

CODE HOPPER

OVERALL TIME 60- to 70-minute lesson

GROUPS Three to four kids

OBJECTIVE

Kids will work together to design a code sequence using two-sided mats.

OVERVIEW

Code Hopper is a fun way to introduce kids to computer programming through repeated body movements and actions, simulating how a computer follows commands.

VARIATION

This lesson could be completed over two days, demonstrating the launch on day one, followed by the activity on day two.

MATERIALS

- Code Hopper (one per group)
- Color cards (optional)

KEY TERMS

Code: a list of instructions that a particular program operates by.

PREPARATION

Set up a large area for kids to be able to move around.

LAUNCH 10 to 15 minutes

Moving Mats

Have kids form a circle. Ask the group to raise their hand if they have played hopscotch. Tell kids that today they are going to be playing a coding hopscotch game.

Next, show the group the “start” mat and place it in the center of the circle. Then, choose a different piece. Look at the visual and read the action with the group. Together, complete the move, for example: stomp your feet. Attach this mat to the start mat. Continue this process until each of the pieces are used to complete the hopscotch. Then, finish by connecting the “stop” mat.

Have each kid take a turn playing hopscotch. Tell the group that in the next activity, they will be creating a Code Hopper hopscotch.



PREPARATION

Prepare a list of teams or give each kid a color card. The color represents the team they are on. Make space for each group to assemble the Code Hopper and number each station. Have a Code Hopper set ready for each team at each station. Decide on a signal to be used during rotations, for example: ring a bell or clap a pattern.

ACTIVITY 30 to 45 minutes

Hopscotch

In the launch, kids learned that each visual on a mat represents a movement. Have groups go to their assigned station. Review the signal and rotation pattern.

Have each participant take one of the mat pieces. Tell kids to decide which side of the mat they want to have as part of the coding sequence.

Each kid will attach a mat piece. After all of the pieces have been connected, kids can get in line and play hopscotch.

After 8 to 10 minutes, use the signal and have teams switch to a different hopscotch mat. Continue the rotation until every group has interacted with each hopscotch.

CLOSING 5 to 10 minutes

Bring the group back together. Have each group collect the Code Hopper and replace the pieces in the container. Then, ask the following questions:

- *How did your team work together?*
- *Were there some similarities and differences between the different hopscotches?*
- *What is something that you want to try next time?*
- *Raise your hand if you had FUN!*

ENRICHMENT

Use sidewalk chalk and create a hopscotch game outside.