- Observe as children engage in different schematic behaviours and sensitively scaffold and support their play by introducing new language and vocabulary as and when appropriate.



