

## ***IDAHO EARLY LEARNING EGUIDELINES***

### **GOAL 12: CHILDREN USE CONJECTURE, HYPOTHESIZING, AND GUESSING.**

**Domain 1:** Approaches to Learning and Cognitive Development

**Sub-Domain:** Cognition and Cognitive Processes

[Birth through 8 Months](#)

[6 to 18 Months](#)

[16 to 38 Months](#)

[36 to 60 Months](#)

[60 Months through Kindergarten](#)

[First, Second, and Third Grades](#)

DOMAIN 1: APPROACHES TO LEARNING AND COGNITIVE DEVELOPMENT			
SUB-DOMAIN: COGNITION AND COGNITIVE PROCESSES			
REASONING AND LOGIC/PROBLEM SOLVING			
GOAL 12: CHILDREN USE CONJECTURE, HYPOTHESIZING, AND GUESSING.			
Age Range	Developmental Growth	Child Indicators	Caregiver Strategies
Birth through 8 Months	Use all senses to explore environment and relationships.	<ul style="list-style-type: none"> <li>▪ Displays curiosity using senses (vision, hearing, taste, touch, smell).</li> <li>▪ Looks for or orients toward sights and sounds.</li> <li>▪ Uses fingers, sounds, and caregiver touch for soothing.</li> <li>▪ Uses sounds, gestures, and movements to impact the environment and interactions.</li> <li>▪ Looks at and listens to novel objects and sounds.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Respond to child's signals for assistance.</li> <li>▪ Provide a variety of materials with sensory character to engage a child (a mobile, an infant gym, or rattles).</li> <li>▪ Use routines to develop an individual rapport with each child to best read and respond to their individual cues.</li> <li>▪ Both initiate play and follow the child's lead when playing together.</li> <li>▪ Closely supervise babies as they play with sensory-related toys and maintain the toys so they are within the child's reach. If the toys have associated sounds, be sure the sound is working.</li> <li>▪ Rearrange and redirect toys that become frustrating or out of reach of the baby.</li> </ul>

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6 to 18 Months	Takes some risks to actively explore and interact with familiar people, objects, and settings.	<ul style="list-style-type: none"> <li>▪ Engages in goal-directed behavior.</li> <li>▪ Shows persistence in getting a desired object.</li> <li>▪ Bases problem solving in exploration and trial and error with objects.</li> <li>▪ Begins to observe other's actions in relationship to their own.</li> <li>▪ Uses varying strategies to explore unfamiliar objects.</li> <li>▪ Resists unfamiliar situations and people (e.g. food, strangers, animals, novel places).</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use the child's developing mobility to set up exploration activities.</li> <li>▪ Recognize child's attempts at autonomy and curiosity, and appropriately support those attempts.</li> <li>▪ Be aware of safety and set up exploration in a safe environment where child can explore without adult interference.</li> <li>▪ Provide toys and objects for stacking, banging, and building.</li> <li>▪ In child care, offer ample toys for all the children to actively explore without waiting.</li> <li>▪ In child care, assign each child a primary caregiver who is familiar and is well-trusted by the child.</li> <li>▪ Provide multi-sensory objects (soft, hard, rough, smooth, fuzzy, loud, soft).</li> <li>▪ Change toys occasionally to provide stimulation, keeping favored toys, as well.</li> <li>▪ Offer unfamiliar foods accompanied with familiar foods, and give ample opportunity for the child to smell, touch, and taste.</li> <li>▪ After initial presentation of unfamiliar or rejected foods, continue to offer that food to help the child better know the food.</li> </ul>

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16 to 38 Months	Initiates actions to see reactions.	<ul style="list-style-type: none"> <li>▪ Experiments with effect of own actions on objects and people.</li> <li>▪ Seeks to independently explore familiar surroundings.</li> <li>▪ Observes others' actions to see the effect they have on objects and people.</li> <li>▪ Uses repetition to learn about actions and consequences.</li> <li>▪ Begins to see how one thing leads to another.</li> <li>▪ Looks longer at surprising or irrational events than at a predictable event. May want the surprise to occur again, or to trigger the novel experience.</li> <li>▪ Needs and often seeks adult help and for resolving conflicts in actions and unexpected reactions.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Describe cause and effect outcomes (e.g. "Look, you pulled the string and the toy came to you!").</li> <li>▪ Offer toys and schedules where children have time to repeatedly play with that item or engage in that activity to experiment with objects to see outcomes.</li> <li>▪ In child care, offer multiples of toys that are novel and very popular so children can sustain exploration.</li> <li>▪ Children of this age begin to take turns, but not share items. Be ready to help redirect children as conflicts occur.</li> <li>▪ Use, "What might happen next," language as children act and anticipate the outcome of their actions.</li> <li>▪ Refrain from intervening if a child is practicing a skill until the child asks for help or shows frustration.</li> </ul>

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36 to 60 Months	Uses a repertoire of thinking and language skills for testing ideas about things and relationships.	<ul style="list-style-type: none"> <li>▪ Asks questions to get more information about why something happens.</li> <li>▪ Explains the effects that simple actions have and their outcomes.</li> <li>▪ Recognizes which object or element of an object causes the effect in simple relationships.</li> <li>▪ Answers “what next” questions.</li> <li>▪ Holds more than one attribute in mind.</li> <li>▪ Becomes aware that other people can have different ideas or thoughts from their own.</li> <li>▪ Categorizes objects into groups.</li> <li>▪ Makes, recognizes, and extends patterns.</li> <li>▪ Uses less magical thinking and more thinking about causation and planned actions.</li> <li>▪ Uses “why” more than other question words, to ask questions as they hypothesize.</li> <li>▪ Begins to correctly use “Who,” “What,” “Where,” and “When” to gain information to form hypothesis.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use child-centered play, for the child to discover and practice cause and effect, where the adult direction is limited.</li> <li>▪ Support cause and effect activities by asking extending questions (e.g. “What do you think will happen next?”), or offering another prop or problem statement into the activity.</li> <li>▪ Help child know when to use “wh” questions; “Why,” “Who,” “What,” “Where,” and “When.”</li> <li>▪ Enrich the environment with enough open-ended materials and time for exploration (blocks, water table, outdoors, sand, and digging tools).</li> <li>▪ Pose questions when children are experimenting (e.g. “What do you think will happen if...” “Can you make that happen again?”).</li> </ul>

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60 Months through Kindergarten	Systematically tests ideas about how things work and applies those systems to social and physical settings.	<ul style="list-style-type: none"> <li>▪ Structures experiments to see how changes in one factor can influence changes in others (sets up domino chain to test how knocking over one domino topples all of the others).</li> <li>▪ Explains how one change can lead to another.</li> <li>▪ Explains how simple events occur (tells another child how to make orange from red and yellow paint).</li> <li>▪ Sets up and pursues purposeful experimentation; trying out different solutions (works with a pulley and string to raise blocks from floor to table top). Makes predications about what will happen next.</li> <li>▪ Builds an awareness of other peoples' points of view and feelings.</li> <li>▪ Uses multiple attributes of objects and situations to explain a problem and its possible solutions.</li> <li>▪ Uses reasoning to predict and test ideas, though may resort to magical thinking if the solution or explanation is not obvious, or quickly found.</li> <li>▪ Uses vocabulary for prediction and estimation.</li> <li>▪ Use problem-solving strategies across places, people, and things, including classifying and predicting outcomes.</li> <li>▪ Uses analogical thinking to allow transfer of problem-solving strategies to new situations.</li> <li>▪ Solves addition and subtraction word problems and adds and subtracts within 10, by using objects or drawings to represent the problem.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Engage child in experimentation; ask prediction and "what if" questions.</li> <li>▪ Provide child with a variety of materials to create experiments.</li> <li>▪ Ask children to think about their experiences and how that might help them solve a problem or come up with a solution to a social conflict.</li> <li>▪ Demonstrate, explain, and engage child in taking steps to cause an outcome.</li> <li>▪ Recognize importance of children's effectiveness in teaching one another.</li> </ul>

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<p><b>First, Second, and Third Grades</b></p>	<p>Uses the scientific method routinely, including hypothesis making and testing, prediction and estimation, evaluation, and conclusion documentation.</p>	<ul style="list-style-type: none"> <li>▪ Transfers and generalizes some kinds of problem-solving patterns and schemas to new situations and predicts outcomes.</li> <li>▪ Has clearer understanding of other peoples' actions and emotions, as separate from own.</li> <li>▪ May predict intent of other child's actions.</li> <li>▪ Uses problem-solving process, which includes classifying and reframing within co-constructed meaning.</li> <li>▪ Uses problem solving, which includes planning and mental representations of tasks, and is able to focus on the most relevant information.</li> <li>▪ Develops the capacity for purposeful experimentations and plans for a range of solutions.</li> <li>▪ Can delay gratification to find a solution.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Recognize the impact of children teaching one another.</li> <li>▪ Ask real questions to help children expand and explain their thinking (e.g. "Have you figured out why the vinegar in your mixture smells so strong?" "What was the difference when you used the watercolor on wet paper and when you tried it on dry paper?").</li> <li>▪ Guide the children to explain their thoughts in relationships to solving activities, problems, experiments, and situations.</li> <li>▪ Arrange opportunities for children to work in small groups or teams.</li> <li>▪ Engage children in "if/then" scenarios that are both fanciful and realistic (e.g. "If cows could fly, then ..." or "If a car has a flat tire, then ...").</li> <li>▪ Offer a variety of starter ideas and materials to create experiments.</li> <li>▪ Observe activities and listen to children's comments to determine what you might include in lesson plans to expand their ability to think using the scientific method.</li> <li>▪ Demonstrate, explain, and engage child in taking steps to cause an outcome.</li> </ul>