



# CODING AND PROGRAMMING

Grades K-3/4-8

K-3 Students will play a fun coding game.

4-8 Students will program the robots.

## DIA DUIT!

5 min

## SNACK & FREE PLAY

30 min

## STORY TIME

15 min

## STEM TIME

50 min

### Materials:

- Printed game
- Scissors

### ● Dia Duit is Irish for hello! (pronounced Jee-ah Ghwitch)

Greet your students. Be friendly. Use their name, ask a question, give a high five, or thumbs-up! Take roll. Mark down which students took a snack and tally how many snacks were given out.

### Enjoy Free Play:

Students will have their snack and enjoy time to free play.

### Read the story:

Read to your students outside as they sit in a circle. Older students may choose to read their own books.

### Grades K-3: Play a coding game

In this activity, students will help a fairy tale character collect necessary items and reach their destination by coding. Print out a few of each game sheet, and place them around the classroom for the students to go around and choose which game boards they would like to play.

### Instructions:

1. Cut apart the cards and game pieces.
2. Place the printed figurine on the block labeled "Start."
3. Explain to the students that the object of the game is to get their figurine to collect every item on the board and then reach the "Finish" block. To do this, they will utilize the "Move Forward", "Turn Left", and "Turn Right" cards.
4. Demonstrate, for example, if a student would like to make the figurine turn right, they can play the "Turn Right" card.
5. Advise them to keep in mind that the "Turn Left" and "Turn Right" cards do not move the figurine from the block it is currently on; they simply rotate the figurine in a different direction.
6. Continue play in this fashion, collecting all of the items along the way, until the the player reaches the "Finish" block, winning the game. Then, play again with another board.
7. Deepen the difficulty of each maze with the following ideas. Add additional items to the maze for the player to collect, such as small objects around your the classroom. Position the obstacles from the extension activity in various places on the game board, instructing the player to navigate around them. Once they have completed a few mazes and fully understand the game, set a time limit to challenge them further.



## STEM TIME

50 min

### Materials:

- Chromebooks
- Robots
- Legos

## SPORTS / GAMES

30 min

### Materials:

- Basketballs
- Basketball hoops or buckets

\* Older students may choose to practice their sport instead of playing the game of the day.

## HOMEWORK / FREEPLAY

20 min

## CLEAN UP / DISMISSAL

Go Further: Unlock bonus levels with these extensions.

THINK IT OUT: Have the players plan their code for the entire game by setting out the cards in order from start to finish. Then, go through the code together to test their solution.

LEVEL-UP: Have the player use the extension action cards to make their figurine move more than one step at a time. For example, to make their figurine move 3 steps forward, they can play the following sequence: "REPEAT 3", "Move Forward", "END REPEAT". The player must always use the "REPEAT #" card first, then close the loop with an "END REPEAT" card. The rest of game play remains the same.

GET CREATIVE: Have the players design their own mazes with an original storyline, utilizing objects from around the classroom or drawing their own figurines and items.

### Grades 4-8: Programming

#### Instructions:

STEM Coaches will go to the portal and help students with the next Edison programming lesson they are on. Students may choose to build a Lego creation on top of their robots.

Link to portal: <https://www.stemexpandedlearning.com/robotics>

### R.O.B.O.T. Basketball Game

Instructions- Organize students evenly into one team per basket. Ideally this game is played with about 5 players. If there aren't enough basketball hoops, buckets may be used in place of a hoop. To play the game, students will decide on a set order that each student will have a turn to go. The first player can shoot the ball into the basket from anywhere on the court. If the first player misses, the second player can shoot from anywhere on the court. But if the first player makes it, the second player can try to shoot from the same place and in the same way as the first. If they make it, the third person shoots from the same place. If the second person misses, they receive a letter, and the third person can choose where they want to shoot from. The game will continue in this pattern. Once a player receives all the letters, they are out of the game. The game ends when one person remains.

#### Instructions:

Allow your students some homework time. If they need help let them know you can help them. If they do not have any homework they can have some reading time, or they can have free time to go outside and play.

### Clean up/pack up/dismissal

Clean up, pack up and practice lining up.

