

Autumn Block 2

Talk about measure and pattern

Teacher guidance



Key books

- *Where's My Teddy?* by Jez Alborough
- *It's the Bear!* by Jez Alborough
- *The Blue Balloon* by Mick Inkpen
- *Dear Zoo* by Rod Campbell
- *My First Book of Patterns* by Bobby and June George
- *We're Going on a Bear Hunt* by Michael Rosen
- *A-B-A-B-A – A Book of Pattern Play* by Brian P. Cleary

Top tips

- Point out unusual places we can find patterns, such as in the first pages of story books.
- Embed vocal and sound pattern making in daily routines, such as carpet times or lining up. Point out the AB, AB, AB structure.
- Celebrate children's pattern making by taking photographs and displaying them for other children to comment on and copy.

Key resources



Small steps

Step 1

Compare size

Step 2

Compare mass

Step 3

Compare capacity

Step 4

Explore simple patterns

Step 5

Copy and continue simple patterns

Step 6

Create simple patterns

Compare size

Notes and guidance

In this small step, children learn that objects can be compared and ordered by size. At this stage, the difference in size should be noticeable so that comparisons can be made by eye and not through measure. Model the use of language such as 'big', 'little', 'large' and 'small' and encourage children to describe what they notice. Moving the objects they are comparing close together can support understanding.

Once children can recognise and describe differences, support them to use more specific language, such as 'tall' and 'short' when describing height and 'long' and 'short' when comparing length. Provide opportunity for children to compare size in a range of different contexts in all areas of provision.



Rhymes

- *Big Fish, Little Fish, Cardboard Box*



Books

- *Where's My Teddy?* by Jez Alborough
- *It's the Bear!* by Jez Alborough

Key questions

- Which is smaller/bigger?
How do you know?
- Which is taller/longer/shorter?
How do you know?

Possible sentence stems

- The _____ is bigger/smaller than the _____ .
- The _____ is larger/smaller than the _____ .
- The _____ is longer/shorter than the _____ .
- The _____ is taller/shorter than the _____ .

Links to the curriculum

- *Development Matters* – 3 and 4-year-olds – Make comparisons between objects relating to size, length, weight and capacity.
- *Birth to 5 Matters* – Range 4 – Explores differences in size, length, weight and capacity.

Compare size

Adult-led learning



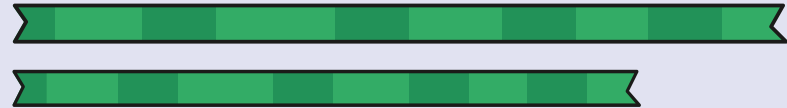
As a class, prepare for a teddy bears' picnic with one large bear and one small bear.

Unpack a picnic basket of plates, cups, spoons and food items of two different sizes.

Discuss which size item would be best for each bear, using the language 'little' and 'big', and 'large' and 'small'.



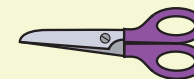
Give children a variety of different length ribbon or string.



Ask children to find someone who has a longer or shorter piece of ribbon than them.



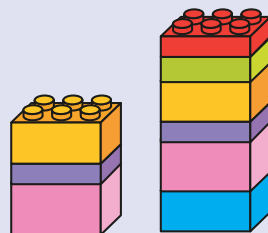
Provide children with wrapping paper, tape, scissors and a range of different objects to wrap.



Build in the construction area using a variety of large, small, long and short blocks.

Encourage children to make big houses, little houses, tall towers and short towers.

Ask children what size of animal or person could live in their house or tower.



Encourage them to cut the paper to an accurate size to wrap the object.

Is their piece of wrapping paper big enough to wrap their object?

Compare mass

Notes and guidance

In this small step, children are introduced to the vocabulary of mass and learn that objects can be compared and ordered by their mass. Children may be more familiar with the word 'weight', and there is no harm in using the words interchangeably at this stage.

Model use of language such as 'heavy' and 'light' and give children the opportunity to pick up different objects to develop their understanding of the words.

When introducing balance scales, children should develop the understanding that the heavier object is lower on the balance scale and the lighter object is higher. It is important to model this to children and point out that the objects have the same mass if the scale is balanced.

To avoid misconceptions, give children the opportunity to explore large objects that are light and small objects that are heavy.



Books

- *The Blue Balloon* by Mick Inkpen

Key questions

- Which object is heavier? How do you know?
- Which object is lighter? How do you know?
- What has happened to the balance scale?
- Are large objects always heavier than small objects?

Possible sentence stems

- The _____ is heavier than the _____ .
- The _____ is lighter than the _____ .
- The heavier object is _____ on the balance scale.
- The lighter object is _____ on the balance scale.

Links to the curriculum

- *Development Matters* – 3 and 4-year-olds – Make comparisons between objects relating to size, length, weight and capacity.
- *Birth to 5 Matters* – Range 5 – In meaningful contexts, finds the longer or shorter, heavier or lighter and more/less full of two items.

Compare mass

Adult-led learning

Give one child a reasonably heavy suitcase.

Give another child a balloon.

What do they notice?

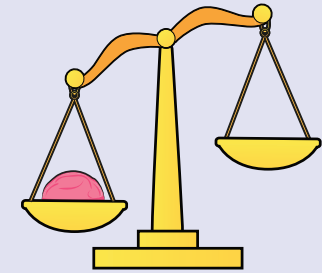
Introduce the words 'heavy' and 'light'.

Encourage children to pick up a range of other objects, decide whether they are heavy or light and compare them.



Add a balance scale to the dough area. Model to children how the balance scale works.

Encourage children to make different-sized balls of dough and compare their mass using the language 'heavier' and 'lighter'.



As a class, select two objects from around the classroom. Ask children to predict which object will be heavier and which will be lighter.

Invite one child to come and be a human balance scale.

Encourage them to hold one object in each hand and describe which is heavier and which is lighter.



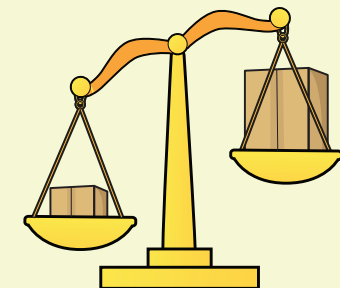
Wrap up a range of boxes, each with a different mass.

Ensure that some of the small boxes are heavy and some of the large boxes are light.

Pick up a box and ask children to predict if it will be heavy or light.

Ask them to test their predictions using a balance scale.

Are all small boxes light?



Compare capacity

Notes and guidance

In this small step, children learn that objects can be compared and ordered by their capacity. Provide children with a wide range of opportunities to explore different containers and boxes and their capacity.

Begin by exploring practically the idea that capacity is the maximum amount that something can hold. Initially they will use the language 'this holds the most' and 'this holds the least' to explain what they notice about capacity. Explore how containers look when full and empty.

Ensure that children experience a range of different-sized and different-shaped containers and encourage them to begin to make basic comparisons. Filling different containers in the water area and exploring junk modelling with different-sized boxes are great ways to support children to compare capacity.



Books

- *Dear Zoo* by Rod Campbell

Key questions

- Which holds more/the most? How do you know?
- Which holds less/the least? How do you know?
- Does this container hold more or less? How can you find out?
- Would the _____ fit inside the box?

Possible sentence stems

- The _____ holds more.
- The _____ holds less.
- The _____ has the same capacity as the _____ .

Links to the curriculum

- *Development Matters* – 3 and 4-year-olds – Make comparisons between objects relating to size, length, weight and capacity.
- *Birth to 5 Matters* – Range 5 – In meaningful contexts, finds the longer or shorter, heavier or lighter and more/less full of two items.

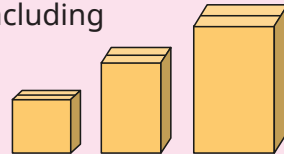
Compare capacity

Adult-led learning



Have a range of different boxes including some small, large, tall and thin.

Show children one of the boxes and ask what could be inside.



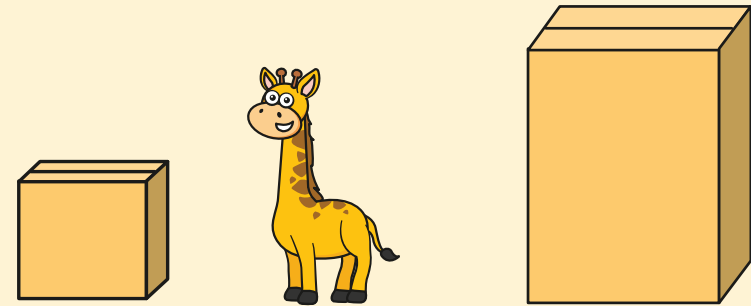
Could they fit in the box? Why or why not?

Present a range of objects from around the classroom.

Could these objects fit in the box?



After reading stories such as *Dear Zoo* by Rod Campbell, provide children with a range of different-sized junk modelling boxes and small world creatures.



Ask children to pick an animal or creature and make a home for them using the boxes.



Set up an area outside where children can dig soil, sand or bark.

Provide children with different-sized spades and garden trowels, and different-sized containers such as plant pots, buckets or a wheelbarrow.

Encourage children to fill the containers.

Which container holds the most/least?



Provide children with some coloured water and different-sized containers in a water tray to make different potions.



Encourage children to compare the different containers and investigate which containers hold less/more.

Explore simple patterns

Notes and guidance

In this small step, children are introduced to patterns and explore simple examples to develop their understanding of both the word and the concept. Prompt children to recognise that a pattern is a repeated unit. They will explore different patterns and learn that patterns can be both visual and auditory (involving sound). Provide children with many opportunities to see and explore a range of simple patterns. Point out where patterns can be seen in the environment. This may be patterns on clothes, such as checks or stripes, or different patterns around school and at home.

Encourage children to join in with sound patterns and rhymes and to notice the patterns in stories where words are repeated.



Rhymes

- *In and Out the Dusty Bluebells*



Books

- *My First Book of Patterns* by Bobby and June George
- *We're Going on a Bear Hunt* by Michael Rosen

Key questions

- What pattern can you see?
- What pattern can you hear?
- What do you notice?
- What words do you hear?
- What sounds do you hear?

Possible sentence stems

- I can see a _____ pattern.
- I can hear a _____ pattern.
- This is a _____ pattern.

Links to the curriculum

- *Development Matters* – 3 and 4-year-olds – Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc.
- *Birth to 5 Matters* – Range 5 – Explores and adds to simple linear patterns of two or three repeating items.

Explore simple patterns

Adult-led learning

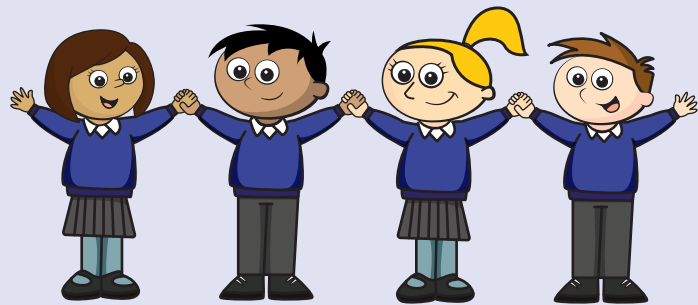


Display a range of different patterns for children to look at. Encourage them to identify the patterns.



Explore pattern images from books such as *My First Book of Patterns* by Bobby and June George. Point out patterns such as when lines are repeated to make stripes or when dots are repeated to make spots.

Play the circle game and sing the song *In and Out the Dusty Bluebells*. Children hold hands and raise their arms upwards to make arches.



Encourage children to notice the patterns in the song as they are weaving in and out.

Demonstrate simple action patterns for children to copy.

- jump, clap, jump, clap, jump, clap



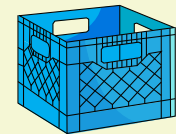
- hands up, hands down, hands up, hands down, hands up, hands down



Say the pattern aloud and encourage children to join in.



Provide children with large construction materials, such as crates, tyres and den-making materials.



Encourage children to set up their own version of the journey from *We're Going on a Bear Hunt* by Michael Rosen. Prompt them to repeat the pattern language as they travel along their journey.



Copy and continue simple patterns

Notes and guidance

In this small step, children move from exploring the features of simple patterns to being able to copy and continue basic patterns. At this stage, introduce children to AB patterns, which are patterns with only two parts repeating, such as red/green or dog/cat.

Support children to copy AB patterns with sounds as well as objects. Activities such as drumming 'my turn, your turn' help to embed sound patterns and keeping a beat. If children need additional support, first encourage them to copy small sections of patterns before combining to copy the full pattern. Children can then identify the pattern and attempt to continue it. Encourage them to say the pattern out loud to embed the AB structure.

When showing and modelling patterns to children, ensure that there are three full units of repeat for them to be able to copy and continue. Ensure that children are exposed to visual patterns that build both vertically and horizontally.



Rhymes

- Tongue twister patterns such as *Red Lorry, Yellow Lorry*

Key questions

- Copy my pattern – what do you hear?
- Copy my pattern – what do you see?
- How does the pattern continue?
- What do we need to copy this pattern?

Possible sentence stems

- The _____ comes next in the pattern.
- The pattern is _____ , _____ .

Links to the curriculum

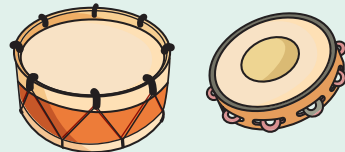
- *Development Matters* – Reception – Continue, copy and create repeating patterns.
- *Birth to 5 Matters* – Range 5
 - Explores and adds to simple linear patterns of two or three repeating items.
 - Joins in with simple patterns in sounds, objects, games and stories, dance and movement, predicting what comes next.

Copy and continue simple patterns

Adult-led learning



Provide children with a range of musical instruments. Use a drum or tambourine to tap out a simple beat, for example: tap, shake.



Encourage children to copy the beat after you.

Pick different children to be the leader and allow them to tap out a simple beat for the rest of the class to copy and follow.



Show children a range of AB patterns in images and with real-life objects.

Encourage children to say what they see.



Prompt children to carry on the pattern and encourage them to say what would come next.



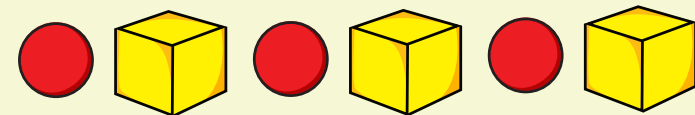
Go outside and model how to make simple large-scale patterns, such as stick, leaf, stick, leaf, stick, leaf.



Support children to copy the patterns and see if they can continue them. Encourage children to use loose parts to make simple patterns for a partner to copy and continue.



Set out a variety of AB patterns with items such as cubes, counters and loose parts.



Challenge children to independently copy and continue the patterns.

Encourage children to consider the shape and size as they build their patterns and prompt them to say their patterns aloud.

Create simple patterns

Notes and guidance

In this small step, children move on to being able to create their own simple AB patterns, first with some guidance and then independently. Encourage children to make their own patterns with objects. These could relate to children's interests to make them more meaningful.

Children should be given opportunities to make AB patterns in a range of contexts, including shapes, colours, actions and sounds. Once children are confident in making patterns, create further challenge by asking them to spot an error in an AB pattern. Start with an extra item added to the pattern, then progress to there being an item missing from the pattern. Children can then be prompted to fix the problem.



Rhymes

- *Clap Your Hands and Wiggle Your Fingers*



Books

- *A-B-A-B-A – A Book of Pattern Play* by Brian P. Cleary

Key questions

- What pattern have you made?
- What are you going to use to make your pattern?
- What mistake can you see in my pattern?
- How could you fix the mistake in my pattern?

Possible sentence stems

- I have used _____ to make my pattern.
- Next, I need _____ to continue my pattern.
- I need _____ to finish my pattern.
- The _____ is in the wrong place.

Links to the curriculum

- *Development Matters* – Reception – Continue, copy and create repeating patterns.
- *Birth to 5 Matters* – Range 5 – Creates their own spatial patterns showing some organisation or regularity.

Create simple patterns

Adult-led learning



With children, model following an action pattern using images which represent actions, such as jump or clap.



Provide a range of action images. Prompt children to select their own images to make an action pattern with a friend.

Act out the pattern together.

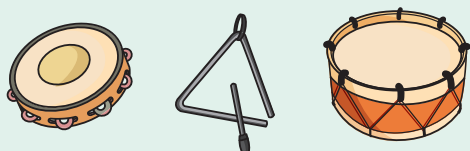
Provide a selection of fruit cut into small pieces, such as bananas and strawberries.

Encourage children to make an edible repeating pattern and prompt them to describe the pattern before they eat their snack.

This can be extended to children making their own fruit kebabs with a repeating pattern.



Provide children with a set of musical instruments, such as a drum, maracas, tambourine and triangles.



Ask children to make a sound pattern using the instruments.



Make a range of AB patterns for children to see and ensure that you make deliberate mistakes in the patterns created.



Explain to children that we have a problem – the pattern isn't correct.

Ask children to suggest ways to fix the problem. Children might swap the items around, which means that they will have to continue amending the pattern until the end of the line.

Continuous provision

In the sand or water areas, provide children with equipment in two distinct sizes.

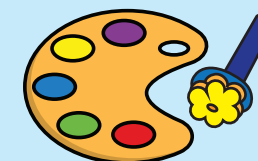
For example, a big bucket and a little bucket or a tall jug and a short jug.

Encourage children to compare the objects and to explore how many scoops each will hold.



They could also compare how many large scoops and how many small scoops a container will hold.

Provide children with large paper and a range of tools for them to print with to create repeating patterns.



Talk to children as they explore different colours, shapes and forms.

Discuss how they can make a pattern.

Children could then extend this printing to making patterned wrapping paper for a birthday present.

Provide lots of different examples of wrapping paper and then ask children to create their own.

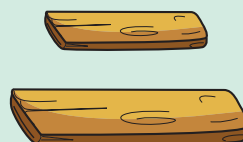
Outside, provide children with large blocks, planks, crates and/or cushions.

Encourage children to build towers, models and roads.

What is the tallest or shortest tower that they can build?

Can they build another tower that is taller/shorter?

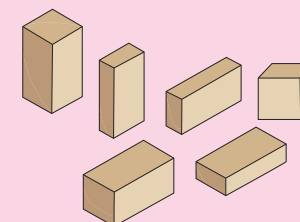
Can they build a long road and a short road?



In the construction area, ask children to build towers and enclosures using their own repeating patterns.

Can they say their pattern aloud?

Encourage children to use key vocabulary such as 'big brick', 'little brick', 'short brick', 'red brick', 'blue brick', etc.



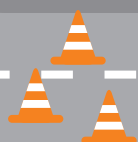
End of block checkpoint

Checkpoint 1

Children use simple language of comparison such as 'size', 'mass' and 'capacity' when playing.

Observe children as they play in continuous provision. The dough, water and construction areas provide a great opportunity to support this.

Do they use the language appropriately?



Checkpoint 2

Set up a repeating AB pattern that has three units of repeat.



Provide extra resources for children to choose from that are both in the pattern and not.

Ask children to complete the pattern.

Are they able to copy and complete the simple pattern?

Checkpoint 3

Provide children with objects and loose parts to make simple patterns.

Ask children to use the resources independently to make an AB pattern.

Children may need to be given just two different types of objects, for example, blue and red cubes.

