

Computational Thinking: Algorithm Design Self Evaluation

1. List at least three examples of algorithms from everyday life.

Answers vary, but may include:

Following a recipe

Getting dressed

Learning dance steps

2. In your own words, define algorithm.

An algorithm is a set of instructions that carefully, sequentially and accurately explain how to complete a task.

3. List the step(s) of the modelling phase of the Computational Thinking process.

Modelling--Decomposition, Pattern Recognition, Abstraction/Pattern Generalization

4. List the step(s) of the operations phase of the Computational Thinking process.

Operations--Algorithm Design

5. True or false, when using Computational Thinking, all algorithms must be designed for a computer to carry out. **False**

6. True or false, if an algorithm is being written for a computer to follow, it is critical that the steps are written in such a way that a computer can understand them. **True**

7. Complete the following sentences by filling in the blanks. The basic unit of communication in computing is bits. The binary system utilizes the numbers 0 and 1 to communicate information.

8. List four necessary understandings for designing algorithms.

Your instructions must be unambiguous.

You must have defined inputs and outputs.

You need a defined end point.

You need to be able to interpret your algorithm's results.

9. Create a flowchart to represent the steps required to perform an everyday activity, such as taking a shower or getting dressed.

10. True or false, once an algorithm is designed to solve a problem, it is critical that it is tested, interpreted, reevaluated and refined (possibly multiple times) to be sure it is truly providing an accurate solution.

True

