

Ideas and Inspiration for the Glow Sequencing Cubes

Introduction to the Glow Sequencing Cubes

The Glow Sequencing Cubes are an innovative and responsive resource that invites children to play, be curious and question. As children play, they will start to explore in different ways. For example:

- What happens when the buttons are pressed.
- How the cubes can be connected and the different structures that can be built.
- Notice light travelling, colours changing and patterns starting to emerge.

These cards are here to offer ideas, not instructions, for different ways children may use the cubes. Follow their interests and use them to complement your provision. This could be to build and construct, as part of a structured or child-led activity, or to support with calming and regulating.

You will see lots of learning happening as children explore and interact with the cubes. They will be strengthening their **critical thinking** skills as they plan, test, change their minds and then try again. They will use their **creativity** as they build, imagine and create their own ideas, and they will **communicate** and **collaborate** as they discuss, share, take turns and play alongside each other.



Glow Sequencing Cubes – Developing Skills in STEAM (1)

As children explore how the cubes connect and respond, they begin to develop skills in critical thinking and early problem solving. They start to test ideas, notice patterns, and make predictions, thinking about what might happen next.

- Explore and build straight lines with the cubes, looking at how the light travels as they press the buttons. Does this change depending on which button is pressed?
- Observe and investigate how signals move through connected cubes. What happens with the light/colours? Can you track the light with your finger?
- Create corners and right angles with the cubes. What happens when the light reaches a turn?
- Try pressing the button on one cube and then pressing multiple buttons on connected cubes at the same time. What do you notice?
- Explore different 'What happens if...?' questions. For example, 'What happens if we connect one more cube or disconnect them all?'
- Build vertical towers with the cubes and test stability. How high can you go before it starts to wobble? How can you stabilise it?
- Build different structures where the light moves differently, for example a structure where the light constantly travels round in a loop or one where the light stops.
- Try a 'fastest finger' challenge. Create either a long line of connected cubes or build a T-shaped structure. Who can trigger a colour change first?
- Introduce and use language such as connect, travel, signal, change, predict and test.



Glow Sequencing Cubes – Developing Skills in STEAM (2)

Through counting, grouping and noticing patterns, children also begin to build their logical thinking skills and early mathematical understanding.

- Count the cubes as children build and explore with them. Can you count the number of different colours too?
- Set challenges to build using a certain number of cubes, for example creating shapes/structures with 5 cubes. You could extend this challenge with children by using a greater number of cubes or by introducing specific colours to their shapes, for example, two red and three blue cubes.
- Explore patterns either using the docking station as a base for the cubes to sit in or using the cubes individually. Children could copy a pattern, create one of their own or continue a repeated pattern.
- Arrange the cubes in rows and columns of different colours to create simple arrays (early understanding of grouping and multiplication) or to explore co-ordinates (the docking station lends itself well for this).
- Use different coloured cubes for subitising. 'How many can you see?'
- Explore sorting and grouping with the changing colours. For example, 'Can you make groups e.g. 5 red cubes, 3 blue and 2 yellow?'
- Look at the different ways in which the signals can combine to create different colours. Can the children find all the different combinations?



Glow Sequencing Cubes – Schematic Play (1)

As children join and organise the cubes, they are exploring how things fit together, how they can be arranged in different ways and how the light moves and changes direction. Children may revisit the same actions again and again, following their own schematic interests.

Positioning

Children may:

- Line the cubes up in a row or construct into simple shapes.
- Arrange the cubes in different ways to create patterns or structures.
- Plan and place the cubes carefully in chosen positions, such as when colour matching.

Trajectory

Children may:

- Press the buttons on the cubes and watch how the light travels.
- Send the signals in different ways depending on what buttons are pressed and the orientation of the structure.
- Build purposefully in a range of ways so that the light can travel in different directions.

Connecting

Children may:

- Join and separate the cubes repeatedly.
- Connect and disconnect the cubes to see how the lights and colours change.
- Explore how the cubes fit together.

Enclosing

Children may:

- Arrange cubes into a square or any other enclosed shapes.
- Create spaces inside structures.
- Use the cubes to build borders or simple fences in play e.g. to create a pen for animals or a house for people.



Glow Sequencing Cubes – Schematic Play (2)

Orientation

Children may:

- Turn and rotate the cubes before connecting to make them fit and explore different ways of joining.
- Adjust the positioning of the cubes to make connections work.
- Flip or reposition the cubes or structures to observe them from different angles.

Transformation

Children may:

- Repeatedly press the buttons to change the colours.
- Press the buttons from different points, individually or at the same time. Exploring the different outcomes this brings.
- Connect and disconnect the cubes to explore what changes and how they work.
- Partially cover the cubes with fabric/ materials before revealing them (covers enveloping schema too).

Transporting

Children may:

- Build long chains or towers and push them around.
- Transport the cubes from one place to another either by hand or in a vessel such as a bucket, bag or docking station.
- Shift and reposition structures they have built in their play from one place to another.

Rotation

Children may:

- Turn cubes and structures around to observe how the light behaves.
- Spin and rotate the cubes.
- Explore how turning the cubes affects the connections.



Glow Sequencing Cubes – Creativity and Imagination (1)

As children explore colour, light and structure in open-ended ways, they are developing creativity. They begin to use their ideas to represent and make sense of the world around them. As they share their ideas, build together and tell stories, they will be connecting (both literally and metaphorically), communicating and collaborating.

- Build small structures and decide what they could be. Maybe they will become a house, a maze, a magical object or a space station!
- Bring light and colour into play scenes, such as blue cubes for the night sky, red for fire or yellow for the desert.
- Combine with other small world play resources such as glow houses, trees, vehicles and people, or non-glow items such as animals, figures and other types of transport.
- Tell simple stories while watching the light travelling through the cubes. What could the light and different colours represent in their narratives?
- Use the colours on the cubes to represent ideas in stories, for example magic, weather or different emotions.
- Build a visual story chain with the cubes showing the different events in the story. Children could also assign colours to parts of a story (beginning, middle and end).
- Change the colour of the cubes to match the feelings of characters in a story. Each cube, or string of cubes, could represent an event with the colour helping to show characters' emotions. Children could use the number of cubes to show the intensity of the feeling.



Glow Sequencing Cubes – Creativity and Imagination (2)

- Explore the light from the cubes in a dark space to create atmosphere in the children's play and storytelling.
- Use and model language such as glow, shine, pulse, change, magical. How would they describe the cubes?
- Encourage children to describe what they create, and what they see and imagine. Can they explain their thoughts and reasons for their creations?
- Create a messaging station in their play by connecting a line of cubes. Children can create their own code and send colour coded messages to a friend.
- Play simple games with the cubes such as 'Three in a row'. Or encourage children to use their imagination and creativity to create a game of their own.
- Most importantly, remember to let the children lead and explore in their play – there is no right or wrong answer.



Glow Sequencing Cubes – Sensory Exploration and Regulation (1)

Through repeated, predictable interactions, children begin to grow in confidence as they feel more in control. This helps them to regulate and when ready, connect with others in their learning and play.

- Use in an ambient or cosy space for a calming visual focus. The lights on the cubes still work well in lighter spaces if darker areas feel overwhelming.
- Use the cubes for co-regulation or self-regulation by watching the colours glow or change, or by building and connecting together.
- Repeat simple actions such as changing the colour on an individual cube (press, pause, watch), removing and replacing cubes in the docking station, or making simple structures.
- Offer as a quiet independent activity such as stacking, connecting, or matching colours.
- The soft lights, simple colour changing functionality and tactile elements offer a calming sensory experience which children can control themselves.
- When in the docking station, the cubes respond to a simple sweep of the hand over the buttons, supporting understanding of cause and effect.
- Connect the cubes in a row so that light signals can be sent back and forth, supporting turn-taking, shared attention and interaction.
- Pair the colour changes and movement of light with breathing or calming routines.



Glow Sequencing Cubes – Sensory Exploration and Regulation (2)

- Use the colours on the cubes as a way to communicate choices or feelings.
- Support understanding of cause and effect through pressing, connecting and watching what happens.
- Use with individual children or in small groups to build confidence in interaction.
- Encourage children to track the light with their eyes, hands or fingers. Build longer lines to support reaching across the body and crossing the midline.
- Use two sets of the Glow Sequencing Cubes to play barrier games. One person gives instructions while the other builds and responds. Compare results and talk about ‘What happened?’, ‘What went well?’, ‘What could be improved upon next time?’ This activity supports turn taking, attention and listening, communication and interaction (e.g. following of instructions) or used as a regulation activity.

