

Teacher: Jessica Novillo Argudo, Jing Xue, Rich Parker

Unit Plan: Introduction to Python

Topic of the Lesson: Introduction

Grade and Content: 10th - 12th / CSP

Date: Fall 2022

Learning Objectives:

- Students will learn what Python is and how it works.
- Students will learn to create a simple Python program and run it from the command line.
- Students will learn how to use Replit to write Python code.

NYS standards:

- **9-12.CT.5:** Modify a function or procedure in a program to perform its computation in a different way over the same inputs, while preserving the result of the overall program.

Prerequisites:

- Set up Replit to work with Python

Content-specific vocabulary:

- Text-based coding
- Python
- Script
- Interpreter
- Reserved words

Materials/Resources:

- Computers
- Smartboard
- Slides
- Python
- Replit
- SNAP!
- Lab
- Textbook: <https://books.trinket.io/pfe/index.html>

Assessments:

- Programming log
- Lab completion

Warm-up (10 minutes):

- The teacher will ask students to open SNAP! and display a message (Hello World!).



- The teacher will ask students to open Replit (students have setup previously Replit to work with Python) and type python on the shell, and then write:

```
>>> print("Hello World!")
```

- The teacher will ask students about the similarities and differences between SNAP! and Python code.

Activity / Sequence of Lesson (20 minutes lesson, 10 minutes lab):

- The teacher will ask students if anyone is familiar with Python. If there are students who know Python, the teacher will ask what they know about it.
- The teacher will explain what Python reserved words are and will give a list of these words.
- The teacher will model how to run the Python interpreter on the shell in Replit and write Python code there.
- The teacher will explain the print() function and model some examples, such as:
 - >>> print("Hello World!")
 - >>> print("This is a test")
 - >>> print("")
 - >>> print(45)
- The teacher will ask the students to practice printing other messages on their own on the Python console.
- The teacher will explain that writing more code than just a print() will require a .py file to make programming easier. Also, the teacher will say that this file is called a script.
- The teacher will model how to create a .py file in Replit, how to write code inside it, and how to run it.

- The teacher will ask students to individually work on the “00 LAB - Introduction”.
- The teacher will walk around the classroom to observe students’ performance and assist with questions or problems about the lab.

Summary / Next Steps / Exit Slip (5 minutes):

- The teacher will ask students to complete their lab as homework if they still need to finish it.
- The teacher will ask students to complete their “Log Programming”.