The Pieces

Octoplay

Single peg

Twin peg
The Pieces

Twin disc

Quad disc

Strut
How to join the pieces

makes

makes

makes
How to join the pieces

1. Join the pieces to make a larger shape.

2. Continue joining pieces to create a more complex structure.

3. Use additional pieces to form a final design.
Toys
Transport
Space
In Town
Fairground
Animals 1
Animals 2
Join 8 octoplays like this.

You have made a 3.

Add 3 octoplays to make a 9.
Join 9 octoplays like this.

You have made a 2.

Add 4 octoplays to make an 8.
Join 8 octoplays like this.

You have made a letter F.

Add octoplays to make a letter E.
Join 7 octoplays like this.

You have made a letter L.

Add octoplays to make a letter T.
Join 7 pieces like this.

You have made a tree.

Make some different trees.
Join 9 pieces like this.

You have made a table.

Make a larger table.
Join 9 octoplays like this.

You have made a flower.

Make more flowers.
Join octoplays like this.

Join 2 pieces like this.

Push the strut through the hole in the middle of the octoplay until the twin peg touches the others.

You have made a top. Spin it! Why is it special?

Make more tops.
Join pieces like this to make a ladder.

Make more ladders.
Join pieces like this to make a crown.

Make more crowns.
Join 3 octoplays like this.

What have you made?

Make a longer one like this.

Use 8 octoplays to make longer ones.
Join 3 Octoplays like this...

like this and like this.

What have you made?

Make some different ones
Make this shape.

What have you made?

Make a different one.

Make a larger one.
Make this shape.

What have you made?

- Make a different one.
- Make a larger one.
- Make a chain with a pattern like this.

- Join octoplays to this chain to continue the colour pattern.

- Make another chain with a pattern, using only 2 colours.

- Make chains with different patterns, using only 2 colours.
■ Make a chain with a pattern like this.

■ Join octoplays to this chain to continue the colour pattern.

■ Make another chain with a pattern, using only 3 colours.

■ Make chains with different patterns, using only 3 colours.
- Make a chain with a pattern like this.

- Join octoplays to this chain to continue the colour pattern.

- Make another chain with a pattern, using only 4 colours.

- Make chains with different patterns, using only 4 colours.
- Make a patterned top like this.

This is a spinning top. *Spin it!*

- Push more octoplays onto the strut to continue this pattern.
- Make another top with a different pattern, using only **2 colours**.
- Make more tops with different patterns, using only **2 colours**.
Make a patterned top like this.

This is another spinning top. **Spin it!**

- Push more octoplays onto the strut to continue this pattern.
- Make another top with a different pattern, using only **3 colours**.
- Make more tops with different patterns, using only **3 colours**.
- Make a patterned top like this.

- Push more octoplays onto the strut to continue this pattern.

**Does the top spin better with more or less octoplays on the strut?**

- Join a twin peg to the end of the top. The top will spin better.

- Make more tops with different patterns, using all **4 colours**.
Join 8 octoplays like this.

You have made a green and yellow diamond.

Make a red and yellow diamond with a similar pattern.

Use any 2 colours to make other diamonds with a similar pattern.
Join 8 octoplays like this.

You have made a red, blue and yellow diamond.

Make a green, blue and red diamond with a similar pattern.

Use any 3 colours to make other diamonds with a similar pattern.
- Join pieces to make this pattern.

- Continue this pattern by joining more pieces to the top.

- Continue this pattern by joining more pieces to the bottom.

- Continue this pattern by joining more pieces to both sides.
Join pieces to make this pattern.

Continue this pattern joining more pieces on all sides.

Make another similar pattern using only 3 colours.

Make another similar pattern using all 4 colours.
Join 2 twin discs and 1 octoplay like this.

Put a mirror along the broken line. Look in the mirror and see the same shape. This means the shape is **symmetrical** and the broken line is a **line of symmetry**.

Join 1 disc and 1 octoplay like this.

Put a mirror along the broken line. Look in the mirror and see that the reflection has an extra twin disc. This means the shape is **not** symmetrical.
Join 5 pieces to make this shape.

Put a mirror on the broken line.

The shape is **symmetrical** about the line.

Put the mirror on each of the lines.

The shape is **symmetrical** about each line.
Join 1 twin disc and 1 octoplay like this.

This shape is not **symmetrical** about the line.

Join 1 octoplay to the shape to make a new shape which is symmetrical.

Join another twin disc and octoplay like this.

Join 1 twin disc to this shape to make a new shape which is symmetrical.

Join another twin disc to this shape to make another shape which is symmetrical.
Join 1 twin discs and 1 octoplay like this.

This broken line is **not** a line of symmetry.

Use a mirror to find a line of symmetry.

Join 8 pieces like this.

Use a mirror to find a line of symmetry.

Use a mirror to find another line of symmetry.
Join 5 pieces like this.

This shape is **symmetrical** about the line. The colours are also **symmetrical**.

Join these 8 pieces to make a shape so that the shape and the colours are symmetrical.
- Join 5 pieces like this.

- Join pieces to this shape to make a shape which is **symmetrical in shape and colour**.

- Starting with the same 5 pieces, join other pieces to make different shapes which are **symmetrical in shape and colour**.
Here are 2 pairs of octoplays.

- Make these 2 pairs.
- Make a different pair.
- Make another different pair.

How many different pairs can you make?
Here are 3 butterflies

**Butterflies wings are always the same colour.**

- Make these 3 butterflies.
- Make a different butterfly.
- Make another butterfly.

How many different butterflies can you make?
- Make this row of 4 octoplays.

- Make different rows of 4 using the same 4 pieces.

  How many different rows can you make?

- Make different rows of 4 using any number of red or yellow octoplays, but no blue or green.

  How many different rows can you make?
Join 5 octoplays

Join 5 octoplays and make a different shape.

How many different shapes can you make?
Join octoplays like this.

Join more octoplays to this shape to continue the pattern of colour and shape.

What have you made?

Make similar shapes with different patterns of colour.
Here is a flower with a yellow centre.

- Make this green and blue flower.
- Make a different green and blue flower, joining 4 green and 4 blue octoplays to the yellow centre.

**How many different green and blue flowers can you make?**

**How many different green and blue flowers can you make, using the same 8 octoplays, if the centre does not need to be yellow?**
■ Join a twin peg to a strut.

■ Put a red octoplay then a yellow octoplay onto the strut to make a top like this.

■ Put more octoplays onto the strut to continue a pattern.

How many different patterned tops can you make starting with the same 3 colours?
Take a set of 8 pieces like this.

Take another set of these same 8 pieces and give them to a partner.

Ask your teacher for a desk divider.

Divide the desk with the divider so that neither of you can see what the other is doing with the pieces.

Join the 8 pieces to make a shape without your partner seeing your shape.

Keeping your shape hidden, tell your partner how to join the other set of pieces so that your partner will have the same shape when all 8 pieces have been joined.

Now let your partner build a shape and tell you how to join your 8 pieces?