Lesson 2: Learn to Drag and Drop

35 minutes

Overview

This **skill-building** lesson will give students an idea of what to expect when they head to the computer lab. It begins with a brief discussion introducing them to computer lab manners, then they will progress into using a computer to complete online puzzles.

Purpose

The main goal of this lesson is to build students' experience with computers. By covering the most basic computer functions such as clicking, dragging, and dropping, we are creating a more equal playing field in the class for future puzzles. This lesson also provides a great opportunity to introduce basic computer hardware terminology, potentially including "mouse", "trackpad" or "touchscreen", depending on your devices.

Standards

Full Course Alignment

CSTA K-12 Computer Science Standards (2017)

- ▶ **AP** - Algorithms & Programming
- ▶ **CS** - Computing Systems
- ▶ **IC** - Impacts of Computing
- ▶ **NI** - Networks & the Internet

Agenda

Warm Up (10 minutes)
- **Introduction**

Main Activity (20 minutes)
- **Learn to Drag and Drop**

Wrap Up (5 minutes)
- **Reflection**

Extended Learning

Cross-Curricular Opportunity

Objectives

Students will be able to:

- Construct a precise sequence of instructions for dragging and dropping.
- Explain best practices for logging into a computer and logging out when done.
- Recognize what is expected when students transition into the computer lab.
- Use appropriate terminology when referring to a computer mouse, trackpad, or touchscreen.

Preparation

- Watch the ***How to Make a Class Section** on Code.org - Teacher Video. Create your own class section on Code.org and make sure every student has a card with their passcode on it.
- Make sure students will be able to access Lesson 2 from their devices. Consider whether you want to hide future lessons to prevent students from moving ahead too quickly.
- Have the school IT person add a quick link for your class section to the computer desktop.
- Review the Common Sense Education website for more online safety content.

Links

Heads Up! Please make a copy of any documents you plan to share with students.

For the teachers

- **20/20/20 Rule** - Resource
- **CSF Course A Lesson Slides** - Slides (**Download**) Make a Copy
- **Getting Started - Creating a Class Section** - Video
- **Wiggles-Go Noodle** - Video

For the students

- **Pair Programming** - Student Video

Vocabulary

- **Algorithm** - A list of steps to finish a task.
- **Drag** - Click your mouse button and hold as you move the mouse pointer to a new location
- **Drop** - Release your mouse button to "let go" of an item that you are dragging

Teaching Guide

Warm Up (10 minutes)

Introduction

Behaving in the Computer Lab

Display: Show "Computer Lab Expectations" slide

Goal: This discussion will teach students what to expect and how to behave when they enter the computer lab.

Teaching Tip

- Use calm bodies in the lab
- Remember not to chew gum or candy
- Sanitize your hands
- Keep your log in information and password private
- Sit with your partner at one computer
- Make sure that the first "driver" can reach the mouse
- When you get frustrated, don't hit or shake the computer or monitor
- Follow the ***20/20/20 Rule** - How to Prevent Eye Strain
- How to deal with the ***Wiggles** every 20-30 minutes (requires a free login on GoNoodle).
- Ask your partner before you ask the teacher
- Work respectfully and responsibly with others online.
- Keep volume down so everyone else can hear their partners

- Use your journal for keeping track of feelings and solutions
- Remember to log out when you're done using the computer

Discuss:

Have a good discussion around the computer lab expectations to make sure that students understand the rules. Some topics of discussion might include:

- *Is running in the computer lab okay?*
- *How loudly should we talk when we are in the computer lab?*
- *When you're ready to start using the computer, should you show your log in information to everyone?*
- *What should you do if you get stuck on a puzzle?*
- *If you get frustrated, will it help to hit the computer?*
- *What should you remember to do when you're done using the computer?*
- *When we're about to go to the computer lab, how should we get ready?*

Teaching Tip

You may choose to go into a more detailed discussion of securing personal internet accounts. Consider asking students:

- *What would happen if everyone's password was easy to guess?*
- *Why is it important to log out of shared devices when we finish using them?*

Display: Show "Vocabulary" slide

Say:

- Tablets have **touch screens**.
- Laptops have **track pads**.
- Desktop computers have a **mouse**.

Preview

Display: Show "Preview" slide

Project a puzzle from the lesson. Show the class how to click on the picture and place it in the correct spot by dragging and dropping. Purposely make mistakes such as clicking the background or dropping the image before it's at the right spot. Ask for help from volunteers in the class when you run into these problems.

Main Activity (20 minutes)

Learn to Drag and Drop

Goal: This will teach students how to use Code.org to complete online puzzles.

This stage was designed to give students the opportunity to practice hand-eye coordination, clicking, and drag & drop skills. Students will also play with sequence.

Take some time to explicitly teach how to click, drag, and drop. Take time to introduce the language around the devices students will be using when they work on the puzzles. If you have tablets, students will be using a *touch screen*. If you have laptops, they will likely be using a *trackpad*. Desktop computers like you might find in a lab will rely on the use of the *mouse*.

Teaching Tip

Consider having students break down the steps of dragging and dropping and record them on the board. For example:

1. Move the arrow to the block.
2. Click and hold the mouse button.
3. Move the mouse.
4. Let go of the button.

Doing this will give students practice with creating an algorithm, which is a concept that will be explored in upcoming lessons.

Teachers play a vital role in computer science education and supporting a collaborative and vibrant classroom environment. During online puzzles, the role of the teacher is primarily one of encouragement and support. Online puzzles are meant to be student-centered, so teachers should avoid stepping in when students get stuck. Some ideas on how to do this are:

Teaching Tip

Show the students the right way to help classmates:

- Don't sit in the classmate's chair
- Don't use the classmate's keyboard
- Don't touch the classmate's mouse
- Make sure the classmate can describe the solution to you out loud before you walk away

- Utilize pair programming whenever possible during the activity.
- Encourage students with questions/challenges to start by asking their partner.
- Unanswered questions can be escalated to a nearby group, who might already know the solution.
- Remind students to use the debugging process before you approach.
- Have students describe the problem that they're seeing. *What is it supposed to do? What does it do? What does that tell you?*
- Remind frustrated students that frustration is a step on the path to learning, and that persistence will pay off.
- If a student is still stuck after all of this, ask leading questions to get the student to spot an error on their own.

Display: Show "Decompose it!" slide

Remind students to break each puzzle down into smaller steps.

Display: "Level 1-12: Skill Building" slide



Wrap Up (5 minutes)

Reflection

Display: Show "Reflection" slide

Having students write about what they learned, why it's useful, and how they feel about it can help solidify any knowledge they obtained today and build a review sheet for them to look to in the future.

Prompts:

- Can you draw a sequence for getting ready to go to the computer lab?
- Draw a computer lab "Do" and a "Don't"
- Draw and label the name of the computer part you used when clicking and dragging during the puzzles. (mouse button, touch screen, trackpad)

Teaching Tip

Reflection prompts like these can be completed in a variety of styles. Journaling or discussion (with groups or partners) are great options!

Extended Learning

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

- If students complete the puzzles early, have them spend some time trying to come up with their own puzzles in their journal.

Cross-Curricular Opportunity

Rhyme With That - (20-30 minutes)

Computer Science + English Language Arts + Math

Rhyme With That. Rhyme With That is an optional activity aligned to Common Core ELA and Math standards, written by our teacher community. Students will use the computer mouse to drag and drop a letter to form CVC words, match rhyming words and count.

Standards Addressed:

- **CCSS.ELA-LITERACY.RF.K.2.A:** Recognize and produce rhyming words.
- **CCSS.ELA-LITERACY.RF.K.2.D:** Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words.1 (This does not include CVCs ending with /l/, /r/, or /x/.)
- **CCSS.MATH.CONTENT.K.CC.B.5:** Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects.

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