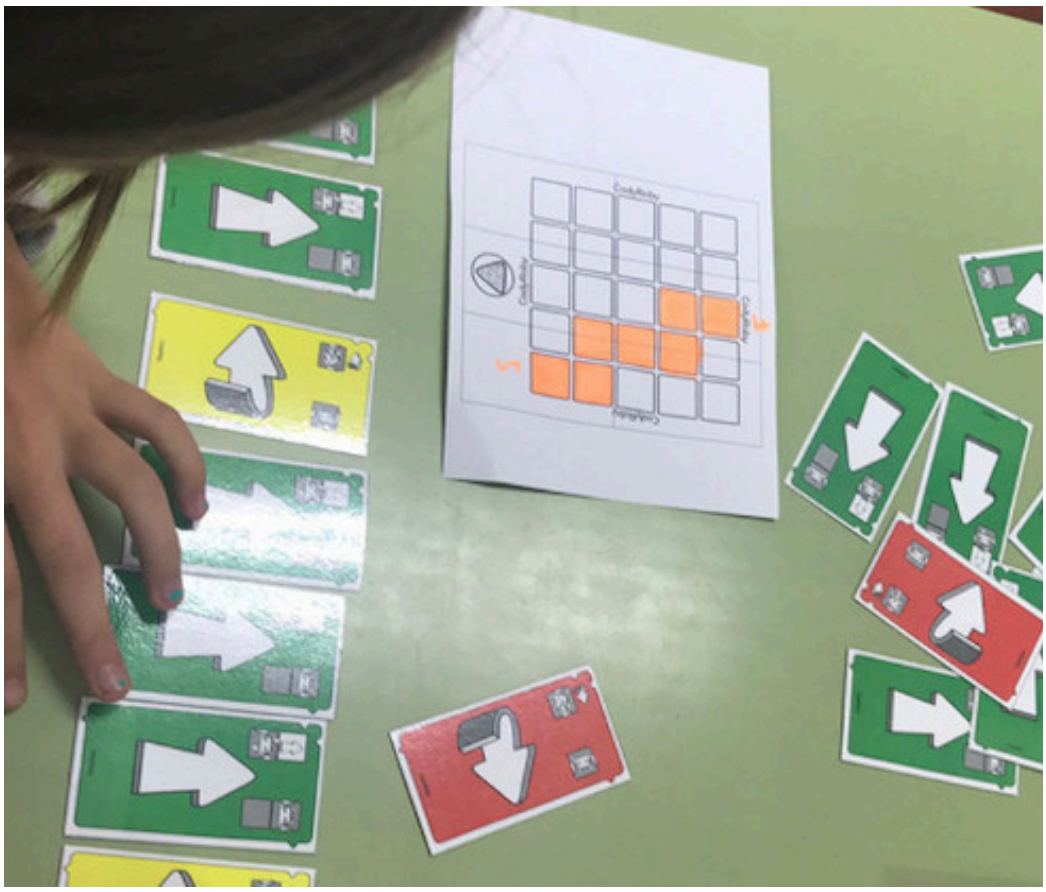
Cody Roby



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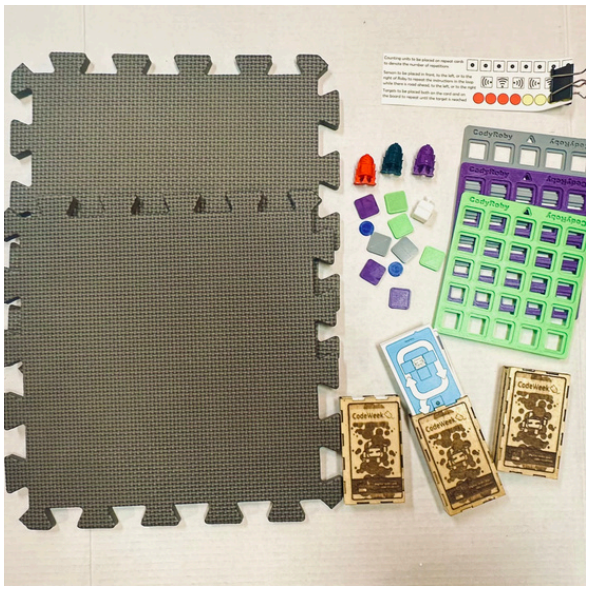

The Cody Roby STEAM Kit brings unplugged coding into the classroom through a collaborative and hands-on card game format. With three game boards included, students use direction cards to guide “Roby” through simple mazes and challenges. By sequencing movement commands (forward, left, right), students develop early computational thinking, logical reasoning, and teamwork—all without screens or devices. Cody Roby is a fun, accessible way to teach algorithmic thinking and problem decomposition through physical movement and play.

Grade Level

2nd - 6th

Group Size

2 - 4 students per game board

Time Duration

30 - 60 minutes

Content of Kits

Components

- Foam tiles
- Cody Roby cards
- Cody Roby boards
- Cody Roby game pieces

Usage

Getting Started

1. **Introduce the Roles and Cards -** Explain that students will guide “Roby” using directional command cards: move forward, turn left, and turn right.
2. **Demonstrate a Sample Turn -** Show how one student plays as the programmer (chooses the sequence), one as Roby (moves), and others can serve as checker or debugger.
3. **Start with a Simple Challenge -** Place Roby at a starting square and assign an endpoint. Ask students to plan a short sequence to reach the goal.
4. **Encourage Predict-Then-Test -** Before Roby moves, have students walk through the steps in their minds or on paper to predict the path.
5. **Set Behavior Norms -** Emphasize patience, taking turns, and discussing strategies out loud to build collaborative habits.

Storage

- Return to kit components to the storage bin provided.
- Store in a dry place.

Troubleshooting

- Students Get Lost in Sequences - Encourage them to lay cards out in a line and talk through the path step by step before executing.
- Confusion About Left/Right Turns - Have students stand and physically turn to feel the directions, or mark Roby with a “front” arrow for orientation.
- Not Enough Challenge - Introduce obstacles, “walls,” or timed challenges to increase difficulty and engagement.
- Disputes Over Card Choices - Use a collaborative approach: allow all team members to contribute before agreeing on a final sequence.

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Activity Guide

Beginner

Path to the Goal
Students place Roby at a start point and use the movement cards to reach a visible goal. They practice laying down the correct card sequence (e.g., forward, right, forward) to help Roby arrive at the destination, reinforcing left/right orientation and planning skills.

Intermediate

Obstacle Maze
Place obstacles (e.g., blocks or cards) on the Cody Roby board. Students must create a path around them to reach the goal. If their first solution fails, they identify the mistake and revise their command sequence—building resilience and iteration habits.

Advanced

Program Battle
In pairs or small groups, students compete by programming two Robys on the same board. The first to reach the goal wins—but they must anticipate opponent paths and avoid conflicts. This game introduces forward planning and basic strategy.

Extension Activities:

Design Your Own Challenge Map
Students design their own Cody Roby game board with custom goals, obstacles, or rules. They then swap with another group to solve each other's puzzles, encouraging creativity, clear communication, and deeper engagement with logic and spatial reasoning.

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Learning Extensions

STEAM Connections: Coding - Technology

Learning Objectives:

- Understand and apply the basics of sequencing and algorithmic thinking.
- Develop spatial reasoning by planning and executing directional movement.
- Strengthen problem-solving through debugging and iterative thinking.
- Collaborate in teams to create, test, and revise coding strategies.
- Communicate steps and logic clearly while working within structured rules.

Career Connections:

- **Software Developer –** Uses sequencing and logic to build and debug programs.
- **Robotics Engineer –** Designs and codes robots to follow precise movement patterns.
- **Game Designer –** Creates interactive systems using logic, flow, and rules.
- **Systems Analyst –** Breaks down problems and proposes step-by-step solutions in technical systems.
- **Computer Science Educator –** Teaches foundational concepts in coding and logic.

Essential Employability Skills:

- Critical thinking
- Teamwork
- Technical literacy
- Analytical reasoning
- Communication

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Resources and Accessibility

Safety Guidelines

- Use Clean, Dry Surfaces - Play Cody Roby on clean tabletops or floors to avoid slipping, tripping, or damage to the boards or cards.
- Avoid Bending or Tearing Cards - Encourage students to handle cards carefully to keep them flat and readable for all users.
- Supervise Small Pieces - If using markers or tokens for Roby, ensure they're age-appropriate and not a choking hazard for younger students.

Accessibility

- **Provide Enlarged Cards or Boards -** Offer large-print versions of direction cards and larger game boards for students with visual needs.
- **Use Tactile or Color-Coded Supports -** Add textured stickers or bold color borders to cards for easier identification by touch or sight.
- **Allow Flexible Participation Roles -** Students who prefer not to move physical pieces can be programmers, checkers, or narrators—equally vital to team success.
- **Offer Verbal Instruction Options -** Allow students to call out moves instead of placing cards physically if fine motor skills are limited

Library Catalog

Library Resources

Feedback

QR to feedback survey