

# Robot Petting Zoo



## Overview

Animals respond to different types of information that they take in via their senses. In this lesson, students will research physical and behavioural traits of an animal and program Dash to act out these traits based on stimuli in the environment. All groups will present their findings to the class.

## Objectives

- Research physical and behavioral traits of your favorite animal.
- Program Dash to mimic the behavior of the chosen animal and respond to the stimuli in the environment.
- Design an animal costume for Dash
- Present your animal to the class. Explain what behaviors you have chosen to mimic and demonstrate them.

## Subjects

Coding

Science

## Target Ages

8-10 years

## Time Required

1.5- 2 hours

## What You'll Need



Dash



Building Brick Connectors

## Other Supplies

- 1 Blockly compatible device per Dash
- LEGO bricks
- Arts and craft supplies
- (Optional) toys and props

## Downloadable Materials



[Robot Petting Zoo- Animal Research Example](#)



[Robot Petting Zoo- Animal Research Worksheet](#)



[Robot Petting Zoo- Evaluation Rubric](#)

## Day 1/Step 1: Research

This lesson can be broken into three classes or sections.

Day 1: Research an Animal (30 minutes) Day 2: Programming Challenge (30 minutes) Day 3: Presentation Time (30 minutes)

Start by reviewing Dash's different senses: hear voice, hear clap, button press, distance sensors etc. Keep it ready for students through out this activity.

### Dash Senses

- see an obstacle to the left, right, or behind.
- runs into something
- hears a voice
- hears a clap
- has a button pressed
- is picked up

Break the class into groups of 2 to 4 students.

- Ask each group to choose an animal
- Pass out the Animal Research handout to students to record ideas and their research on as they plan out their animal. Here is a website for students to look at:  
<http://kids.nationalgeographic.com/animals/>

*Check out the example Animal Research handout to see how students could complete their research.*

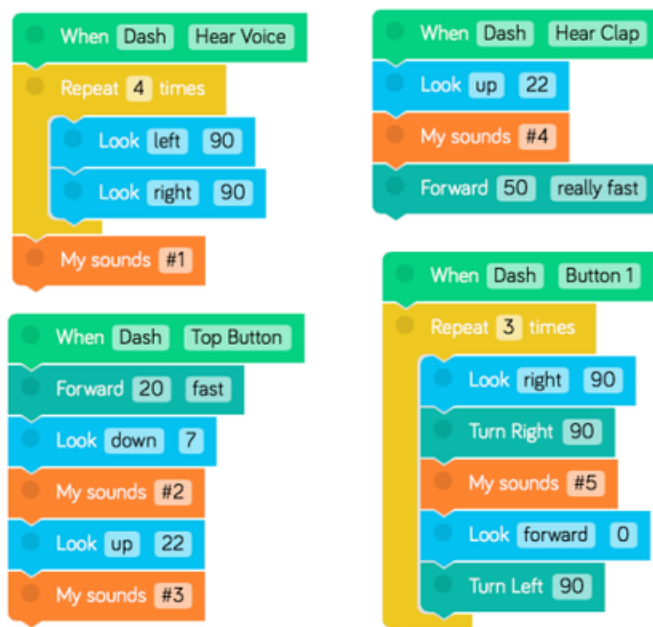
Some ideas for things to look for:

- What sound does the animal make when it is scared? When it is happy?  
Cats hiss and raise their back when they are upset and purr when they are happy.
- What does the animal do when it is eating?  
Squirrels move back and forth from a food source, gathering and hoarding nuts
- What does the animal do when it greets another of their kind?  
Horses greet each other by making a high pitched ?WHEEE-UH? sound.
- How does the animal move around?  
Snakes move side to side as they move forward, making an S shaped path.

## Day 2/Step 2: Programming

Give students time to program Dash.

- Encourage students to program a behavior for as many of Dash's senses as possible.
- Encourage students to use custom sounds in order to add sound effects to their animals' movements and responses.



If students are struggling, show them some example code blocks to help give them ideas.

## Day 3/Step 3: Presentations

Have each group present their animal to the class.

- Students will explain and demonstrate each behavior and how it relates to the animal that they researched.
- After each student has presented, have students place all the robots in an area as a zoo and start their programs.
- Let the students go around and play with the different animals.


## Extensions

### Dash Costume Design : Brick Connectors

Magic happens when students go beyond the elephant example. With LEGO® bricks, craft supplies, and creativity, Dash can become:

- A snake that moves in an S-pattern
- A bird that reacts to sound
- A cat that hisses or purrs
- A completely imaginary creature with custom behaviors

There's no single "right" animal—just thoughtful design choices.

 [Download Instructions](#) for Elephant

