

## Computational Thinking: Abstraction and Pattern Generalization—Take Home Messages

1. In your own words, describe abstraction in Computational Thinking.

Abstraction is identifying and defining the main ideas of the problem and using them to create a generic representation of the problem.

2. In your own words, describe what a variable is.

A variable is a name associated with a value and can be represented by a number, letter, word, blank or image.

3. In your own words, describe pattern generalization.

Pattern generalization is determining the correct relationship between variables to accurately abstract and represent the problem.

4. List at least three examples of abstraction from different subject areas.

Answers vary but many include:

Dollar sign (abstraction for money)

Produce (generalization for fruits and vegetables)

Science--natural processes/cycles, classifications, periodic table

Art--Picasso

ELA--sentence structure, parts of speech, Mad Libs

Universal symbols

5. True or false, abstraction helps create models related to a problem that can work for large quantities and ranges of data.

True

