LET'S CODE: UNPLUGGED!

A COMPUTER SCIENCE ACTIVITY DESIGNED TO SUPPLEMENT "I AM FARMER" BY BAPTISTE PAUL AND MIRANDA PAUL

Anyone can code! Whether you use these coding activities for an Hour of Code event or an unplugged project at the start of a Computer Science unit, students of all ages can feel confident in their abilities to write an algorithm and tackle the foundational skills of coding.

Consider these teaching points when planning your lesson:

- Start by defining an algorithm and asking students to talk through the step-by-step process of something they do everyday (i.e., brushing their teeth or washing their hands).

- Have students practice "coding the teacher" by writing an algorithm to have the teacher go from one place in the classroom to another (if students are not specific with "turn left/turn right/go straight/etc., the teacher may bump into an obstacle).

- Present students with the pre-made activity sheets in this bundle. They can start by tracing a path from one point to another with their finger. Then, have them cut out the directional cards and while collaborating with a buddy, place them in the box provided on each worksheet to "plan" their algorithm. Students can then be encouraged to write the sequence of directional arrows in the planning box in place of the cut out cards.

- Offer students the challenge of creating their own unplugged activity for a partner using the blank work mat and images from the book "I Am Farmer," by Baptiste Paul and Miranda Paul.

Name: _____

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In "I Am Farmer," we learn about a boy named Tantoh who lives in Northwestern Cameroon. After he becomes excited about the vegetables growing on his grandmother's farm, he tries growing onions under a banana tree. He soon learns that the onions need sunlight, earth and water to grow.

Write an algorithm that will go from the image of Tantoh discovering the vegetables at the farm to the image of him planting under the tree. Do not stop on any squares with onions.
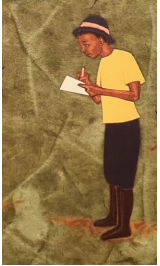

Use this box to plan and write your algorithm:

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In "I Am Farmer," we learn that Farmer Tantoh becomes sick with typhoid from drinking the local water. It takes seven years for doctors and healers to help his body recover. Once he is better, he studies in the United States to learn about using clean water for gardens and crops.

Write an algorithm that goes from the image of Farmer Tantoh sick with typhoid to the image of Farmer Tantoh learning how to find and use clean water that does not poison the soil and wells. Do not stop on any images of the typhoid bacteria.

Use this box to plan and write your algorithm:

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In "I Am Farmer," we read that Farmer Tantoh learns that people in the Fulani village of Akweto are drinking from the same water as their cattle and are getting sick. After coming up with a plan, the people of Akweto work together with Farmer Tantoh to capture clean spring water and bring it to their village.

Write an algorithm that goes from the image of the people of Akweto sharing the same stream water as their cattle to the image of the people building the catchment to capture the spring water and finally to the image of the children drinking the clean water.

Use this box to plan and write your algorithm:

DIRECTIONAL CARDS

Cut out the directional cards and then use the space on your worksheet or on a blank piece of paper to plan your algorithm.

|			
→ right	→ right	→ right	→ right
↓ down	↓ down	↓ down	↓ down
← left	← left	← left	← left
↑ up	↑ up	↑ up	↑ up
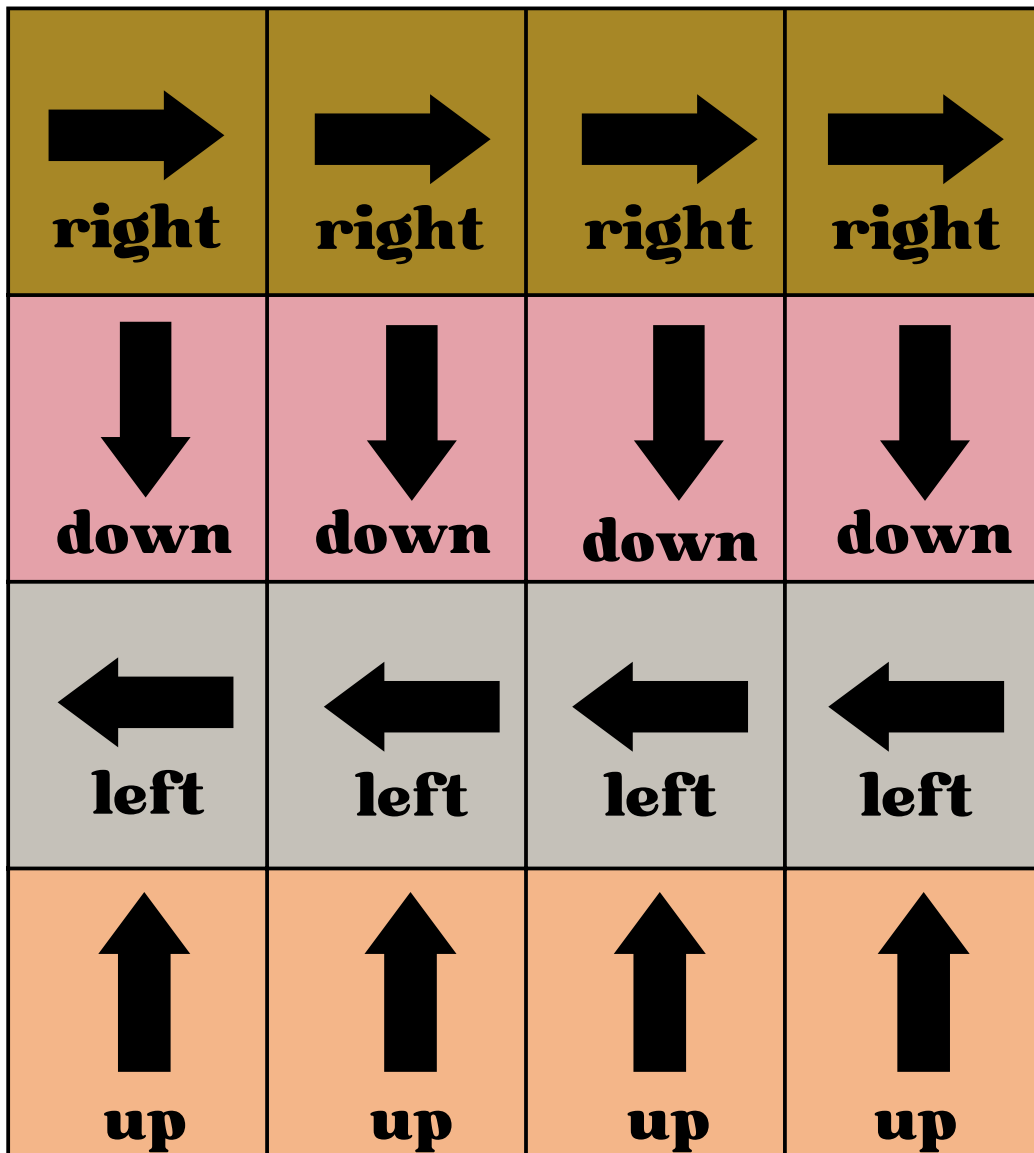
Algorithm
The step-by-step instructions you follow in order to do something.

DESIGN YOUR OWN!

Cut out the image cards with illustrations from "I Am Farmer" below and then use a blank work mat to create a challenge for a partner! Choose two images and place them in separate boxes on the mat. See if your partner can write an algorithm to go from one image to the other.
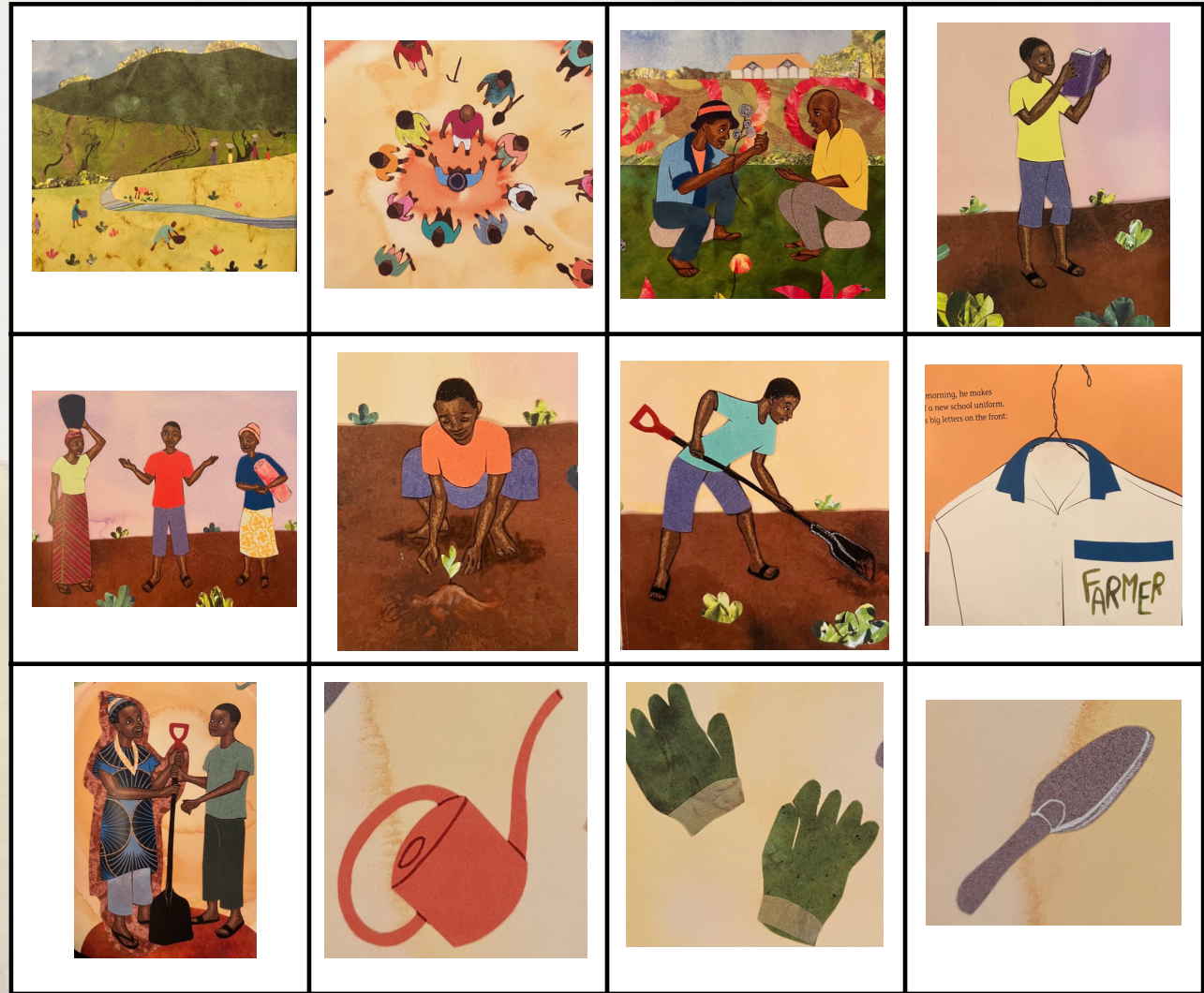
EXTEND THE CHALLENGE: PLACE AN EXTRA TWO OR THREE IMAGES ON THE MAT AS OBSTACLES FOR YOUR PARTNER TO WORK AROUND (BUT BE SURE TO LEAVE A CLEAR PATH TO THE ENDING IMAGE).

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Choose two images and place them in separate boxes on this mat. See if your partner can write an algorithm to go from one image to the other. Extend the challenge by placing an extra two or three images on the mat as obstacles for your partner to work around (but be sure to leave a clear path to the ending image).

Use this box to plan and write your algorithm: