

# Put On a Show

## Educator's Guide

### Overview

CS Hands-On is a 501(c)(3) nonprofit teaching computational thinking skills through technology-free lessons and activities. This curriculum is built to teach fundamental computer science concepts in an engaging, hands-on way. In this mission, students use functions to create a 1 minute stage performance.

- **Prerequisite Knowledge**

There are no prerequisites to this lesson.

- **Lesson Details**

At Abstractopia, students will learn to remove unnecessary details using abstraction with Alon. Students will learn about functions and use functions to create a 1 minute stage performance.

This lesson was developed for students ages 6 to 13, and can be modified for students of all skills and ages. This lesson takes roughly 30 minutes.

### Learning Objectives

- **Key Question**

How can we use functions to create a 1 minute stage performance?

- **Key Terms**

**Function:** A set of actions that accomplish a specific task

- **Curriculum Standards**

Students should be able to...

- Title and create a function (Abstraction)
- Read, write, and interpret functions (Literacy)
- Act out the process of a function (Creative Arts)

[View standards addressed here](#)



## Lesson Plan

### • Materials

- Put on a Show worksheet (per student)

### • Setup

- Hand out a Put on a Show worksheet to each student
- Set up your classroom to have space for students to perform their functions

## ANSWER KEY & LESSON ANNOTATIONS

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Put on a Show

### Entering Abstractopia!

It's a nice, sunny day in Abstractopia—perfect for some performances outdoors! Are you ready to get started? Before planning your show, Alon will teach you all about functions!

#### What are Functions?

A **function** is a **set of actions** that accomplish a specific task. Let's make a quick stop at Alon's Deli in Abstractopia to learn more!



#### Alon's Deli

At Alon's Deli in Abstractopia, Alon uses **functions** to make all kinds of sandwiches, from pesto-filled paninis to a classic club sandwich. But his most famous specialty is a scrumptious PB&J! Step into Alon's kitchen to learn how he makes his PB&J sandwich.

#### In the Kitchen

Alon uses functions to remember how to make all of the sandwiches he sells. Below is Alon's function to make his famous PB&J sandwich!

*Tip:* Functions are actions, so your first word in the title should be a verb!

Make Alon's Famous PB&J Sandwich Include a descriptive title

- Take out two slices of fluffy bread
- Spread crunchy peanut butter on one slice
- Spread grape jelly on the other slice
- Smash the two slices together—BAM!

Write the **steps** necessary to accomplish our function



#### Ta-Da!

After making his famous PB&J sandwich, Alon decides to eat one for lunch. It's the perfect mix of salty and sweet, no wonder why they're so popular around Abstractopia!

#### Educator Note

At Alon's Deli, Alon has a function for creating his famous PB&J sandwich. When else can we use functions in our everyday life?

Examples can include instructions for baking cookies, doing a cartwheel, or washing the dishes.



## Lights, Camera, Action!

Join Alon and his friends to create a performance for comedy, drama, anything you'd like!

Create your function with all of the steps you would take to put on a one-minute production (You will be performing this later!) Here are some of Alon's fan-favorite ideas to help you get started:



### Tell a Knock Knock Joke

1. Say 'Knock Knock'
2. Wait for person to say 'Who's there?'
3. Say 'Tank'
4. Wait for person to say 'Tank who?'
5. Say 'You're welcome!'
- 6.
- 7.
- 8.
- 9.
- 10.

And the curtain opens ... Perform your 1-minute production!

### Educator Note

When creating functions, make sure that every step is descriptive. By doing this, we can avoid confusion and misinterpretation in our instruction.



## Wrap up & reflect

Group students into pairs and have them discuss the following reflection questions. Afterwards, have students share their ideas as a class.

- What is the importance of functions?

Ex.

- Functions help us organize steps or instructions to be in one place
- Functions come in handy when we need to reuse or reference those instructions, as they are already written and defined