

KinderBots

Age Range: 4 – 5

Cycle Overview

The **KinderBots program** is an introductory cycle designed to spark curiosity and foundational understanding in robotics, engineering, and computational thinking. Through hands-on activities, storytelling, and playful exploration, young learners engage with essential concepts such as movement, force, sequencing, balance, and simple mechanical systems. Rather than focusing on technical complexities, children learn through interactive experiences—experimenting with push and pull, recognizing patterns, understanding spatial awareness, and exploring basic problem-solving skills in a creative and engaging environment.

Skills and Competencies

- **Competency:** Develops foundational problem-solving skills by evaluating information and challenges through logical reasoning and hands-on exploration, fostering informed decision-making with accuracy and integrity.
- **Future Skills:** Sensory Exploration; Early Collaboration; Pattern Recognition
- **Judgment Skills:** Observation Skills; Cause-Effect Thinking; Confidence Building
- **Technical Skills:** Fine Motor Development; Directional Awareness, Creative Construction

Level's Distribution		
Level 1	Level 2	Level 3
✓ Introduce robots as simple machines that help people through play and exploration.	✓ Introduce simple machines and their uses through hands-on building activities.	✓ Encourage teamwork and communication through interactive icebreaker activities.
✓ Develop an understanding of movement speeds and sequences through guided activities.	✓ Develop problem-solving skills by constructing models that demonstrate movement.	✓ Develop directional awareness by linking robot movements to human expressions.
✓ Enhance spatial awareness by practicing directional movements and positioning.	✓ Reinforce pattern recognition by practicing repetition in coding and play.	✓ Strengthen logical thinking by exploring loops and repetition in movement sequences.
✓ Explore balance and stability through body coordination exercises and object stacking.	✓ Explore how transportation relies on movement, balance, and mechanical design.	✓ Advance spatial awareness by practicing complex multi-directional navigation.
✓ Discover the effects of force by experimenting with pushing and pulling objects.	✓ Connect science and nature by learning how animals use force to move.	✓ Apply force concepts by completing hands-on missions that involve movement and mechanics.
✓ Observe how wind moves objects through hands-on experiments and play.	✓ Investigate the power of wind and how different cultures use wind energy.	✓ Integrate all learned concepts into a final project that promotes creativity and problem-solving.

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