

# Schemas

## What is a Schema?

Schemas are patterns of repeatable behaviour which can often be noticed in young children's play. This repeated action helps the child to establish internal cognitive structures in the brain. Although children often show particular schemas in their play, not all children appear especially schematic. Some children show one particular schema strongly and others show several at once. Sometimes one schema which has been particularly strong will seem to fade, possibly to be replaced by another children behave. Awareness of schemas offer a key to understanding ways in which children behave. In the planning process at nursery, an awareness of children's schemas can be invaluable in matching curriculum content with children's interests and needs.



Babies and young children can often be observed repeating actions, for example dropping things from their high chairs, opening and shutting doors, pressing buttons, wrapping themselves in fabric or carrying things round in bags, baskets or boxes. Children are constantly trying to make sense of their world and through play, exploration and repeated schematic play patterns, they are able to integrate their existing knowledge, understanding and experiences into new situations. Babies and young children learn best this way from first hand experiences, when they are able to solve problems, make mistakes, decisions and choices based on what they already know.

Some easily identifiable schemas are: Trajectory, Orientation, Connecting, Rotation, Enclosing, Enveloping, Positioning and Transporting.

## Trajectory

**Definition:** *An interest in how objects and people move and how children can affect that movement.* One of the earliest schemas seen in babies is the trajectory schema. This schema is essentially about movement and it can be seen in babies' actions as they learn to focus on things that move. Even new born babies can gaze and track, following moving objects with their eye and sometimes turning their heads. This schema can be seen in children's actions when they drop objects, jump, swing and climb up and down repeatedly. Young babies may explore vertical and horizontal trajectories by building towers and knocking them down, dropping things from high chairs or swipe out with their arms. Children love to make things move through the air by throwing, jumping, swinging or trailing them.



### Activity Ideas:

- Blow feathers, tissue paper or scarves
- Make simple folded planes and see how they fly
- Fill spray bottles with thin paint, and spray onto paper of different colours or texture
  - Make kites, flags or bunting
  - Chase and catch bubbles
- Use pipes and funnels in the water
  - Splat wet sponges at a target
- Dribble runny paint from a brush or dropper onto vertical paper or a mirror
- Line a tray with paper, dip balls on paint and roll across the paper
  - Spin, swirl or throw hoops or quoits
  - Post cars or small balls down tubes
    - run with streamers
  - Explore objects that bounce
  - Build with straws and sticky tape
- Make tracks for bikes and wheeled toys
- Make skittles from empty water bottles

### Key Words:

fly, spin, twirl, glide, float, drop, bounce, high, low, heavy, light, land, swing, up, down, fast, slow



## Transporting

**Definition:** An interest in moving themselves around in transporting objects. The transporting schema can be recognised when children become intent on moving objects or themselves from place to place, carrying objects in their hands or pockets or filling bags, buckets, and containers then transporting these to be scattered or piled up in a different location. Children will often push empty or full buggies, carts, prams or wheelbarrows around or use bags, baskets and boxes to move a variety of objects. This interest in transporting may be based on their own first hand experiences of being transported in vehicles, pushchairs or the arms of an adult.



### Activity Ideas

- Add gravel, shells or pebbles and some diggers or trucks to the sand
- Use scoops and spades to fill and empty moulds with wet sand
- Build waterways with guttering and sail twigs or sticks
  - Use plastic jugs and bottles to move water about outside
  - Provide wheelbarrows, carts and trolleys with different sized boxes outside
    - Chalk paths and roads on the floor outside
    - Provide bags, buckets, baskets and boxes
- Use tiny spoons and scoops to fill ice cube trays with rice, flour or pulses
- Use plastic droppers and coloured water for filling and emptying clear containers
- Read stories about moving house and provide boxes to pack things up in
  - Fill an old satchel with envelopes/post to deliver
  - Make a pretend washing machine and fill it with clothes



### Key Words:

in, on, under, full, empty, all gone, more, less, heavy, light, in, out, open, closed, same, different



## Enveloping

**Definition:** An interest in covering and wrapping up objects or themselves or putting things inside bags, baskets and containers. Children drape themselves in fabrics or clothing such as hoods, hats, gloves, cloaks or they may wrap or secure things with string or tape. Children may enjoy dressing up in hats, with scarves, necklaces, bracelets, bangles, earrings, nail varnish and rings. They also may enjoy making dens, hide under blankets, behind furniture or in cupboards, they spread glue all over their hands then peel it off or paint all over a picture in a single colour.



### Activity Ideas

- Build a giant pass the parcel, wrap pretend gifts, fill crates with bottles
- Fill large tubes with paper or fabric to wrap round, stuff inside or push/pull through
  - Stuff old socks to make snakes
  - Make feely bags/boxes
  - Wrap picture or boxes in sticky tape
- Layer collage materials with glue or thick cardboard
- Fill containers with sand, water, jelly, gloop, cooked pasta
- Cover balloons with string, ribbon, glue and paper mache
- Provide fabric, net, ribbons and scarves for wrapping objects in
- Explore Russian dolls, nesting boxes or stacking cups
  - Use shape sorters
  - Build dens and shelters
  - Make a digging area outside with bark or sand
  - Fill a suitcase with dressing up clothes and hats
  - Wrap outside toys with newspaper and tape
    - Play with parachutes

### Key Words:

In, on, under, over, above, below, visible, invisible, transparent, opaque, wrap, unwrap, full, empty, big, small



## Enclosing

**Definition: An interest in creating and or enclosing spaces.** Interest in enclosure may begin in early experience of being in a variety of enclosed spaces such a cot, playpen, pushchair, highchair or car seat. Children may begin to join lines or build structures with materials and resources of all kinds to form enclosures. Children may build fences or walls or carefully fill in spaces they have constructed. Some children may choose to fill in their enclosure, by adding toy animals to a field for example. Children who are interested in enclosure may also arrange objects, for example food round the edge of their plate. Sometimes children build enclosures around objects sometimes even themselves!!



### Activity Ideas

- Drape a sheet over a frame to create a small den and add books and cushions
  - Make bracelets with pasta and ribbons
- Cut watches from catalogues, stick on thin card and tape around wrists
  - Make borders and picture frames
- Sit in a hoop and create pictures and patterns on the floor in chalk
  - Make cloaks, masks and hats
- Use lolly sticks and twigs to build fences, roads and bridges in the sand
- Transform shoe boxes into houses or beds for people and animal
  - Use natural materials to weave and build nests
    - Create burrows and tunnels in wet sand
      - Use clay to make caves
- Make fences, walls and enclosure for people and animals
  - Create dens with large cardboard boxes
- Use large cardboard boxes to make garages for the bikes and trikes

### Key Words:

Enclose, wrap, contain, inside, outside, boundary, edge, corner, side, entrance, exit, way in, way out, border



## Rotating

**Definition:** An interest in things which turn such as knobs, taps, keys, wind-up toys. The rotation schema is seen in children's actions when they turn and rotate objects or themselves. Children may roll their bodies and are interested in playing with toys and simple everyday objects that spin, twist or turn. The rotation schema can be very dynamic and energetic, as children run or spin in circles, ride round and round on bikes, twist and spin objects and toys and enjoy being spun round and round by adults!!



### Activity Ideas

- Explore wind up music boxes and wind-up toys
  - Look at wheels on bikes
  - Dance with ribbon sticks
- Poured bowls of things such a dry rice or pasta for stirring
- Use a salad spinner to make paint splatter patterns
  - Use rotary whisks in bubbly water
  - Roll painty balls down slopes
  - Use water wheels in the water tray
  - Make simple paper windmills
- Bake Swiss rolls or make spiral sandwiches
- Use paint rollers for painting on large sheets of paper
  - Roll balls down guttering or large tubes
  - Construct toys with wheels
  - Roll old cds down slopes and slides
- Paint or chalk circles and spirals on the floor for running around
  - Play hoopla or quoits
- Hang objects that spin from the trees outside
- Suspend an old tyre from a sturdy branch for swinging and spinning on

### Key Words:

fly, spin, twirl, round, circle, twist, fast, slow, dizzy, spiral, turn, rotate



## Disconnecting or Connecting

**Definition:** An interest in fastening and joining things together and taking them apart. The schema can be seen in children's actions when they join together train track, attach ropes to climbing frames or get fascinated with string. They may join wheeled toys in the garden or suspend objects from fences, bushes or themselves. Children enjoy fastening recycled materials with glue or toe fabric, carves and threading laces together. Disconnection sometimes becomes as important as connection as children explore the idea of separating things, destroying things they have constructed or trying to take toys apart.



### Activity Ideas

- Explore, build, weave with natural building materials such as raffia, dried grass, willow and moss
- Build bridges by combining construction materials
- Experiment with connecting straws, sticky tape, paper clips and magnets
  - Make paper chains
    - Build with junk model resources
- Provide tape, ribbons, string, elastic, cotton reels, bits of cards and plastic
- Make hanging mobiles, strings of flags and kites
- Investigate oil and water mixes in clear plastic bottles
  - Try pipes, tunnels and bridges in the sand
    - Explore corn flour gloop
- Make connections in water play with pipes, hoses, funnels, jugs and buckets
- Look at spiders webs and make your own
- Look at roads maps, atlases and street maps
  - Make human chains
  - Explore joins in constructions
  - Create train tracks and road ways

### Key Words:

Build, construct, join, separate, open, close, together, apart, heavy, light, wood, plastic, bendy, connect, strong



## Positioning

**Definition:** *An interest in carefully placing objects or themselves in patterns or rows.* This schema can be seen as children line up toys, books or other objects and position them either on top, under, around the edge of, behind and next to each other. They also may arrange books in tidy piles, or create patterns in rows and lines in mark making or construction. Children may also demonstrate some more unusual behaviour, such as not wanting different foods mixed together on the same plate or lining up their toys in unconventional places such as by the front door!!



## Activity Ideas

- Provide empty shelves for arranging objects on
- Leave tables empty to allow children to use the space for stacking, lining or arranging on
- Provide open spaces for making arrangements of objects or patterns
- Play games involving hiding and finding objects
  - Use pegs boards and pegs to make patterns
  - Create picture frames with coloured card
  - Make mosaics with collage materials
- Provide empty guttering outside for lining up objects
- Crate treasure baskets containing collections of things such as old cds, pebbles, lollipop sticks, sea shells, coloured bricks, bottle lids, jam jar lids etc
- Stack random objects such as toys from around the room
- Save empty boxes, plastic containers, yoghurt pots and cartons and create giant art work outside

### Key Words:

inside, on top, behind, underneath,  
between, in front, next to



## Orientation

**Definition: An interest in seeing things from different angles.** Babies are born to move. When they lie on their tummies or backs they see their world from a particular viewpoint, but things start to look different as they learn to roll, sit up, crawl, stand and climb, discovering the effects to movement and the difference they can make to their view of the world. The schema may be observed in children's actions as they start to look at the world from different angles. They may hang upside down, look through their legs, turn objects upside down, do head over heels, enjoy rocking on the rocking horse or climb ladders to get a new view on life. Other features of this schema include building and using ramps, rocking on chairs, climbing hills, rolling, climbing and standing on ledges to get to a higher position.



### Activity Ideas

- Add mirrors to walls next to the water tray, in the small world area, in the construction area and on the ceilings!!
- Move around the room like different animals
- Provide a range of music for dancing to and scarves and dancing ribbons
- Buy acrylic mirror tiles and stick to the floor inside, allow children to explore barefooted
- Add mirror to the bottom of the tuff tray and use in the small world area
  - Provide opportunity for climbing outside
  - Add a rope swing or sturdy tyre to a swing
- Have crash mats for headstands and tumbling onto
- Provide large cushions outdoors for laying back and watch the clouds
- Make periscopes to allow children to see over walls or round corners
  - Look at the underneath of objects
- Bend to look at the world from different angles, including between their legs

### Key Words:

turn, upside down, backwards, over, twist, roll, under, tumble, spin

