

wonder workshop

Space Battle Challenge

Activity Guide



Space Battle Challenge

Club Leader Notes

Use the Launcher to transform Dash into a battle-ready spaceship!



Objectives

Kids will:

- Discuss ways to use their robots' sounds, movements, and lights to transform them into spaceships.
- Learn to use the **Launcher**, including calculating distance and adjusting trajectory.
- Learn to program Dash to detect obstacles.
- Practice using **Obstacle Seen** cue and **Move To** behavior.

Materials & Prep

Required



Dash



Dot



Launcher attachment

- A target

Optional

- Craft materials to turn Dash into a spaceship. Make sure you don't block your Launcher or Dash's sensors!

Concepts Covered

- Distance & Measurement
- Trajectory
- Sequences
- Cues and Behaviors



Obstacle Seen



Move



Move To



Launch



Reload Right



Reload Left



Moving Basics



Stop



Wait For



Sound: FX

Time Required



30 minutes

Warm Up

- Show these videos to any Wonder beginners:
 - ▶ Dash & Dot Show: Episode 11
 - ▶ All About Cues
 - ▶ Creating & Deleting States
 - ▶ The Obstacle Seen cue
- Let the kids practice using the Launcher behaviors. You can find them in the **Accessory** category in Wonder.

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Level 1

Use the Launcher to defeat an enemy spaceship with one shot.

- Download the starter program using this key: `wurv`
- This program will make Dash launch a ball and hit a target (you provide the target).
- Practice adjusting the launch power. Reducing the power will cause Dash to launch the ball a shorter distance.

Level 2

Use the Launcher to defeat an enemy spaceship in 3 shots, using the right and left loaders.

- Have the kids program Dash to move forward until **detecting the obstacle**. Then Dash should move **backward** far enough to successfully shoot the target.
- Adjust the distance Dash moves backward and the power of the **Launch** behavior to hit the target.
- Have the kids program Dash to shoot 3 balls at a target. They will need to use all 3 Launcher behaviors.
- Encourage more advanced kids to get creative, adding movement and sound to the program.
- **Example solution:** `desp`

Level 3

Explore the galaxy. When Dash the spaceship encounters an enemy, back up and shoot it with the Launcher!

- Have the kids program Dash to wander around the room (which represents the galaxy) looking out for obstacles. When Dash sees an obstacle, Dash should react, back up, and attack the obstacle with the Launcher balls.
- The **Listener** is a good behavior to use. When Dash detects the obstacle, then the Listener can interrupt the search and trigger the rest of the program.
- **Example solution:** `qmnx`

Tips

- Make sure Dash is fully charged. Launching power decreases as Dash's charge decreases, which may result in inconsistent launches.

Notes:

Space Battle Challenge

Activity Sheet


Use the Launcher to transform Dash into a battle-ready spaceship!



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Level 1

Use the Launcher to defeat an enemy spaceship with one shot.

- ☐ Download the starter program using this key: 
- ☐ Attach the Launcher to Dash and load a ball. Put a target in front of Dash.
- ☐ Run the program to make Dash launch the ball at a target.

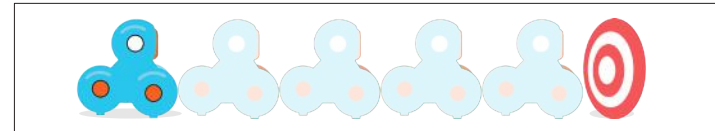
Try these behaviors and cues:



Level 2

Make your spaceship move forward until the enemy is detected. Then use the Launcher to defeat the enemy spaceship in 3 shots, using the right and left loaders.

- ☐ Put a target and an obstacle on your battleground.



Place your target directly in front of Dash, 3 or 4 Dash lengths away:

- ☐ Program Dash to move forward and stop when an obstacle is detected.
- ☐ Program Dash to back up and then shoot the target. The distance Dash moves backward should be adjusted so that Dash can hit the target.
- ☐ Make Dash fire all 3 balls at the target.
- ☐ For a little extra fun, give Dash a fun movement at the end.

Try these behaviors and cues:



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Level 3

Explore the galaxy. When Dash the spaceship encounters an enemy, back up and shoot it with the Launcher!

- ☐ Put an enemy obstacle anywhere in your "galaxy" (on the floor).
- ☐ Program Dash to wander around the galaxy.
- ☐ Use **Obstacle Seen** so that Dash notices the enemy obstacle.
- ☐ Make Dash back up from the obstacle and then shoot it with the Launcher balls.
- ☐ For a little extra fun, add sound effects.

Try these behaviors and cues:



Ideas

- Try loading your program onto Dash so that you don't need to use the app.
- Make sure the balls are properly loaded so that the Relaunch cues can work.

