

Cognitive Development (Indicators for 34 - 48 months)

Numeracy and Operations

a. Mathematical Practices

- ☐ Participates in whole group and small group math-focused activities (e.g., joins in singing a counting/sequential song such as “Going on a Bear Hunt”).
- ☐ Uses math for “problem solving” in the physical and social world.
- ☐ Communicates math ideas verbally and non-verbally.

b. Counting and Cardinality Cluster

- ☐ Counts to 10 and beyond by ones with increasing accuracy.
- ☐ Recognizes and labels written numerals 0-5.
- ☐ Counts items to 5, recognizing the last number tells a total (cardinality).

c. Operations and Algebraic Thinking

- ☐ Transitions from rote counting to 1:1 correspondence.
- ☐ Responds with number words and/or counting strategy, when asked the question “How many?”.

Geometric Reasoning

a. Geometry

- ☐ Recognizes and names/describes simple shapes.
- ☐ Matches similar shapes.
- ☐ Explores three-dimensional and two-dimensional shapes in the environment.
- ☐ Uses puzzles and other learning materials to demonstrate beginning part/whole, shape and orientation concepts to solve problems.
- ☐ Uses physical movement to gain understanding of orientation and directionality (i.e. near, far, beside, up, over, left).

Statistical Reasoning

a. Measurement and Data

- ☐ Matches and groups similar objects.
- ☐ Recognizes measurable features of objects.
- ☐ Sorts, orders and groups familiar objects by a single feature (e.g., size, shape, color, texture, orientation, and position) and explains the reason.
- ☐ Recognizes and copies simple patterns in the environment, including sound and movement patterns.
- ☐ Demonstrates an understanding of time periods.



- ☐ Relates concepts of past, present and future to daily activities.
- ☐ Participates in data collection activities.

Scientific Practices and Reasoning

a. Exploration

- ☐ Explores and describes the immediate environment (materials, living things, patterns and cycles in nature).
- ☐ Experiments with new materials, technology and equipment.
- ☐ Investigates and problem solves through active exploration.
- ☐ Explores and describes changes in materials and cause and effect.

b. Application of science Concepts and Practices

- ☐ Poses questions about objects and events.
- ☐ Seeks answers to questions as children explore through play and projects.
- ☐ Describes or shows how objects and events are the same and different.
- ☐ Observes using senses and simple tools to explore properties of objects and living things safely (color, scent, shape, size, texture, weight).
- ☐ With adult guidance, participates in science-based explorations.
- ☐ With adult guidance, shares ideas and discoveries through conversations with peers and adults, simple drawings, dictation, early writing and symbol charts.

Physical Science and Engineering

a. Motion and Stability: Forces and Interactions

- ☐ Using senses, tools and observations, begins to experiment with objects in motion and pushing/pulling.
- ☐ Begins to observe that matter can change state (i.e. solid to liquid, liquid to gas).
- ☐ Compares and contrasts light and shadow in outdoor and indoor environments.
- ☐ Begins to explore how the size, shape and material of objects impact the sounds they make.

b. Engineering

- ☐ Uses common objects that function as simple machines during play.

Earth Science

a. Earth's Systems

- ☐ Using simple tools, explores differences between soil, sand and water under different conditions.
- ☐ Observes, describes and compares different weather conditions (rainy, cold, warm, snowy, cloudy).
- ☐ Suggests how weather affects human activities.

b. The Earth and Human Activity



- ☐ Begins to describe how human activity affects the environment.
- ☐ Uses water and energy responsibly (e.g., turning off lights when not in use, not wasting water).

Life Science

a. Organisms: Structures and Processes

- ☐ Uses senses to observe and describe properties of familiar plants and animals.
- ☐ Begins to use vocabulary for naming and describing plants and animals moving from general to specific labels.
- ☐ Compares properties and needs of similar and different plants and animals.
- ☐ Cares for plants and animals in the classroom and surrounding area and describes their needs.

People, Communities, and their Environments

a. Civics and Government

- ☐ Recognizes the importance of their role as a member of their family, class and community.
- ☐ Identifies activities that people can participate in to take care of the environment.
- ☐ Participates in developing classroom rules.
- ☐ With prompting and support, children participate in the classroom community by interacting with other children and adults in a formal or group setting.

b. Economics

- ☐ Identifies different types of employment, including work done in the home, school and community.
- ☐ Explores materials that build a foundation for understanding economic concepts such as using money to buy goods and services, trading and sustainability.

c. Geography

- ☐ Recognizes that people share the environment with other people, animals and plants.
- ☐ Recognizes various ways people communications, travel, live and work.
- ☐ Recognizes aspects of the environment, such as roads, buildings, trees, gardens, wildlife, bodies of water, or land formations.

d. History and Culture

- ☐ Uses words to describe time (e.g., yesterday, names of seasons, before).
- ☐ With prompting and support, recognizes differences and commonalities in culture, ethnicity and abilities within the classroom and immediate communities.

