Diving into Mastery – Diving

Adult Guidance with Question Prompts

This activity should be done practically using plastic 3D shapes. Ensure children know the names of the 3D shapes used. They guess a shape they can't see by feeling it. As an additional task, ask children to choose a shape and describe it to their partner who can't see it.

What can you tell me about a (name of shape)?

Which shapes roll well?

Which shapes are good for stacking?

What 2D shapes can you see on the faces of this shape?

Which shapes have a circular face?

Can you see any of these 3D shapes around the classroom?

When feeling the shapes:

Can you feel any vertices?

Can you feel any straight/curved edges?

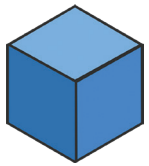
Can you feel any curved surfaces?

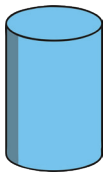
Can you feel any flat faces?

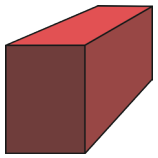
How many faces can you feel?

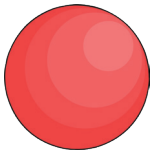
Recognise and Name 3D Shapes

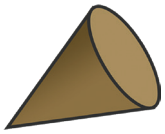
Match the shapes to their names.

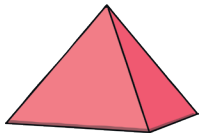












cone

cuboid

pyramid

sphere

cylinder

cube

Place a 3D shape behind your partner's back, so they can't see the shape. Ask them to feel the shape and guess what shape it is without looking.

Diving into Mastery – Deeper

Adult Guidance with Question Prompts

Give children the 3D shapes needed to build the tower as shown. If the shapes are limited in number, complete the tower as a group. Let them finish the tower using 3D shapes of their choice. Encourage children to think about which shapes are good to use for building towers and why.

What shapes are on each layer?

Which type of 3D shapes have the greatest number in the tower?

Which 3D shapes are good to build a tower with? Why do you think this?

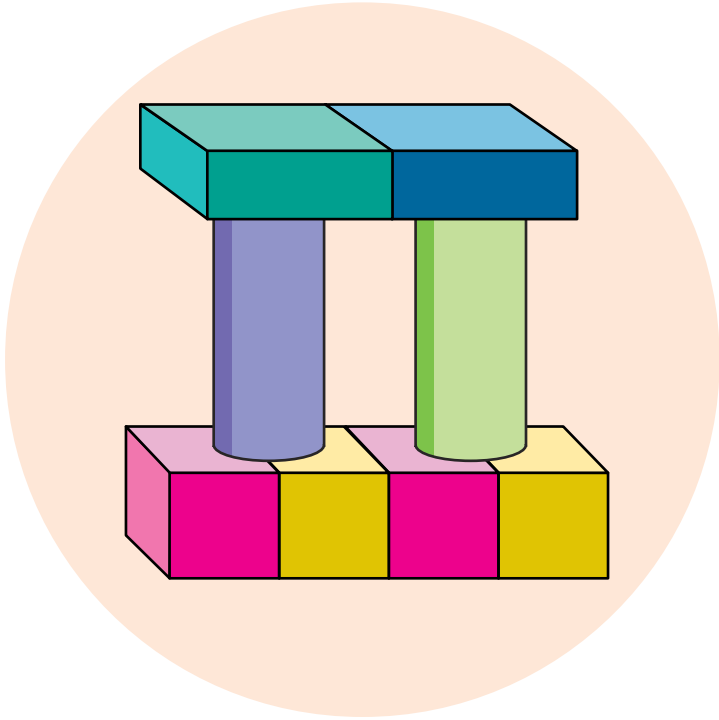
In your tower, what 3D shapes did you use? How many of each 3D shape did you use?

Are any 3D shapes difficult to build towers with? Why do you think this?

Can you see any of these 3D shapes around the classroom?

How are these 3D shapes you see different from the 3D shapes you have been building with?

Tom has started to build a tower using 3D shapes.



What 3D shapes has Tom used so far to build this tower?

Build the same tower as Tom. Add 2 more layers to the tower.

Build your own tower which has 5 layers.

Diving into Mastery – Deepest

Adult Guidance with Question Prompts

Ensure the children know the names of the 3D shapes involved. Children build the three layers of the tower as described by their partner. If the shapes are limited in number, complete the tower as a group. Children take turns to describe the tower they have designed using shape names and their knowledge of the properties. They also need to listen, recognise the shapes that are being named and follow the instructions given by their partner.

What type of shapes are best for the bottom layer? Why?

Can you have a layer in your tower where not all the shapes are the same? Why?

Is a sphere a good shape to have in a tower? Why?

If you wanted to build the highest tower you could build, which shapes would you use? Why?

Can you see any objects around the room which are 3D shapes? What shapes are they? Why are they a good shape for how they are used?

Recognise and Name 3D Shapes

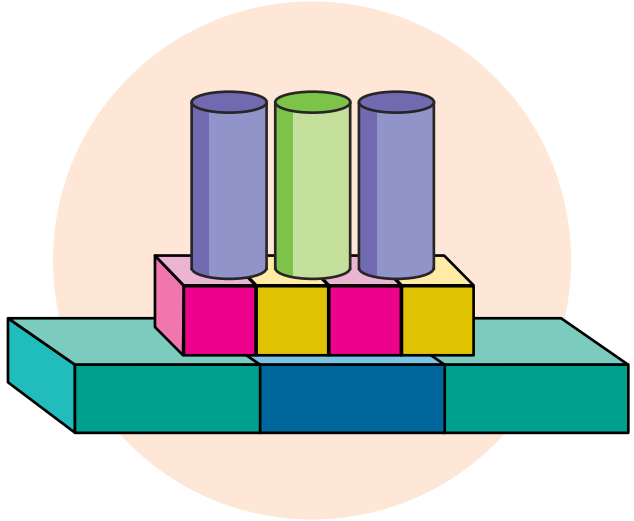
Be an architect and design your own tower with 3 layers. Describe your tower to your partner for them to build.

For example, you could say:

On the bottom layer, there are 3 cuboids.

On the next layer up, there are 4 cubes.

On the third layer, there are 3 cylinders.



Then swap roles so that you are the builder and your partner is the architect. How many different towers can you build?