PINNGUAQ

Unplugged Coding: Introduction to Coding Matching Game

Activity • Kindergarten–Grade 6 • Computer Fundamentals

Explore basic coding terminology, mathematics and language arts

About the Author

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Kayla is currently one of the educators in the Lindsay Makerspace who helps plan, design and deliver curriculum for a variety of programs. She has a long history of working with children in many different areas such as gymnastics, cheerleading, summer camps and public schools. She graduated from The University of Western Ontario with a BA and specialization in Nutrition and Families and also recently completed a BEd at Ontario Tech University in the Primary/Junior division. Her recent studies have led her to discover a love and interest for LEGO robotics, coding and STEAM education.

Overview

This unplugged coding activity can be an independent or completed with a partner. This activity is geared towards a younger audience with the intention of introducing basic coding concepts and terminology through a memory matching card game.

Learners will explore basic coding terminology, mathematics and language arts. Memory matching games can help learners improve language, concentration and memory. This memory matching card game also helps young learners begin to develop a strong coding vocabulary. Each learner will flip two cards over at the same time to determine if the vocabulary word matches the definition. Using the vocabulary reference sheet, learners can read the vocabulary words and their definition to develop a deeper understanding for coding terminology.

Background Information

Vocabulary Word	Definition
Algorithm	A list or set of instructions given to a computer to do a task. For example, following a recipe on how to bake a cake.
Branching	Checking conditions by making a decision that depends on what is happening or what has happened. For example, before getting ready to go outside you check the weather.
Bug	Stops a program from running its code properly. For example, if you saw a bug in your soup you would stop eating it until it is safely removed.
Command	A specific instruction given to a computer to perform a specific task. For example, if you told a dog to sit and they sat down.
Conditionals	If something is true then it will be followed by an action and if it is false then it will be followed by a different action. For example, if it is raining outside you would choose to bring an umbrella but if it is sunny you would take your sunglasses.
Debugging	Finding then fixing a problem in a code, algorithm or program. For example, removing a bug that flew into your soup so you can eat the soup.
Decomposition	Breaking down problems into smaller steps to make it easier. For example, to brush your teeth you will first need a toothbrush and toothpaste. Next, you need a sink with running water. Next, you need to put toothpaste onto your toothbrush. Next you will…
Event	An action code that causes something to happen. For example, when I say GO you will run as fast as you can across the yard.
Loop	An action in a code that causes the code to repeat over and over. For example, instead of telling someone to cut a piece of cake, then cut another piece, then cut another piece, you could say, cut enough cake for three people.

Program	The art of creating an algorithm that a computer can follow to do something. For example, creating step-by-step rules to play a game you created so others can play it.
Sequence	Completing a task in a specific order. For example, when baking a cake you can't put it in the oven until all the ingredients are added and stirred.
Variable	A temporary piece of information that can change in a code. For example, a variable is something that can change in a game like the score. If you shoot a soccer ball into the next, then you will get a point.

Materials

- Memory match cards and vocabulary reference sheet (download and print the PDFs in this zipped folder: https://pinnguaq.com/app/uploads/2020/04/Pinnguaq-200505-MakerActivity-CodingVocab-MatchingCards.pdf)
- Scissors
- Pencil and paper (optional if you wish to keep score)

> **Note:** If you do not have access to a printer, use the vocabulary reference table to make your very own matching card game! Using paper and pencils you can write out each word and definition. Then cut them apart, mix them all up and try to match them.

Step by Step Instructions

Step 1 → Print out the activity cards and vocabulary reference sheet

Step 2 → Cut out the activity cards

Step 3 → Mix up all of the activity cards

Step 4 → Lay all of the activity cards in rows, face down on a flat surface (i.e. table, ground)

Step 5 → **Optional** If you are playing with a partner, determine who will go first using the simple game of rock, paper, scissors (*rock beats scissors, scissors beats paper and paper beats rock*)

Step 6 → Turn over any two cards. If the two cards match (vocabulary word + definition), you can remove them from the playing field and place them beside you for two points (one per card)! If they don't match then flip them back over

Step 7 → Try to remember what is on each card and where it is located on the playing field, match each coding vocabulary word to its definition

Step 8 → The memory matching game is over when all the cards have been matched (vocabulary word + definition). Count to see how many cards you have if playing with a partner, to determine who wins the memory matching game! Remember that each card is worth a single point (therefore each pair of cards is worth two points)

Follow Up

Watch for the next activity in our series of **Unplugged Coding: Introduction to Coding** activities—**Kriss Kross Puzzle!** This series is also available on our website.