



Making a picture

NRICH

Children recognise, create and describe patterns. They use everyday language to talk about size



Children enjoy creating pictures from a variety of coloured shapes.

Adults could offer them a picture frame and shapes and encourage them to build a picture and talk about the shapes and patterns that they make.

The Activity

The adult works with a group of children around him/her. There is a variety of card shapes available and s/he chats with the children to find out where on the A3 sheet to place the shapes in order to create a picture. Once the pieces have been agreed they can be pasted in position along with the frame.

Encouraging mathematical thinking and reasoning.

Describing

Which shape would you like to use? What can you see in the picture? How is it similar to/different from...?

Is the picture finished? Are you ready to put the frame round it?

Tell me about the shape.

Recording

Where should we put it?

What are you making?

Reasoning

How many triangles, circles, squares, rectangles are there in your picture?

Why do you want it to go here?

Opening out

What if we made another ... here? What will happen if you take away that shape?

Can you make another one like it here?

What could you add to your picture to make ...?

Resources needed

- Thin card shapes (a selection of triangles, rectangles, semicircles etc.)
- A3 sheet of coloured thin card
- A (narrow) card frame that will go around the A3 sheet to create a 'picture frame'

The Mathematical Journey

The children will have opportunities to make connections between the mathematical shapes they are offered and the world around them as they create the picture. They may begin by using everyday language to describe the mathematical shapes such as curved, pointy, straight, wiggly and move on to using the mathematical names of the shapes such as circle, square rectangle, triangle. They will need to be encouraged to use both informal and formal language to build bridges in meaning between the words they use. Positional language is also key in this activity and vocabulary such as above, below, beside, on top of, underneath, left, right, in front, behind is vital. Helping children to use left and right, above and below lays the foundations for understanding place value in our number system. This activity also connects with the expressive arts and children could be encouraged to make their own pictures after engaging with the group task.

Additional resources

Printed sheet of shapes and frames in different sizes.

Photos of children's creations.

Video clip of teacher using task

And more ways into the same mathematics

Making pictures as an independent activity with A4 sized frames.

Creating junk models from packaging to explore 3D shapes and the language associated with them.

Painting and drawing shapes.

Creating specific images from sets of shapes such as a house, a cat, a dog, a boat.

Playing with tangram pieces to create pictures.

Shapes in a bag: feeling shapes in a bag and trying to identify them.

Story, rhyme and song links

Here Is a House

Here is a house built up high, (stretch arms up touching fingertips like a roof)

With two tall chimneys reaching the sky. (stretch arms up separately)

Here are the windows. (make a square shape with your hands)

Here is the door. (knock)

If we peep inside there's a mouse on the floor. (move fingers like a running mouse).