



**Computer Science Virtual Learning**

# **PLTW Computer Science Principles**

**May 7, 2020**

**Lesson: May 7, 2020**

**Using Procedural Abstraction in Microsoft MakeCode:  
Option for The Create Performance Task**

**Learning Target:**

**Use abstraction to manage complexity in programs.**

**Procedures are reusable programming abstractions.**

**A procedure is a named grouping of programming instructions.**

**Procedures reduce the complexity of writing and maintaining programs.**

**Using lists and procedures as abstractions in programming can result in programs that are easier to develop and maintain.**

# Introduction

**Watch This Video, Reviewing the Concept of  
Procedural Abstraction:**



# Practice: Abstraction

Let's Review!

# Abstraction

Say it with me: Ab-strac-shun

*Pulling out specific differences to make  
one solution work for multiple problems*

# Abstraction

[www.emmasaying.com](http://www.emmasaying.com)

# Practice: Abstraction

“So, what did you have for waffles this morning?”



“No one? Okay, what did you have for toast yesterday?”



“See what I was doing there? I identified my experience in a very specific manner, and that made it harder for everyone else to relate to. What could I have said that more people would have understood?”

## Practice: Abstraction

At some point, you'll start to come up with the idea of using "breakfast" in place of the actual food that was consumed.

**breakfast** = 

In a way, the word 'breakfast' is like a variable that we use to hold a space for whatever it is we ate this morning. By taking the specific word out and replacing the space it leaves with 'breakfast,' we are using abstraction to make something work for multiple people.

➤ **Can you think of some other examples of this?**

# Practice: Abstraction

Before we jump back into our Makecode project, let's practice the concept of abstraction using Madlibs! Click [here](#) and make a copy of the Madlib template and let's see what you come up with. Then watch the MadLib video to wrap-up the MadLib practice.



# Practice: Makecode

**Watch This Video over Procedural Abstraction in Microsoft MakeCode, which is an optional program that you can use for the Create Performance Task. You can easily link to the Makecode Arcade [here](#).**



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## Conclusion: Reflection

**Open a page in the Computer science Notebook, and revisit your reflection from the previous day.**

**What did you find useful about Microsoft Makecode?**

**Is this an application that you could use for your Create Performance Task? Why or Why not? Do you feel differently than you did yesterday?**