

<i>Michelle Thornhill</i>		<i>Loose Parts and Intelligent Playthings Categorized By Schema</i>					
If your child loves:	(S)He may be exploring	Loose Parts	Natural Loose parts	Large play	Recyclable/ Repurposed	Additional tools/ bases	Commercial Toys/ Gifts
Train sets, buckles, Lego, harnesses, fridge magnets, stickers, marker caps, shoes	<i>Connecting</i>	Popsicle sticks, match sticks, golf tees, paper clips, binder rings, carabiners, felt pieces, tissue paper pieces, elastics, fabric, paper, burlap, balsa wood, post-its, labels, glow stick bracelets, pipe cleaners, belts, Velcro hair rollers, corks, pins, box rivets, screws, nails, binder clips	Earth magnets, chick weed, vines, spruce sap (for glue), beggar ticks, burdocks, cicada shells, thistle flowers, leather cord, dandelion stems (for chains), dried bones, wet leaves, sand, snow, ice	Log rounds or stumps for stacking, tires, boards, wooden spools, ropes, webbing, lumber, palettes, logs	containers with lids, bread clips, pvc pipes, nuts and bolts, electrical wires, marettes, twist ties, buckles and snaps from discarded items, broccoli elastics	Hammer, Tape, glue, twine, rope, yarn, bungee cords, hooks, chains, Velcro, cable ties, latches and fasteners, tongs, webbing, flannel, stapler, safety pins, contact paper, magnetic surface, corkboard	Ello, Knex, gear sets, slot-a-shape builders, magnet builders, unifix cubes, Ring-a-ma-jigs, Goldie Blox, Straws and connectors, bristle blocks, Magneatos, puzzles, Snap Circuits, Brik-a-blok, Mecanno Jr., train sets, Barrel of Monkeys
Airplanes, car crashes, balls, sharks, birds, Superman, throwing toys, throwing food, jumping off things, knocking things down, expressive art, basketball, bubbles, explosions	<i>Trajectory</i>	Paper, pompoms, rubber bands, balloons, corks, beanbags, spoons, rulers, ping pong balls, string, ribbons, cotton balls, felt balls, koosh balls, pieces of foam, sponges, pillows, boards and cylinders (for catapults), tea pot, watering can	Helicopter pods, feathers, leaves, flat rocks for skipping, stones for tossing into water, sticks, pinecones, Y-shaped branches (for slingshot), swinging vines, live insects, cottonwood fluff, dandelions, bursting wild snapdragon pods, snowballs, sticks as fishing poles, palm branches	Planks, cable spool, skate ramp, platforms, ladder, chairs, yoga ball, slide, sled, rain gutters, a pair of trees and physio band for giant slingshot, pliable birches (for swinging), pool noodles	Pipes, scarves, plastic bottles (for rockets), paper towel tubes, broccoli elastics, springs, plastic spoons, buckets for ball toss, boxes for crash zone, inner tubes, film canisters, boxes and cartons for knocking down	Hammers, saws, mortar and pestle, targets, hoops, mini zip lines, fans, launch pad, balcony, Antacids and vinegar for rockets or "pop the top"	Catapult kits, marble run, Trebuchet Kits, Hot Wheels tracks, construction sets with ramps, rocket building kits, boomerangs, propeller toys, Frisbees, kites, Skyrocopter, stomp rockets, Micro Shotz, soda rockets
Forts, hide and seek, putting toys to bed, burying items in sand, wrapping presents, eggs and nests, hats, being inside cupboards, painting entire canvas, Lego enclosures	<i>Enclosing/ Enveloping</i>	Scarves, fabric, lace, towels, boxes, spools, paper towels, tissue paper, mailer tubes, solo cups, aluminum foil, foam pieces, folding steamer basket, plastic Easter eggs, locks and keys, hinges, hair rollers, sponges, nesting baskets, tissue paper, ribbons, yarn, plaster cloth, cheese cloth, toilet paper, Claycrete paper mache, Paperclay	Piles of leaves, sand, mud, clay, walnut halves, clam shells, pine spills, dirt, palm branches, geodes, seed pods, flowers, petals, straw, pea stone, twigs, nests, hollow logs, leather hides, birch bark, hollowed or halved coconut shells, pumpkins, gourds	Cardboard boxes, stacks of tires, tents, long tree limbs (for forts), blankets, tarps, tables, chairs, couch cushions, pallets, cylindrical concrete forms, plastic culverts, haystacks, ball pit	Fabric remnants, old hats and shawls, belts, watches, plastic containers, cups, electrical wire, cardboard tubes, egg cartons, envelope discards from card stores, wrapping paper, newsprint, magazines, bubble wrap	Clothes pins, safety pins, rubber bands, string, tape, Velcro tape, twist ties, magnifying glass, Washi tape, Mod Podge, Silly Putty	Russian nesting dolls, stacking cups, Magnatiles, Lego, Brik-a-blok, crazy forts, sleeping bag, igloo mold, skipping rope, mosaic kit, piggy bank, piñata, doll clothes, latches board, hollow blocks, mailbox, excavation kit,
Elevators, balls, towers, dropping objects on purpose, scribbling up and down, building tall towers	<i>Dynamic Vertical</i>	Scarves, beanbags, pompoms, cushions, string, rope, spools, beads, foam balls, ping-pong balls, corks, wire, bean bags, watering can, tea pot, slinky, confetti, blocks for stacking, spools, paper clips, dice, dominoes, light switches, chains, springs, barrel bolts	Rocks for stacking, pinecones, water, feathers, sticks, helicopter pods, leaves, acorns, crab apples, hanging vines, icicles, palm branches, wood pieces for stacking	Stacks of tires, platforms, chairs, ladders, walls, tree trunks, fences, couch cushions, cylindrical concrete forms, trampoline, dumbwaiter, fireman pole, deep hole	PVC pipes, wrapping paper tubes, Pringles chip containers, K-cups, yogurt cups, cans, zippers, tissue boxes, Yop bottles, solo cups, empty boxes, straws, coiled telephone cords	Plumb line, retractable tape measure, pulleys and ropes with bucket, small hand winch, mashers, mortar and pestle, funnel, turkey baster, hour glass, thermometer	peg stackers, stacking toys, hammer and peg set, bead maze, toy elevator, parachute men, paddle ball, rocket kits, skipping rope, ball and jacks, Connect Four, trampoline, Ogodisk, Micro Shotz, stomp rockets, Jacob's ladder

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Putting trucks upside down, turning knobs on stereo/ appliances, planets, baseball, racetracks, CD's, launching toys that roll, spinning in circles, washing machines	Rotation	Jacks, plates, pot lids, wood rings, spools, washers, metal rings, rope, string, lasso, sticks, toilet plungers, paper towel holders, cylindrical blocks, short length of pipe, nuts and bolts, screws, martini umbrellas, metal bearings, mixing spoons, whisks, hair rollers, loops of tubing or pipe, serger spools, bobbins, paint roller, hinges	Helicopter pods, swinging vines, roly pollys, daisies, snowballs, tree rounds with a centre hole, acorns, snail shells, coconut shells, water, stepping stones or stumps arranged in a circle, hills for rolling down	Cylindrical concrete form, plastic culvert pipes, swings, cable spools, hay bales, freestanding poles and trunks for circling, hula hoop, pop-up hamper or tunnel, merry-go-round, barrel	Cylindrical containers, paper tubes, old microwave trays/ tracks, bottles, castors, motors, knobs off old appliances, roller blade wheels & bolts, cups, spinners from board games, turn table, round cardboard from frozen pizza, paper plates	large round bowls, steel drum, fan, compasses, winch, pottery wheels, lazy susan, rotating organizer, salad spinner, dowels and sticks, hamster wheel, clothes for toy washing machine, drill, screwdriver, auger, mixer, blender	Train circuit, gear toys, bead maze, peg stackers, spiral ball run, abacus, Magneatos, Snap Circuits, star builders, tops, toy cement mixer, propeller flyers, skipping rope, water wheel, spirograph, Skyrocopter, View master, Gearation magnets, Spin art, rock tumbler
Making holes in things, poking with sticks, putting fingers in holes, arrows and bullets, swords, ice fishing, sewing, earrings, destroying safety gates, putting limbs through bars of railings	Going through a barrier	Yarn and plastic needles, birthday candles, dowels, craft sticks, fabric, burlap, mesh, lace, pipe cleaners, oasis, cork, pipe cleaners, golf tees, toothpicks, match sticks, beads, buttons, chopsticks, keys and locks, bolts and boards with holes, screws, balsa wood, pins, raw spaghetti, sieve, colander, plastic canvas, screening, perforated steel containers, napkin rings, latches, hooks, water beads, wiffle ball, artificial foliage and flowers, cubicle clips, martini umbrellas, martini swords, floral foam, fence	Feathers, reeds, cattails, stems, sticks in mud, sticks in snow, bark with woodpecker holes, clay, mud, moss, tree slices with drilled holes, cracked rocks, ice and tools, ice and salt, pine tree needles, moss patches, rotting stumps, wood chips, sharks teeth, shells with holes, pumpkin, gourds, perforated limestone, spider webs	Lattice, fencing, soil, sand, shovels, picks, hoes, augers, knotty pine boards, milk crates, post hole diggers, peg boards, loosely knit blankets, wine rack, windows, ladders, tunnel, parachute, finish lines, swinging doors, leaf strainer for gutters	Pieces of Styrofoam packaging, foam insulation, cardboard boxes, bits of grid wire, chicken wire, tomato cages, birdcages, carpet pieces, paper tubes, straws, bits of discarded shirts with buttons and buttonholes, bubble wrap, wire, twist tiles, rope, elastics, pegboard	Hammer, drill, screwdriver, rubber mallet, tent pegs, tweezers, pliers, hole punches, shape punches, brads, spades, hand drills, weeding tools, dibbers, skewers, nut crackers, stapler, cookie cutter, fork, garlic press, lemon juicer	Peg stackers, hammer and peg set, weaving loom, Lite-Brite, Mr. Potato Head, lacing toys, Honey Bee Tree game, Kerplunk, rug hooking kit, stretchy mouse and cheese toy
Having hands full of objects, full pockets, filling and dumping, dump trucks, bags, shopping carts, wheelbarrows	Transporting	Glass gems, beads, pompoms, marbles, tiles, clothes pins, nuts and bolts, washers, cotton balls, ball bearings, magnets, pails, bags, baskets, tins, fanny pack, containers, backpack, bundle stick, plastic counters, tiddlywinks, popsicle sticks, sponges, erasers, buttons, spools, dice, chains, felt balls, cotton swabs, Styrofoam shapes, confetti, foam craft shapes, figurines, caps	Wood pieces, tree cookies, seeds, acorns, rocks, shells, leaves, pine cones, crab apples, beans, wood chips, drift wood, sand, flowers, dirt, gravel, fruits, rice, peach pits, cherry pits, deer corn, hollowed coconut shells, sticks, branches, natural woven baskets	Wheelbarrow, yard cart, barrel, shopping cart, large backpack, sack, wagon, sled, stroller, laundry basket, trolleys, dollies, carts, sled, stroller, ride-on toys, cardboard box	Plastic containers, buckets, cardboard boxes, Easter baskets, reusable grocery bags, milk jugs, milk crates, used purses, cloth sacks, corks, rubber bands, bread ties, caps, corks,	Scoops, tongs, funnel, shovel, spade, scoops, tool belt, clips, pulleys, clothesline, carabiners, hooks, skateboards, felt pads for furniture	Toy cargo vehicles, dump trucks, Trunki, lunch boxes, back pack, mini shopping cart, mini wheelbarrow, wagon, ride-on toy with storage, bike basket, mini figures, toy garage with elevator, Hungry Hippos, toy boats

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Putting toys in a row, arranging food on a plate, parking toy cars, sorting, sequencing by size, arranging furniture, straightening rows of shoes, stacking books	Ordering/ Positioning	Dominoes, birthday candles, magnets, buttons, popsicle sticks, pompoms, spools, beads, clothes pins, match sticks, checkers, poker chips, dice, chains, books, playing cards, washers, napkin rings, hex nuts, glass gems, tiddlywinks, paint stirrers, dowels, tiles, wooden cubes, graph paper, shoes, moulding corners, tile spacers	Smooth rocks, slate, sticks, logs, tree slices, stumps, acorns, beans, seeds, pods, flat leaves, crab apples, pine cones, dry bones, shells, coconut halves, snowballs, ice cubes, kindling, branches for "planting" in rows	Large hollow blocks, crates, cable spools, palettes, bricks, cardboard boxes, furniture, ladders, barrels, branches, tires, logs, cords of wood, stepping stones, Twister	Bread bag clips, cups, nesting cups, leftover kitchen/bath tiles, taped up cereal boxes (etc), empty bottles, sensory bottles, cardboard tubes, K-cups, solo cups, tissue boxes, paint swatches	Mirrors, empty frames, tray with ledge, flat bottomed cake pans, shallow boxes, light box, yard stick, T-square, level, ruler	Snap Circuits, Froebel gift sets, tangrams, Lego, Jenga, geometric shape builders, inset puzzles, wooden peg board toys, mosaic kits, bowling set, nesting dolls, Citiblocs, Katamino blocks, Kapla, KEVA, Rush Hour game, dinky cars, parking garage
Makeovers, body paint, fashion dolls, mermaids, robots, shape shifters, werewolves, costumes, mixing media, room design, drawing on oneself	Transformation	scarves, clothes pins, hair rollers, string, yarn, ribbons, wire, mardi gras beads, pipes, chicken wire, beads, gems, pins, sequins, buttons, picture frames, paint chip cards, bingo chips, prisms, bottles of layered liquids, water beads, shaving cream, body paint, hair rollers, elastics, plaster cloth, ice molds, soap suds, battery operated Christmas lights, googly eyes	water, clay, sand, leaves, mud, flowers, weeds, dried herbs, dry goods, pinecones in water, tree needles, polishing stones, peeling bark, feathers, wood pieces, branches, sticks, vines, rocks for painting, pea gravel, seeds, 'Old Man's Beard',	Wood pallets, mud kitchen, landscaping tools, rake, shovel loose bricks, large cardboard boxes, paint rollers	Styrofoam heads, fabric remnants, boxes, paper tubes, binder clips, wrapping paper, old clothes, jewelry, egg cartons, wax from Babybel cheese, empty K-cups, bread tabs, elastics, rubber bands, twist ties, fashion dolls or plastic toys with faces/paint removed.	Mirrors, Plexiglas, spatulas, rakes, mixing spoons, squeeze bottles, spray bottles, mashers, mortar and pestle, rolling pin, cake pans, Light table, plastic bin, water basin, flashlight, magnifying glass	Mr. Potato Head, Dolls with clothes, Building sets, Lite Brite, Magnatiles, Light & Color kits, Marble run, Thermal reactive toys, Plasticine, Creature builders, Rock Tumbler, Color & Cuddle washable toys
Vehicles, strollers, lawn mowers, parades, sports, pushing objects and furniture around, scribbling left and right, making blocks into roads, balancing on curbs, waving flags, shakers	Dynamic Horizontal	Ping pong balls, elastics, marbles, string, yarn, dowels, popsicle sticks, dominoes, blocks of uniform size for road building, playing cards, ribbons, chains, mardi gras beads, pipes, marker caps, paint chip cards, flags, Frisbee, rubber ball, koosh ball,	Rocks for tossing into water, sticks, logs, acorns, crab apples, insects, floating objects: pine cones, sticks, wood pieces, plants, flowers, feathers	Streams, ditches, paths, trenches, plastic rain gutters, flat boards, 4x4's, cylindrical concrete forms, plastic culverts, tires, wagon, sled	Bottles (for bowling), wrapping paper tubes, mailer tubes, floor board remnants, oral syringes with water, zippers, pipes, wheels, cylindrical containers, old computer diskettes (for roads)	Mirrors, Plexiglas, smooth flooring or pavement, squirt bottles, square or rectangular tiles, rolling pin, level, retractable tape measure, cookie sheet, rolls of tape, clothesline, felt pads for furniture, Glide Guards	Bowling set, Magnadoodle, Marble Run, abacus, train set, toy lawn mower, push toys, ride-on toys, ramp racer, table hockey, boomerang, Hot Wheels tracks, dinky cars, Hungry Hippos
Climbing everything, playing peek-a-boo games, sitting upside down, hanging from bars, looking through holes and transparent objects, standing on toys, crawling under tables	Orientation/ Perspective	Mirror tiles, cardboard tubes, foam blocks, boards, stools and chairs, ropes, washers, prisms, marbles, tiddlywinks, stained glass, small figurines, scale models, empty picture frames	Hay bales, cornfields, reflective pools, sand, piles of leaves, large rocks, stumps, logs, coconut halves, snow, sand	plastic culvert pipe, large concrete form, ladders, stools, rope hammock, tree house, cave, barrel, Twister game	telephone books for stacking/ climbing, overturned buckets, pvc pipes, CD's, sunglasses, transparent bottles, old maps, coffee cans, dentist mirrors, sunglasses, colored lenses	Mats for laying on, puppet theatre, magnifying glass, compass, loupe, flashlights, shovels, hangers and hooks (for building downwards)	Stilts, microscope, telescope, camera, binoculars, periscope, Brik-a-blok, Crazy Forks, pop-out tunnel, tent, jungle gym, kaleidoscope, sky projector, 3D puzzles, rocking horse

About this chart: A schema is a repeated pattern of behavior a child employs in order to explore and learn about his or her environment. The lines between schemas (also called schemata), are not always clearly defined. A child may exhibit an interest in one dominant schema or many schemas at the same time. One schema may be connected with another. A dynamic horizontal schema may grow into an interest in trajectory or transporting, for example. Going through a barrier and enclosing often go hand-in-hand as well. Positioning may be a sub category of transforming, or vice versa. The chart is not intended to limit materials, but rather to illuminate an educated guess on which materials a particular child might be drawn to during open ended play.

The method in which the materials are presented may influence a child's interest. Deeper engagement can often be garnered by setting up a provocation to play which combines loose parts conducive to a child's schematic interest with other items related to a child's thematic interests.

Example: trajectory schema + interest in monkeys>
boards + logs + toy monkey + tree= monkey catapults
= hours of experimentation

Internet Resources:

<http://www.nature-play.co.uk/blog/schemas-in-childrens-play>
<https://m.dorsetforyou.com/schemas>

Books:

Loose Parts: Inspiring Play in Young Children, Lisa Daly, Miriam Beloglovsky, Jenna Daly, 2014. Redleaf Press.
Threads of Thinking: Schemas and Young Children's Learning, Cathy Nutbrown, 2011. SAGE Publications Ltd.
Getting Started with Schemas, Nikolien Van Wijk, 2009. The New Zealand Playcentre Federation
Extending Thought in Young Children, Chris Athey, 2007. SAGE Publications Ltd.