Learning Objectives:

- Students will be introduced to the data types in Python
- Students will learn how to convert data types in Python.

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.

9-12.CT.9 Systematically test and refine programs using a range of test cases, based on anticipating common errors and user behavior

Resources: Slides, Google Form, Worksheet

Assessment: Student Discussions, Data Worksheet, Google Form

Aim: How do we use data in Python?

Do Now: Students will complete a turn-and-talk (without using a calculator!)

- What is 23÷4?
  - How do you know?
- Make a prediction: what do you think the Python interpreter will return if we try to divide 23 by 4?

Mini-lesson: Data Types

- Students will be introduced to the different data types in Python: string, int, boolean and float.
- Students will take notes on each type and make predictions in terms of outputs.
- Students will also complete code-alongs as each type is discussed.

Task 1: Data Basics Worksheet

- Students will make predictions regarding data types
- They will then test their predictions using Replit.
- We will then come together to briefly discuss whole-class; clarify misconceptions
- Teacher should circulate during this time!

Mini-lesson 2: Converting Data Types

- Students will be introduced to the ways to convert between data types in Python.
- Students will take notes and make predictions in terms of outputs.
- Students will also complete code-alongs as each type is discussed.

Task 2: Converting Data

- Students will complete data conversions in a Google form.
  - Each student is completing their own form but they may work with a

partner for clarity.
    - Teacher will circulate during this time, checking in with students.

Summary: Students will be asked to reflect on today's activities with the following question:

- How would converting data types be useful for programmers?