This video will discuss Python dictionaries.
Dictionaries are similar to lists in that they are used for temporary storage and retrieval of data within a script. Items in a dictionary are associated with keys – an item is retrieved by specifying the key that it is associated with. The decision of whether to use a list or dictionary is based primarily on convenience.
Here we see an example of a Python dictionary.

It is enclosed by wavy brackets…

and contains **entries**.

Each entry contains a **key**…

And its associated **value**.

The key is separated from the value by a colon.

Entries are separated by commas.

Keys can only be numbers or strings.

Values can be any type of object including lists and dictionaries.
Items are retrieved from a dictionary by specifying the key that is associated with the item. Each key in a given dictionary must be unique.

To retrieve an item from a dictionary, specify the dictionary name followed by the appropriate key enclosed in square brackets.

In this case, the “item1” key is associated with the integer 4.

An alternative method of retrieving items is to use the dictionary’s get method.

Both methods are equivalent except that the get method will not crash the script if you specify a key that does not exist.
Entries can be added to a dictionary when they are first created.

Entries can also be added to existing dictionaries.

If the key does not already exist in the dictionary, then a new entry will be created.

If the key does exist in the dictionary, then the new value will overwrite the previous value associated with the key.
Entries can be removed from a dictionary by using the `del` command and specifying the key associated with the entry.

The dictionary's `pop` method will also delete items from a dictionary as well as return the value associated with the key.
Dictionaries can contain lists or other dictionaries. “Nesting” lists or dictionaries can be useful for organizing data. In this example, we’ll see how a dictionary can be used to store point coordinates.

The dictionary contains the full set of points.

Each entry in the dictionary contains the data for a single point.

The key for each entry is the ID for the point.

The associated value is a list containing the X and Y coordinates for the point.
This example will show how to retrieve an item from a list that is nested in a dictionary.

Specify the name of the dictionary…

Followed by the key associated with the list containing the item…

Followed by the position of the item in the list.