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Real-Life Algorithms: Plant a Seed

Lesson time: 20 Minutes   Basic lesson time includes activity only. Introductory and Wrap-Up suggestions can be used to delve deeper when time allows.

LESSON OVERVIEW

In this lesson, students will relate the concept of algorithms back to everyday real-life activities by planting an actual seed. The goal here is to start building the skills to translate real-world situations to online scenarios and vice versa.

TEACHING SUMMARY

Getting Started - 10 minutes
- 1) [Review](#)
- 2) [Vocabulary](#)
- 3) [What We Do Daily](#)

Activity: Real-Life Algorithms - 20 minutes
- 4) [Real-Life Algorithms: Plant a Seed](#)

Wrap-up - 5 minutes
- 5) [Flash Chat](#) - What did we learn?

Assessment - 15 minutes
- 6) [Daily Algorithms](#)

LESSON OBJECTIVES

Students will:

- Name various activities that make up their day
- Decompose large activities into a series of smaller events
- Arrange sequential events into their logical order

TEACHING GUIDE

MATERIALS, RESOURCES AND PREP

For the Student

- Components for Planting Seeds: Container (such as empty milk carton), potting soil, seed, water
- Real-Life Algorithms: Plant a Seed Worksheet
- Assessment Worksheet: Daily Algorithms
- Scissors
- Glue

For the Teacher

- Lesson Video
- Teacher Lesson Guide
- Print one Real-Life Algorithms: Plant a Seed Worksheet for each student
- Print Assessment Worksheet: Daily Algorithms for each student

GETTING STARTED (10 MIN)

1) Review

This is a great time to review the last lesson that you went through with your class. You can do this as one large group or have students discuss with an elbow partner.

Here are some questions that you can ask in review:

- What did we do last time?

- What do you wish we had had a chance to do?

- Did you think of any questions after the lesson that you want to ask?

- What was your favorite part of the last lesson?

LESSON TIP *Finishing the review by asking about the students' favorite things helps to leave a positive impression of the previous exercise, increasing excitement for the activity that you are about to introduce.*

2) Vocabulary

This lesson has one vocabulary word that is important to review:

Algorithm - Say it with me: Al-go-ri-thm
A list of steps that you can follow to finish a task

3) What We Do Daily

- Ask your students what they did to get ready for school this morning.
  - Write their answers on the board
  - If possible, put numbers next to their responses to indicate the order that they happen
    - If students give responses out of order, have them help you put them in some kind of logical order
    - Point out places where order matters and places where it doesn't

- Introduce students to the idea that it is possible to create algorithms for the things that we do everyday.
  - Give them a couple of examples, such as making breakfast, tying shoes, and brushing teeth.

- Let's try doing this with a new and fun activity, like planting a seed!

ACTIVITY: (20 MIN)

4) [Real-Life Algorithms: Plant a Seed](#)

- You can use algorithms to help describe things that people do every day. In this activity, we will create an algorithm to help each other plant a seed.

  Directions:

  1. Cut out the steps for planting a seed from the [provided worksheet](#).
  2. Work together to choose the six correct steps from the nine total options.
  3. Glue the six correct steps, in order, onto a separate piece of paper.
  4. Trade the finished algorithm with another person or group and let them use it to plant their seed!

WRAP-UP (5 MIN)

5) Flash Chat: What did we learn?

- How many of you were able to follow your classmates' algorithms to plant your seeds?
- Did the exercise leave anything out?
  - What would you have added to make the algorithm even better?
  - What if the algorithm had been only one step: "Plant the seed"?
    - Would it have been easier or harder?
    - What if it were forty steps?
- What was your favorite part about that activity?

ASSESSMENT (15 MIN)

6) Assessment Worksheet: [Daily Algorithms](#)

- Hand out the worksheet titled "Daily Algorithms" and allow students to complete the activity independently after the instructions have been well explained.
- This should feel familiar, thanks to the previous activities.

EXTENDED LEARNING

Use these activities to enhance student learning. They can be used as outside of class activities or other enrichment.

Go Figure

- Break the class up into teams.
- Have each team come up with several steps that they can think of to complete a task.
- Gather teams back together into one big group and have one team share their steps, without letting anyone know what the activity was that they had chosen.
- Allow the rest of the class to try to guess what activity the algorithm is for.