



# LEARNING MODULES

GK-12 DISSECT at New Mexico State University

**Title:** Computational Thinking Vocabulary

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**Discipline or Area:** Geologic Timeline

**Teacher:** Kathleen Guitar

**School:** Vista Middle School

**Subject of class:** Science

**Grade:** 6th

## **COVERAGE OF COMPUTATIONAL TOPICS**

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The concepts of algorithms, variables, iteration, branching, clarity, correctness, efficiency, abstraction, and computational thinking

## **OBJECTIVES**

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Students will learn how to define the CT terms and see an example of an algorithm using a few of the concepts

## **EQUIPMENT AND MATERIALS**

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Notebooks

Writing Utensil

## **BACKGROUND AND REFERENCES**

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The purpose of this module is to get students comfortable with the basics of computational thinking its concepts.

## **PROCEDURE**

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### **Provide detailed instructions on how this module is taught.**

During the first and second class, we began writing the CT terms and their definitions together. After writing each definition, we talked about what it meant and gave real world examples of each. At the end of defining all the words, we wrote an algorithm together, describing how to go through their geologic stations. In class, they were working on 10 stations, in which they would work in groups on one station per day learning about different geologic concepts.

During the third class, we played CT Jeopardy, which can be accessed at [jeopardylabs.com/play/computational-thinking-vocabulary](http://jeopardylabs.com/play/computational-thinking-vocabulary)

### **What were the “learning goals?”**

The learning goals are to learn the definitions of the CT concepts, and how to identify examples of each.

### **How did you introduce CT?**

Each CT term was introduced and they wrote them down for future reference. We also related the terms to their current geologic stations project.

### **How could you assess the understanding of CT in this module?**

We can assess their learning of the terms by how well they do when they play the Jeopardy game.

## **NOTES AND OBSERVATIONS**

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### **What were challenges you encountered in the overall development of the module?**

The students did not do very well the first time we played Jeopardy.

### **What was successful?**

The students were attentive and responsive while we went over all of the terms. They enjoyed playing Jeopardy a lot. The more they played it, the better they got.

### **How was the students’ reception to the content of the module?**

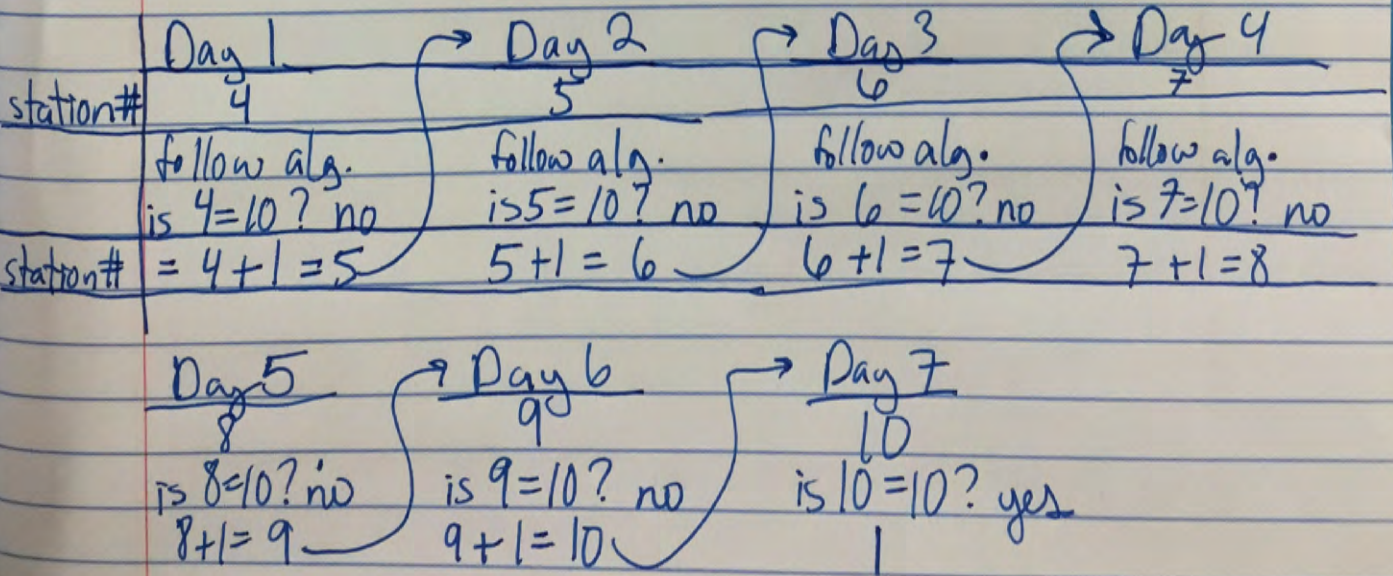
They were very excited to play Jeopardy.

variable

Station# = 4;  
for every day from 1 to 10;  
go to station#;  
follow station algorithm;  
if station# = 10:  
station# = 1;  
else:  
station# = station# + 1;

Iteration

branching

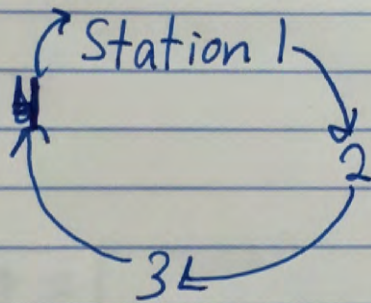




## Vocabulary

(3)

1. Computational Thinking - logical, step by step problem solving
2. Algorithm - sequence of steps to solve a problem  
- example - stations (steps to complete the station)
3. Iteration - repeating a sequence of steps (loop)



{ for every day:  
do station 1;  
increase station # by 1;  
repeat;

4. Variable - a value that can change  
- example - station #