



SNAIL MAZE: SEQUENCING

COMPUTATIONAL THINKING: SEQUENCING

Every child is different. Do what works best for encouraging each child's exploration of this suggested activity.

OBJECTIVE OF THIS INVESTIGATION:

Children find the error in an adult's code to get a snail through a maze.

VOCABULARY:

- code
- sequence
- debug
- first/then
- error

MATERIALS:

- A 2D paper grid maze (attached) Note: Increase or decrease complexity dependent upon children's needs.
- Arrow cards to sequence route through grid maze (attached)
- Blank strip to place arrows in (attached)
- Small animal to lead through the maze (attached)

PROGRESSION STEPS (COMPUTATIONAL THINKING: SEQUENCING):

Visit [STEMIE Learning Trajectories](#) for details

- Complex Sequencer
- Sequence Planner
- Early Decomposer

THIS INVESTIGATION:

- Provide one of the mazes and explain the activity. (Consider starting with the easiest maze.)
"This snail wants to get through the garden to her home. Can you help her? We're going to use these arrows to help her through." Show children arrows.
"What should we tell her to do first?"
- Provide children with the arrows and blank strip with the appropriate number of steps to place their arrows in (i.e., for a three-step sequence, provide the blank three-step strip).
- Encourage children to use the arrows to create a sequence. Some things you might see kids do:
 - Talk through a plan prior to placing any arrows on the strip. **(Sequence Planner)**
 - Place arrows in the correct sequence without talking through their plan. **(Complex Sequencer)**
 - Place arrows in an incorrect sequence.
- Prompt children to lead the snail through the garden with the directions they've created.

ADAPTATIONS:

See [A Guide to Adaptations](#) for general ideas and strategies

Environment:

- Set up on the floor or a table.

Materials:

- Place Velcro on the arrows and snail so children don't knock them off the board.





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THIS INVESTIGATION (CONTINUED):

- If children did not correctly sequence the arrows and the snail does not make it to the end of the maze, model moving the snail step by step and talk through each direction.
- Encourage children to see the error in the sequence/fix the error.

ADAPTATIONS (CONTINUED):

- Use a 3D character that is easier to hold and manipulate instead of the 2D snail
- Use a preferred toy or animal to increase engagement

Instruction:

- Prompt children step-by-step for each arrow. Allow them to move the snail with each arrow they place to test the sequence as they go.
- If children do not independently sequence the arrows, model creating a sequence. Can children create a sequence for a new maze after modeling?
- Reduce the number of steps in the sequence.
- Create a different scenario of greater interest to a specific child to increase engagement (e.g., help *Thomas the Train* get to the railyard, etc.)

HOW TO CONTINUE THIS INVESTIGATION:

- Increase the complexity of the maze.
- Provide a maze with more than one way to get to the end and ask children to find an alternate route through the maze. **(Early Decomposer)**



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SUPPORT MATERIALS: TWO-STEP MAZE





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SUPPORT MATERIALS: FOUR-STEP MAZE





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SUPPORT MATERIALS: FOUR-STEP MAZE (CHALLENGE)





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SUPPORT MATERIALS: SIX-STEP MAZE





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SUPPORT MATERIALS: MULTIPLE PATHS MAZE 1



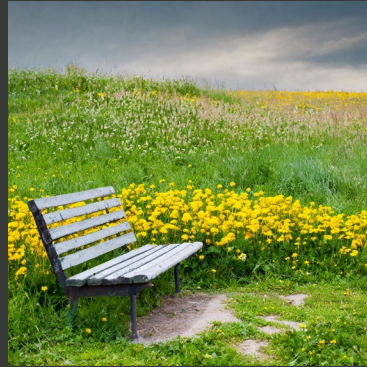


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SUPPORT MATERIALS: MULTIPLE PATHS MAZE 2





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SUPPORT MATERIALS: 2X2 GRID



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SUPPORT MATERIALS: 3X3 GRID



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SUPPORT MATERIALS: 4X4 GRID



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SUPPORT MATERIALS: SEQUENCE STRIPS

Two Step Maze Sequence Strip

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Three Step Maze Sequence Strip

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SUPPORT MATERIALS: SEQUENCE STRIPS

Four Step Maze Sequence Strip

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Six Step Maze Sequence Strip



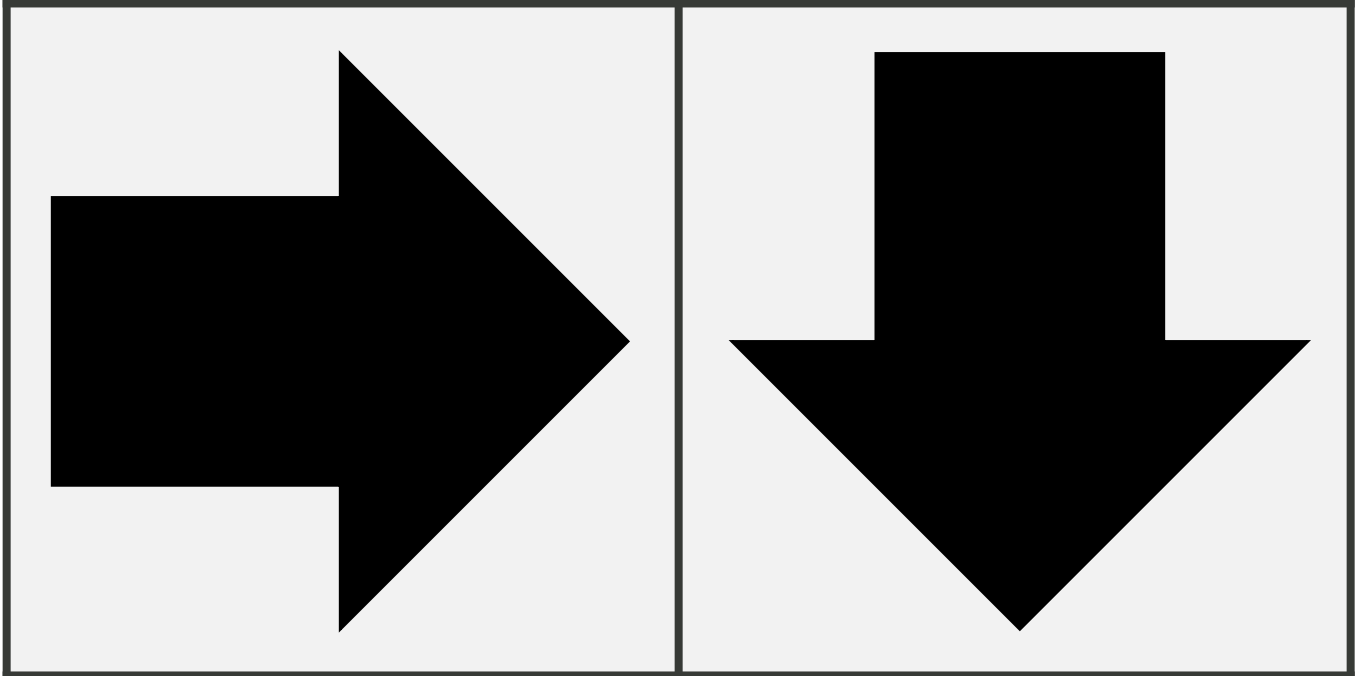
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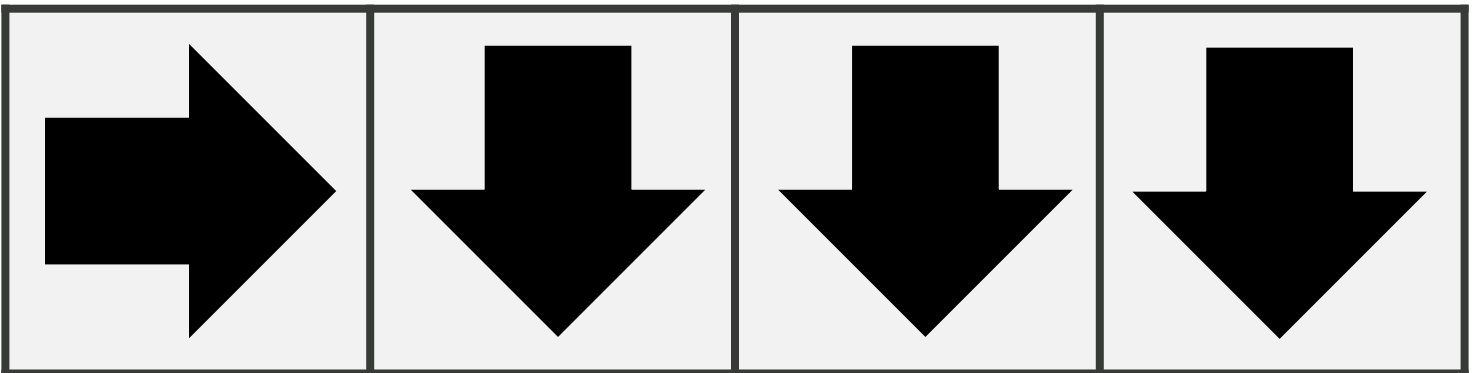
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SUPPORT MATERIALS: SEQUENCE STRIPS WITH ARROWS

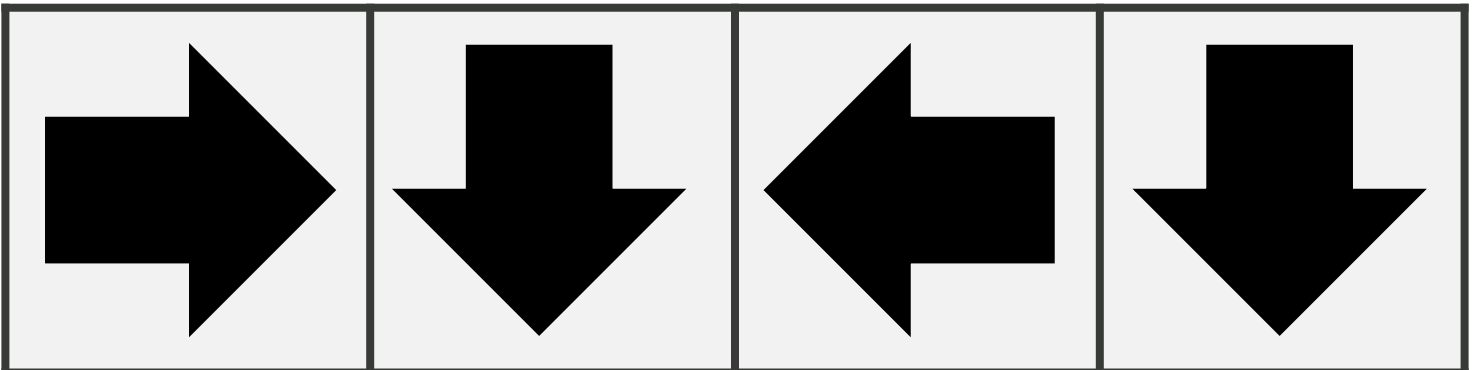
Two Step Maze Sequence Strip



Four Step Maze Sequence Strip



Four Step Maze (Challenge) Sequence Strip





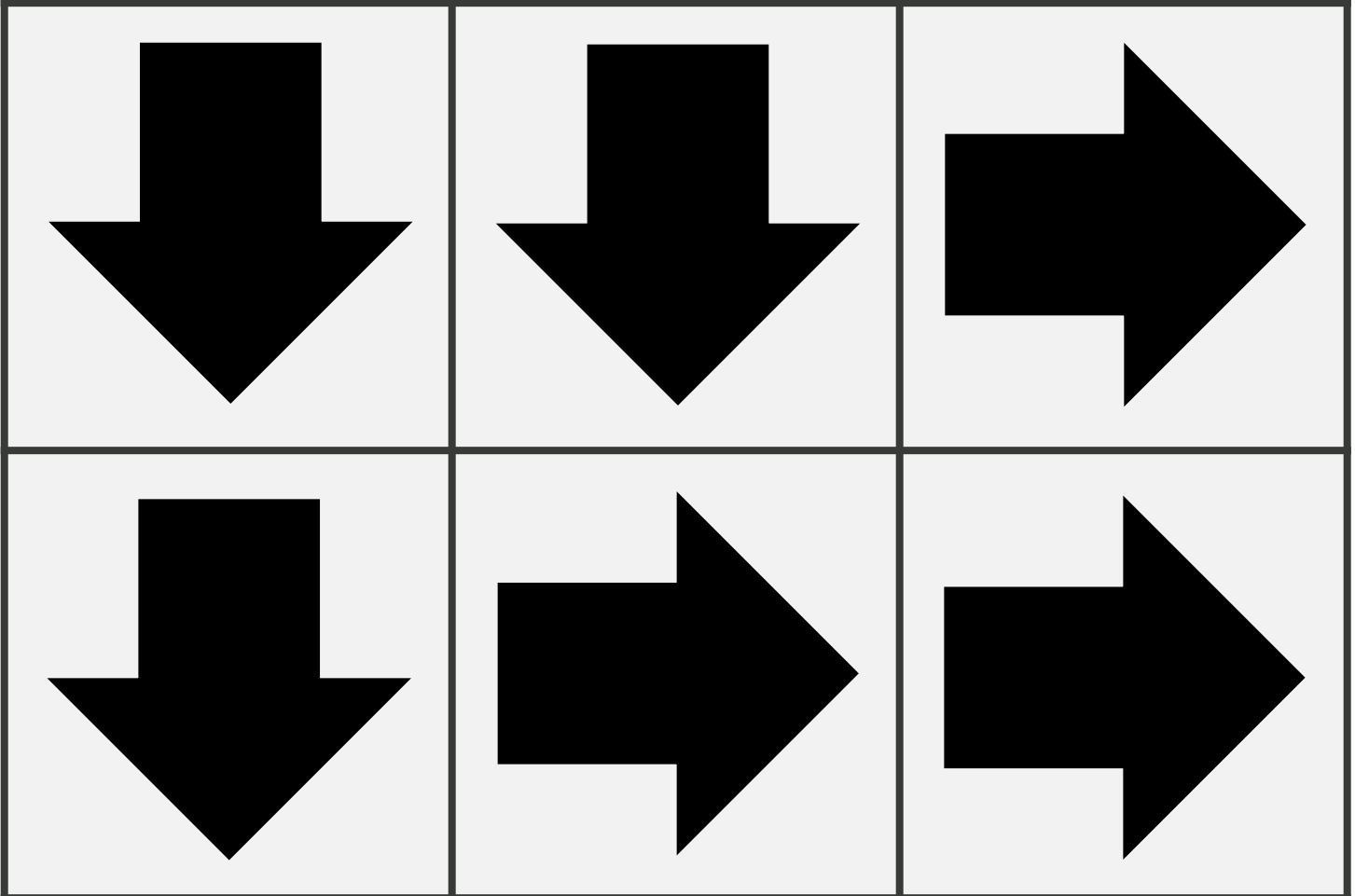
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SUPPORT MATERIALS: SEQUENCE STRIPS WITH ARROWS

Six Step Maze Sequence Strip





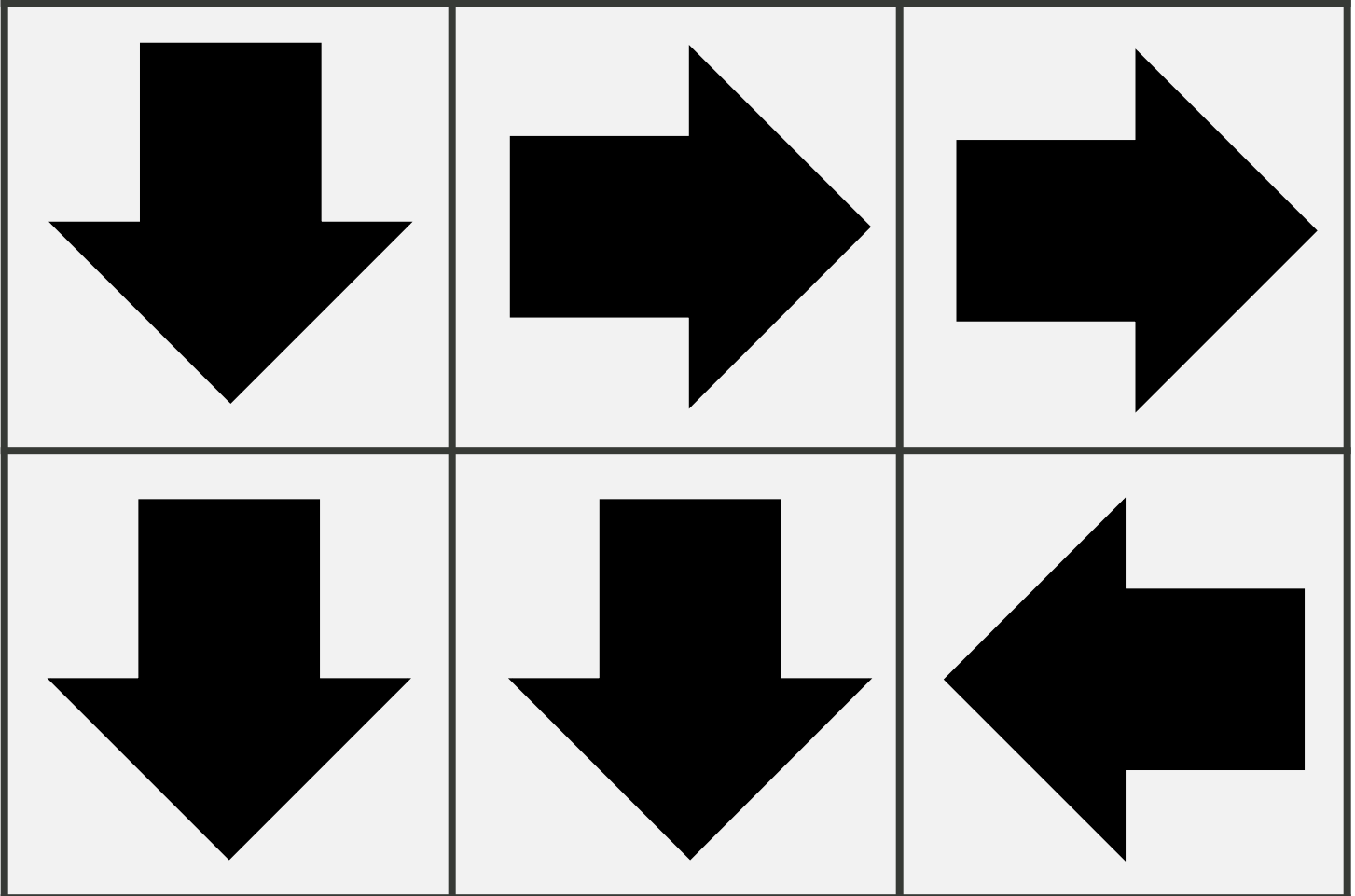
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SUPPORT MATERIALS: SEQUENCE STRIPS WITH ARROWS

Multiple Path Maze 1 Sequence Strip





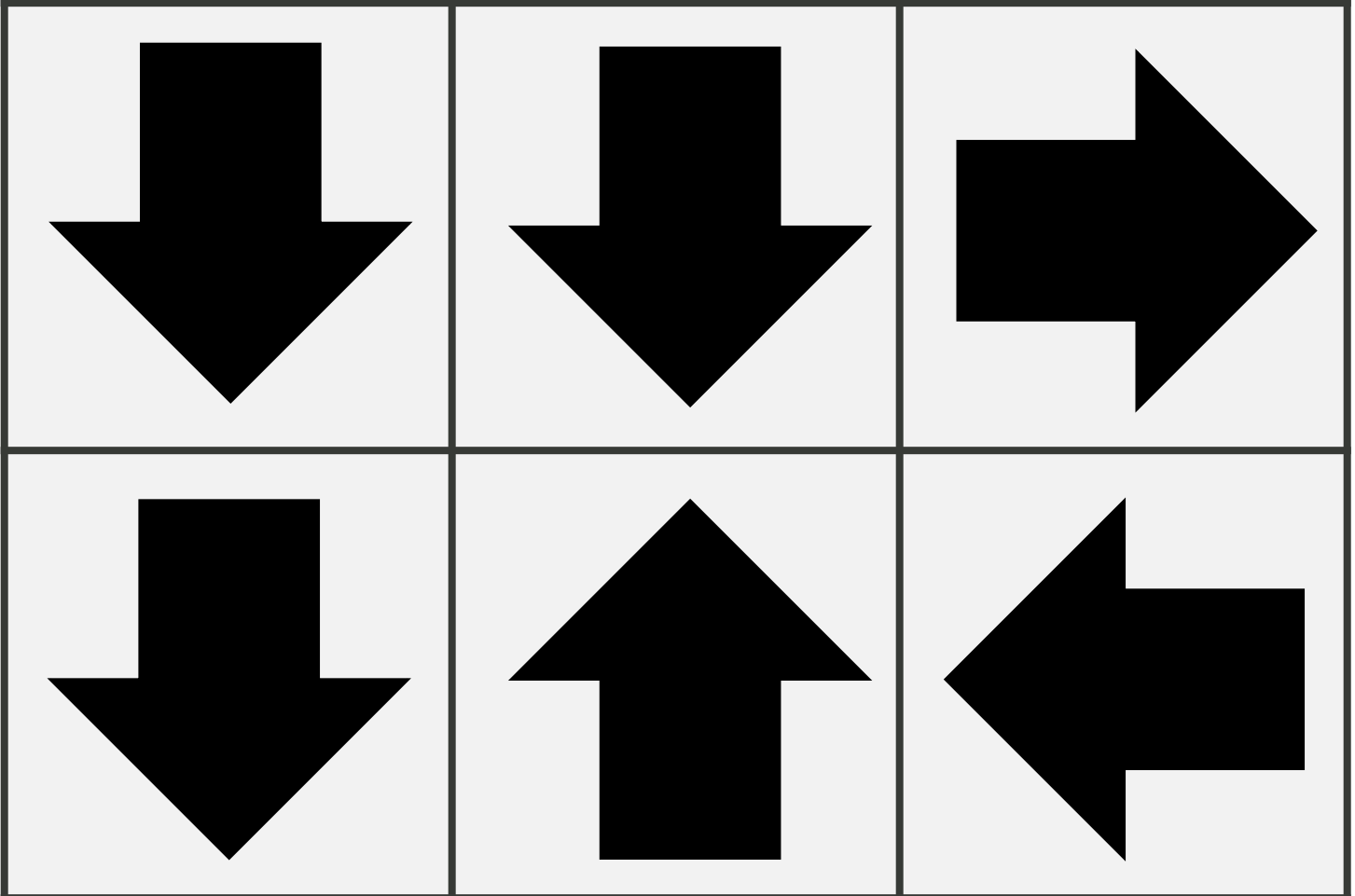
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SUPPORT MATERIALS: SEQUENCE STRIPS WITH ARROWS

Multiple Path Maze 2 Sequence Strip



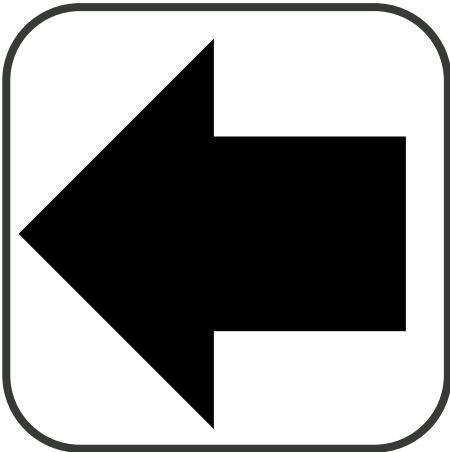
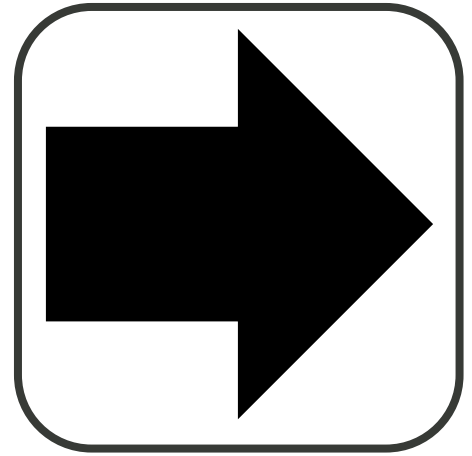
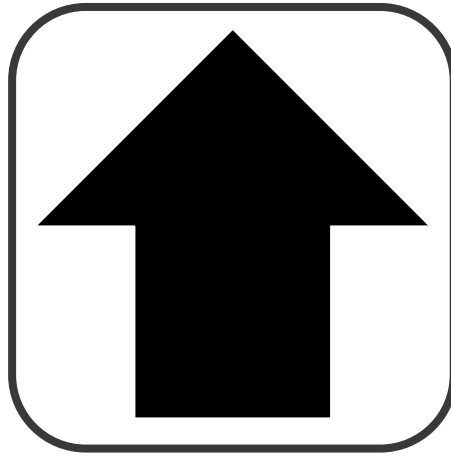
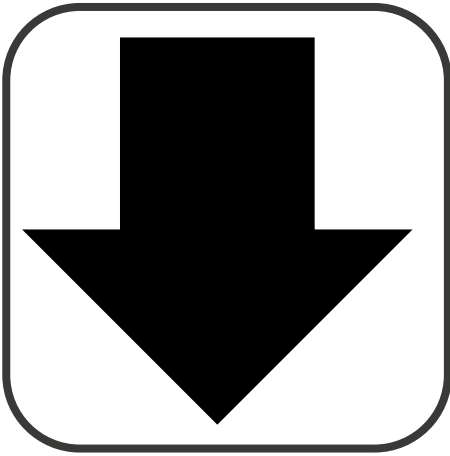


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SUPPORT MATERIALS:





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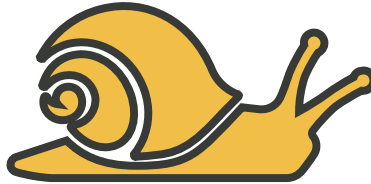
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SUPPORT MATERIALS:

Use the blank one to make your own!



Bench



Snail

