

## How to Play Rosie's Runtime

### Overview

In the Rosie's Runtime game, Rosie the robotic dog wants to get her bones and bring them back to her doghouse, but she must not get her paws dirty! Use the Rosie code cards to make a program that tells Rosie how to get to her bones and then go to her doghouse. Remember to jump over mud puddles!

### Rules

- Rosie must land on a bone before she can pick it up.
- Rosie cannot jump over a spot if doing so would take her off of the game grid.
- Rosie has to land on her doghouse to finish the game.

### Game Pieces

Name	Action
Move Forward	Step onto the spot directly in front of you. If there is no spot in front of you, fall off the path!
Turn Left	Stand in place and turn to the left $\frac{1}{4}$ turn, or 90 degrees.
Turn Right	Stand in place and turn to the right $\frac{1}{4}$ turn, or 90 degrees.
Jump Over	Jump over the spot directly in front of you. If there is no spot in front of you, or if there is no spot to land on, fall off the path!
Take Bone	If there is a bone tile on the spot on which you are standing, pick it up.

### Floor Tiles

Name	Action
Start tile	Rosie stands on the Start tile and waits to receive her first instruction.
Bone tiles	Rosie must pick up Bone tiles and carry them to her doghouse.
Mud Puddle tiles	Mud Puddle tiles mark spots that must be avoided.
Doghouse tile	Rosie must step onto the Doghouse tile as she carries out the last instruction in the program.

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### Setting Up the Game

Set up the game mat grid in an open space in the classroom. Place the Start tile, the Doghouse tile, two Bone tiles, and four Mud tiles on the grid in a way that makes it relatively easy to make a path to both bones and then to the doghouse. The teacher can vary this based on the age and skill level of the students. One suggestion for a game setup is as follows:

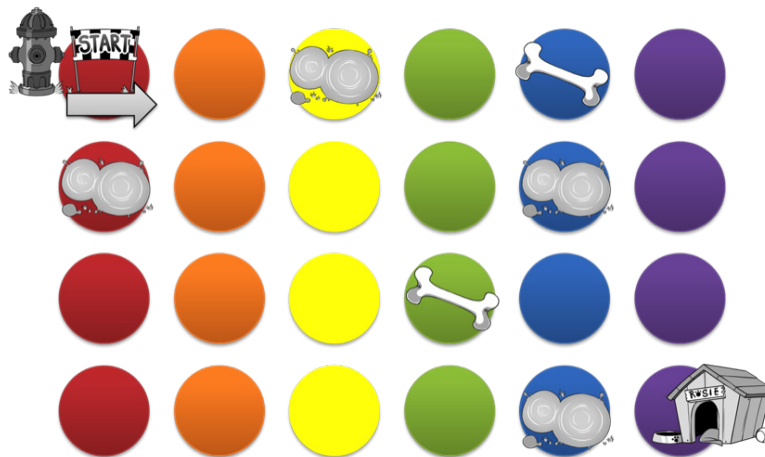
For more suggestions, see Suggested Game Arrangements on page 4.

### Playing the Game

The object of the game is to put code cards into a sequence that will give Rosie the Robotic Dog step-by-step instructions to move around the game mat according to the rules. First, work together as a class to make one program. Then, change the tiles on the game mat and break into teams of four or five students to solve a new challenge.

### Writing a Program for Rosie

Build a program by putting code cards in a sequence to tell Rosie the steps she should take.



This sequence of cards will be known as Rosie's program. When followed exactly, the program will direct Rosie through the spots on the game mat so that she jumps over puddles, picks up her bones, and makes her way to her doghouse.

### Runtime for Rosie!

The teacher puts on dog ears to play the part of Rosie and waits on the starting spot. The programmers bring their program to the mat as a stack of cards with the first instruction on top. One programmer from

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the team should hand Rosie one code card at a time. Rosie follows the instruction on the card and then waits for the next card. *Rosie will keep the cards in order just in case she needs to give the program back to the team.*

Remember, Rosie is a robot, so she has a computer for a brain. That means she can only follow the commands on the code cards, and she will do exactly what the cards say. *Rosie should be extra careful to take each instruction literally!*

### Finding and Fixing Bugs

If Rosie steps in a puddle, goes off the grid, or doesn't have both bones with her upon arriving at the doghouse, then the programmers say, "Bug in the program!" The programmers then fix (de-bug) the program by taking back their code cards and rearranging them as needed. When they are ready to try again, the programmers hand the code cards one at a time to Rosie, who follows the instructions step by step.

When a "bug" occurs, it is up to the teacher whether to allow the students to fix the program and resume where they left off or to have the students leave the game mat, fix their program, and then start over at the starting spot.

### Game Completion

When Rosie arrives at her doghouse with both of her bones and without having stepped in any puddles, then the programmers say, "Program puccessful!"

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### Suggested Game Arrangements

