

LET'S CODE: UNPLUGGED!

A COMPUTER SCIENCE ACTIVITY DESIGNED TO SUPPLEMENT "A FRIEND LIKE NO OTTER" BY NELLY BUCHET

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:

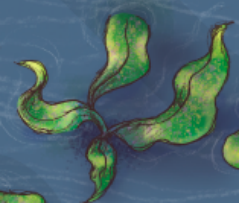
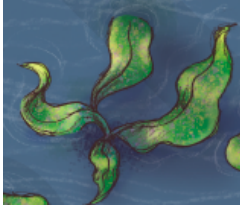

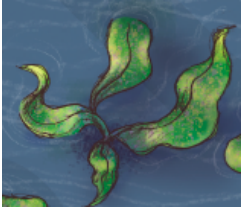

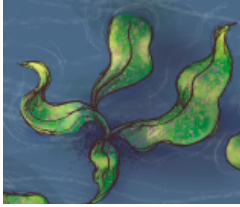
- Start by defining an algorithm and asking students to talk through the step-by-step process of something they do everyday (i.e., brushing their teeth or washing their hands).
- Have students practice "coding the teacher" by writing an algorithm to have the teacher go from one place in the classroom 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 provided.

Name: _____

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In "A Friend Like No Otter," Otter plays with Rock until the end of the day when she tucks her in her pocket, "the one in her armpit where she keeps special things."

Write an algorithm that will go from Otter playing with Rock to Otter tucking Rock in her pocket. Do not stop on any squares with seaweed on them.




Use this box to plan and write your algorithm:

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In "A Friend Like No Otter," while Otter and Manatee are playing, Otter hits Rock too far and Rock falls to the bottom of the ocean.

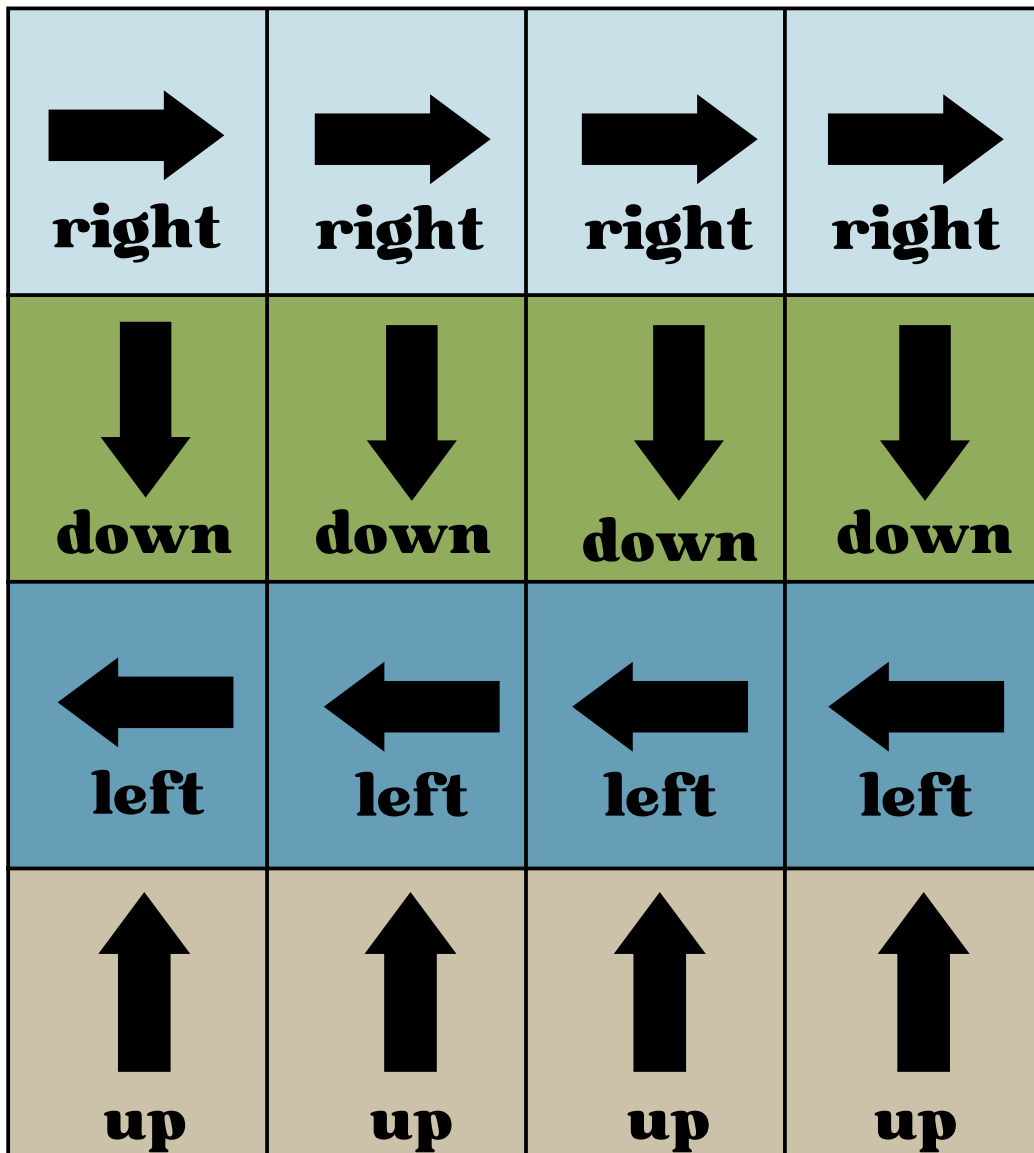
Write an algorithm that goes from the image of Otter hitting Rock with a stick to the image of Rock hitting the ocean floor. Do not stop on any images of Manatee.

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.

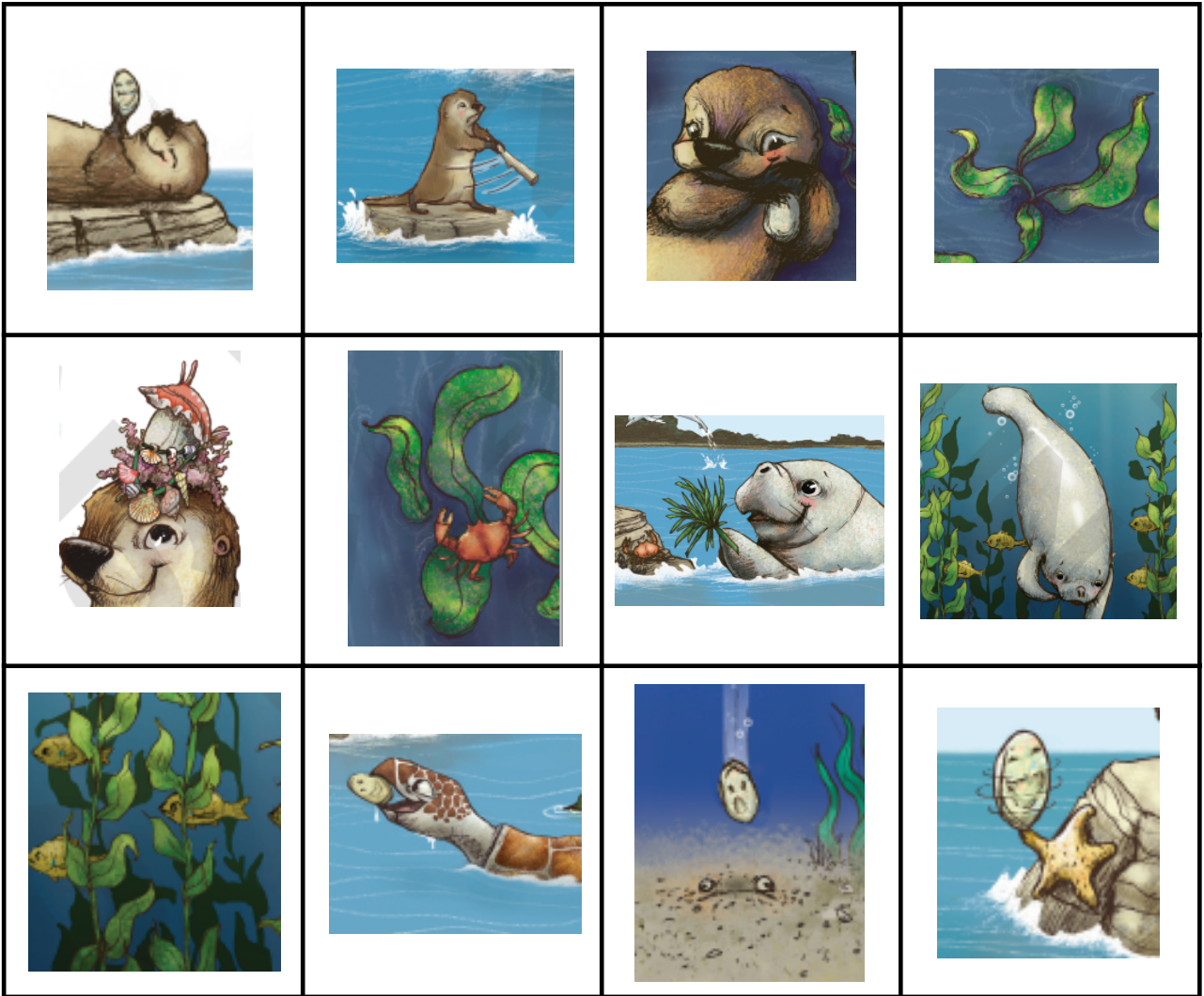


Algorithm

The step-by-step instructions you follow in order to do something.

DESIGN YOUR OWN!

Cut out the image cards 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: