

IDAHO EARLY LEARNING EGUIDELINES

GOAL 41: CHILDREN DEMONSTRATE UNDERSTANDING OF PATTERNS, RELATIONS, AND FUNCTIONS USED TO ORGANIZE THEIR WORLD AND FACILITATE PROBLEM SOLVING.

Domain 4: General Knowledge

Sub-Domain: Mathematics and Numeracy

[Birth through 8 Months](#)

[6 to 18 Months](#)

[16 to 38 Months](#)

[36 to 60 Months](#)

[60 Months through Kindergarten](#)

DOMAIN 4: GENERAL KNOWLEDGE			
SUB-DOMAIN: MATHEMATICS AND NUMERACY			
PROPERTIES OF ORDERING			
GOAL 41: CHILDREN DEMONSTRATE UNDERSTANDING OF PATTERNS, RELATIONS, AND FUNCTIONS USED TO ORGANIZE THEIR WORLD AND FACILITATE PROBLEM SOLVING.			
Age Range	Developmental Growth	Child Indicators	Caregiver Strategies
Birth through 8 Months	Develops awareness of sounds, sights, or motor activities that occur regularly in daily routines.	<ul style="list-style-type: none"> ▪ Responds to variations in visual patterns, sounds, smells, tastes, and touch. ▪ Develops awareness of familiar sequences of events in daily routines. ▪ Begins to show expectations for familiar sequences of events in daily routines. ▪ Feels, handles, and explores objects with a variety of textures, shapes, and sizes. 	<ul style="list-style-type: none"> ▪ Provide visual patterns, variations in light, variation in music, and a variety of tactile materials both indoors and outside in the child's environment. ▪ Describe patterns and sequences during routines such as diaper changing and feeding. ▪ Offer toys that involve shapes (blocks, jar lids, plastic containers). ▪ Sing songs, use finger-plays, and read books with repeatable action patterns, familiar objects, colors, and shapes; noting similarities and differences. ▪ Offer a variety of touches (gentle, firm) and textures. ▪ Gently massage baby's arms and legs or gently rub the baby's head or forehead with a variety of textures such as a silky cloth or a cool washcloth. ▪ When feeding, use words such as "beginning" and "all done," or "full" and "empty." ▪ Talk about the sequence you use as you dress and undress the baby, as you change a diaper, clean, and feed.

DOMAIN 4: GENERAL KNOWLEDGE			
SUB-DOMAIN: MATHEMATICS AND NUMERACY			
PROPERTIES OF ORDERING			
GOAL 41: CHILDREN DEMONSTRATE UNDERSTANDING OF PATTERNS, RELATIONS, AND FUNCTIONS USED TO ORGANIZE THEIR WORLD AND FACILITATE PROBLEM SOLVING.			
Age Range	Developmental Growth	Child Indicators	Caregiver Strategies
6 to 18 Months	Notices and responds to patterns in daily routines.	<ul style="list-style-type: none"> ▪ Shows anticipation of familiar sequences of events in daily routines. ▪ Reaches for utensils, cups, or bottles when food is placed in front of them. ▪ Matches a few objects by color, shape, or size, with assistance. ▪ Matches simple two-dimensional shapes in form board and puzzles. ▪ Uses clothing for dressing, putting on hats, attempting to put on shoes or coats, and undressing self. ▪ Claps, moves to musical rhythms. ▪ Manipulates known household and classroom items (e.g. picks up toy cup and pretends to drink). 	<ul style="list-style-type: none"> ▪ Describe and discuss patterns occurring in daily events and familiar objects (e.g. actions used to make toys open or close, such as when a jack-in-the-box pops up). ▪ Tell and ask the child to tell, "What comes next? What happens next?" or "What do we do next?" during daily or familiar activities and routines such as getting dressed or brushing teeth. ▪ Sing songs, use finger-plays, and read books with repeated action patterns, familiar objects, colors, and shapes; asking the child to help describe similarities and differences. ▪ Offer the names of objects, shapes, and colors found in the child's environment. Use those words throughout the day, beginning with naming specific items, then, show that the same word can be used for another object (e.g. the red rattle and then the red coat.). ▪ Provide opportunities for the child to sort and classify familiar objects in meaningful ways (e.g. "Get your shoe from the cubby. Now, get your other shoe that is the same as that one.").

DOMAIN 4: GENERAL KNOWLEDGE			
SUB-DOMAIN: MATHEMATICS AND NUMERACY			
PROPERTIES OF ORDERING			
GOAL 41: CHILDREN DEMONSTRATE UNDERSTANDING OF PATTERNS, RELATIONS, AND FUNCTIONS USED TO ORGANIZE THEIR WORLD AND FACILITATE PROBLEM SOLVING.			
Age Range	Developmental Growth	Child Indicators	Caregiver Strategies
16 to 38 Months	Recalls and anticipates familiar sequences of events and objects and uses this to predict and respond to events.	<ul style="list-style-type: none"> ▪ Recognizes patterns in objects and events. ▪ Uses simple patterns in putting objects in order. ▪ Uses simple sequences such as socks, then shoes. ▪ Repeats actions in sequence such as sequential finger-plays. ▪ Explores matching and sequencing in games and with toys (e.g. the round block goes in the round hole, and the square block in the square hole, then we dump all of them out and start again.). ▪ Follows sequences for routines (e.g. diaper change, pajamas, brush teeth, get a drink of water, rocking chair and book, and then bed). ▪ Groups objects on the basis of visual characteristics (shape or color) or themes (functional uses such as items for scooping). ▪ Uses everyday objects that go together (e.g. shoe/sock, pencil/paper, spoon/plate). ▪ Matches simple two-dimensional shapes in form board and puzzles (circles, squares, triangles). ▪ Identifies two geometric shapes (circle, square). ▪ Sings familiar songs and clapping or marching. 	<ul style="list-style-type: none"> ▪ Point out where groups of objects belong in their surroundings (coats are hung up on coat racks or cubbies; paint is located in the art area). Talk often about how things go together. ▪ Offer verbal assistance to help children sort objects and make common relationships (e.g. "Where do we keep the scissors?" or "There, your diaper is on. What else should we put on your body?"). ▪ Provide opportunities for child to notice and describe patterns in nature (patterns in rocks, the sky, leaves, or shells). ▪ Use shapes and sequence words in daily life (e.g. "Let's cut the cornbread into squares. First we cut a line here, and then let's cut across that line.>"). ▪ Identify the features of shapes when child plays with them. ▪ Point out and talk about shapes during daily activities (e.g. "Where do you see circles?"). ▪ Provide play and art materials that have different visual attributes (thin circles, red squares, and small triangles). ▪ Demonstrate, explain, and engage child in activities that identify culturally-specific patterning in artwork or objects. ▪ Provide opportunities to help with food preparation, following a specified pattern/sequence. ▪ Play games with pattern/sequences/actions (Five Little Monkeys, Going on a Bear Hunt). ▪ Offer vocabulary that supports child's curiosity (e.g. "What do we use scissors for?" "Do all of these rocks fit in the bucket?" "Will the block sink in the water?").

DOMAIN 4: GENERAL KNOWLEDGE			
SUB-DOMAIN: MATHEMATICS AND NUMERACY			
PROPERTIES OF ORDERING			
GOAL 41: CHILDREN DEMONSTRATE UNDERSTANDING OF PATTERNS, RELATIONS, AND FUNCTIONS USED TO ORGANIZE THEIR WORLD AND FACILITATE PROBLEM SOLVING.			
Age Range	Developmental Growth	Child Indicators	Caregiver Strategies
36 to 60 Months	Sorts, orders, classifies, and forms simple patterns among objects using color, number, size, and shape.	<ul style="list-style-type: none"> ▪ Compares shape and size of familiar objects. ▪ Identifies and labels different kinds of two-dimensional shapes (square, circle, rectangle, and triangle). ▪ Sorts and builds stable structures with two- and three-dimensional shapes (e.g. unit blocks, Legos, spheres, cubes, cones). ▪ Sorts and classifies objects using vocabulary to describe and compare groups (e.g. more/less and same/different). ▪ Creates pictures and structures using various shapes. ▪ Recognizes non-geometrical shapes in nature (clouds or other things that are not circles, squares, triangles). ▪ Describes and compares characteristics of familiar geometric and non-geometric shapes in the environment, with assistance (e.g. putting away unit blocks, preparing foods, serving self at mealtimes). ▪ Puts together and takes apart shapes to make other shapes (e.g. uses two triangles to make a rectangle). ▪ Makes and describes patterns including serration based on numbers, shapes, and size. ▪ Predicts what comes next in a pattern and 	<ul style="list-style-type: none"> ▪ Engage the child in recognizing shapes in the environment (e.g. octagonal stop sign, bowls are circles). ▪ Provide a variety of increasingly complex materials related to patterns including preschool Legos, puzzles, and stringing beads. ▪ Provide opportunities for child to create art projects that use shapes (e.g. "You can draw a house by putting a triangle on top of a square." "Look at the door. What shape is it? You can draw a door in that shape."). ▪ Provide materials that can be connected and combined to create new shapes. ▪ Take child to observe murals or other community artwork; exploring together the variety of shapes used. ▪ Provide picture recipes that include step by step instructions for children to follow and complete. ▪ Play classification games with child (e.g. gather a group of items that include pairs of objects that go together - shoe/sock flower/vase, and find the items that go together). ▪ Play matching games that challenge the child to recognize what is missing. ▪ Play games that challenge the child to describe and identify shapes. ▪ Use a sensory bag or box where the child reaches in, feels, and describes an object/shape and attempts to name it. ▪ Challenge child to repeat patterns made by clapping, stomping, or with rhythm instruments. ▪ Provide materials such as pattern blocks to create patterns and designs.

		<p>completes the pattern with art materials or blocks.</p> <ul style="list-style-type: none"> ▪ Creates or extends a complex pattern with more than two repeating elements. 	<ul style="list-style-type: none"> ▪ Encourage child to retell stories, recalling a sequence of events (e.g. "The Very Hungry Caterpillar" or "Goldilocks and the Three Bears"). ▪ Set up a stage and props for children to tell, retell, and act out stories (e.g. "Three Little Pigs" or "Three Billy Goats Gruff"). ▪ Display children's daily activities in sequence. Encourage child to explore ordinal numbers (first, second, third, etc., and last) used to describe members of a sequence of objects or events. ▪ Ask child to describe or explain a sequence used during a familiar activity or routine and ask, "What comes first? What comes next? "What comes last?" ▪ Provide materials in shapes that can be used to represent or recreate murals or other art forms in the community. ▪ Offer a daily "jobs list" where children set the tables for lunch or snack, using a specific routine and items. ▪ Provide storage for materials that encourage sorting clean up (labeled separate containers for pencils or markers).
--	--	--	--

DOMAIN 4: GENERAL KNOWLEDGE			
SUB-DOMAIN: MATHEMATICS AND NUMERACY			
PROPERTIES OF ORDERING			
GOAL 41: CHILDREN DEMONSTRATE UNDERSTANDING OF PATTERNS, RELATIONS, AND FUNCTIONS USED TO ORGANIZE THEIR WORLD AND FACILITATE PROBLEM SOLVING.			
Age Range	Developmental Growth	Child Indicators	Caregiver Strategies
60 Months through Kindergarten	Sorts, classifies, and orders objects by a variety of attributes and paired common relations.	<ul style="list-style-type: none"> ▪ Recognizes, names, compares, sorts, and creates two- and three-dimensional shapes (sphere, cube, and cone). ▪ Combines shapes to create two-dimensional figures. ▪ Investigates and predicts the results of putting together and taking apart two- and three-dimensional shapes. ▪ Describes characteristics of familiar geometric and non-geometric shapes in the environment, with assistance. ▪ Recognizes and creates shapes that have symmetry. ▪ Recognizes, describes, and extends patterns; and translates from one representation to another. ▪ Uses rules/generalizations to replicate patterns. ▪ Creates own patterns applying determined rules or generalizations. 	<ul style="list-style-type: none"> ▪ Provide construction materials of varying sizes and shapes for multiple purposes (color strips of paper used to create weaving patterns). ▪ Play games with visual patterns like cards, dominoes, and dice for child to recognize pattern arrangements representing specific quantities. ▪ Help the children carry out and make graphs of surveys for likes/dislikes (e.g. survey child's favorite item from the lunch menu). ▪ Record daily lunch count or weather forecasts and complete data analysis to reveal patterns. ▪ Help child draft/illustrate picture recipes for other children to use. ▪ Play classification games that encourage child to describe, compare/contrast, match, and identify objects simultaneously. ▪ Ask child to use ordinal numbers (first, second, third) to describe or retell stories and events. ▪ Challenge child to make predictions concerning functional patterns in daily routines and activities (e.g. "What might happen if we don't count how many want milk for lunch?"). ▪ Provide opportunities for child to observe functional patterns when adding/subtracting.