

Cognitive Development (Indicators for 46 - 60 months)

Numeracy and Operations

a. Mathematical Practices

- ☐ Identifies math concepts within their learning environments.
- ☐ Recognizes the usefulness of math in everyday tasks.
- ☐ Uses math to solve problems in the context of classroom and home experiences.
- ☐ Represents mathematical concepts using classroom materials.
- ☐ Uses math-related skills, such as sorting, counting and matching in the course of everyday classroom experiences.
- ☐ Uses math terms in the course of everyday conversations.

b. Counting and Cardinality Cluster

- ☐ Counts to 20 and beyond by ones with increasing accuracy.
- ☐ Recognizes and labels written numerals 0-10.
- ☐ Begins to recognize small quantities immediately (subitize) to determine how many.
- ☐ Counts items to 10, recognizing the last number tells how many (cardinality).
- ☐ Begins to write number symbols 0-10.
- ☐ Identifies whether the number of objects in one group is more than, less than, or equal to the number of objects in another group up to 10.

c. Operations and Algebraic Thinking

- ☐ Counts using 1:1 correspondence with increasing accuracy.
- ☐ Represents addition and subtraction with materials, drawing and role play.
- ☐ Uses concrete objects to model real-world addition and subtraction up to 10 (composing and decomposing numbers).
- ☐ Solves story problems using sets of up to 10 objects.

Geometric Reasoning

a. Geometry

- ☐ Describes, sorts and classifies shapes using some attributes such as size, sides and other properties.
- ☐ Breaks down shapes into parts and whole.
- ☐ Discovers connections between formal geometric shapes and the surrounding environment to make three-dimensional and two-dimensional shapes by building, drawing, or labeling.
- ☐ Demonstrates understanding of directionality describing positions of objects in relationship to each other.



Statistical Reasoning

a. Measurement and Data

- ☐ Describes, sorts and names groups (classifies) of objects using one or more attributes.
- ☐ Identifies and compares measurable features of everyday objects, using appropriate vocabulary.
- ☐ Begins to use words such as “first”, “next” and “last”.
- ☐ Uses measurable features to order materials sequentially.
- ☐ Recognizes, copies, creates and continues simple patterns using objects.
- ☐ Uses past and future tenses and time words appropriately.
- ☐ Begins to understand concepts such as yesterday, today and tomorrow.
- ☐ Responds to questions that can be answered through data analysis.
- ☐ Is able to show data using simple charts and graphs.
- ☐ Uses non-standard units of measurement such as cubes, links, counting bear or hands, to measure objects.
- ☐ Uses measurement terms and concepts in everyday life.

Scientific Practices and Reasoning

a. Exploration

- ☐ Uses new vocabulary when investigating materials, living things, patterns and cycles in nature.
- ☐ Uses and/or describes tools and technology that aid in solving a problem or performing a task.
- ☐ Plans and cooperatively carries out investigations to answer questions, test ideas and/or solve problems.
- ☐ Experiments with materials to change outcomes.

b. Application of Science Concepts and Practices

- ☐ Begins to use evidence gathered during play/project work and books/media to answer questions.
- ☐ Begins to classify objects and living things into categories.
- ☐ Describes what can be discovered using different senses and tools.
- ☐ Plans and carries out investigations with others.
- ☐ Makes and tests predictions.
- ☐ Collects and records information through drawing, writing, dictation and taking photographs.
- ☐ Draws conclusions and shares explanations based on evidence, prior knowledge and the ideas of others.

Physical Science and Engineering

a. Motion and Stability: Forces and Interactions



- ☐ Uses senses and tools (including technology) to observe and describe the strength and direction of forces.
- ☐ Plans and carries out comparisons of motion and force using common objects and materials (e.g., which objects move faster or slower, which object goes faster or further when you just let go or give it a push).
- ☐ Recognizes different types of matter (e.g., solid, liquid).
- ☐ Explores different sources of light, how light reflects and what happens when light is blocked.
- ☐ Creates and describes sounds and what makes them change.

b. Engineering

- ☐ Compares tools or solutions and reflects on what works well.
- ☐ Uses common objects to build simple machines that solve a problem.

Earth Science

a. Earth's Systems

- ☐ Uses senses and tools (including technology) to describe and discuss how weather changes over time.
- ☐ Plans and carries out simple experiments with rocks, sand, water or soil and records observations using drawings, discussions, graphs and technology, such as digital microscopes.

b. The Earth and Human Activity

- ☐ Demonstrates, through observation and investigation, an understanding that human activity impacts the earth (uses of resources to make products).

Life Science

a. Organisms: Structures and Processes

- ☐ Compares how people and other animals grow and change (Life cycles).
- ☐ Uses vocabulary for naming plants and animals moving beyond general labels and begins to connect how they look to where and how they live.
- ☐ Develops plans, based on observations and guided inquiry, to care for plants and animals in the classroom and surrounding area.
- ☐ Begins to describe how animals adapt to weather conditions.
- ☐ Identifies problems affecting the lives of plants and animals (including themselves) and generates possible solutions.

People, Communities, and their Environments

a. Civics and Government



- ☐ Demonstrates a basic understanding of how people can positively affect their family, class and community.
- ☐ Understands and discusses why responsibilities are important.
- ☐ Recognizes different rules apply to different environments (e.g., classroom vs field trips).
- ☐ Assists, with support and guidance, in developing and participating in activities designed to care for the environment and/or community.

b. Economics

- ☐ Explores and discusses differences between basic wants and needs.
- ☐ Identifies and explains how basic human needs of food, clothing, shelter and transportation are met.
- ☐ Begins to recognize money and its uses.

c. Geography

- ☐ With support recognizes that environmental changes can impact people, animals and plants.
- ☐ Describes and sequences physical features of the community through visual representation.
- ☐ Develops an understanding of the use and representation of simple maps, globes and other geographic tools.
- ☐ Displays awareness that geographic features influence how people experience, navigate and work in their community and in other geographic regions.

d. History and Culture

- ☐ Uses words and phrases correctly to indicate changes that take place over time.
- ☐ Observes and recognizes changes that take place over time in the family, classroom and community.
- ☐ Recalls events that happened in the past, such as a family or personal history.
- ☐ Displays awareness of similarities and differences among individuals and families.