FIRIA LABS

Adding JPG Images	Time: 30-60 minutes

Overview:	**Cross Curricular:**
This lesson is completely optional. It shows students how to prepare JPG images to display on CodeX. If you want to use this lesson with your students, make sure the online software and technology will work with your situation.	**CROSS CURRICULAR:** The images can be a topic of interest of the students, or images from a school subject. Using images from student interest supports social-emotional learning and engagement. Using images from a school subject will support cross-curricular learning.

Materials Included in the learning portal **Teacher Resources**:

This lesson is optional, and isn't a mission in CodeSpace or any integrated instructions. If you choose to do this lesson, you can include it in Mission 8, or use the Sandbox and start a new file.

Adding Images Slidedeck
> The slide deck is for teacher-led instructions that let you guide students through preparing JPG images, uploading them to the CodeX, and using them in code.

Adding Images Student Workbook
> The workbook can be used instead of slides for student-led or independent work. It is an alternative to the slide deck. It has the same information in a Google Doc instead of a slideshow.

CodeX and JPGs (Abbreviated instructions)
> All the steps summarized on a two-page document.

Links:	**Formative Assessment Ideas:**
- PhotoPea (free online photo editor) - Video demo for making CodeX writeable	Thumbs up or fist to five

Vocabulary: No new required vocabulary for this optional lesson. Possible terms to cover, if desired:

- Bitmap, JPG (image file types) / Compression
- Copyright, creative commons, royalty-free

Preparing for the lesson:

Students will need access to a search engine (like Chrome) and a free online photo editor (photopea).

- Make sure students can search for images using a browser, or have them bring their own images on a flash drive, accessed through email, etc.
- Make sure students can use Photopea.
- Decide where students will save (export) their images -- flash drive, download folder, or some other place
- Look through the slide deck and workbook. Decide what materials you want to use for presenting the lesson. The slide deck can be projected on a large screen. The workbook (if used) can be printed or remain digital through your LMS.
- Go through the lesson first yourself and be comfortable with all the steps.

NOTE: This lesson is completely optional. It is fun for students and can give extra motivation when students get to select their own images. However, it isn't required for any assignment or remix.

Lesson Tips and Tricks:

💡 **Teaching tip:**

There is no pre-lesson warm up or mission log or written assignment for this lesson. You can develop one if you want to. The length of the lesson will vary depending on how many images the students work with, how much time you give them to find images, etc. You can control the pace of the lesson.

👫 **There are three parts to the lesson**

Part 1: find images and prep them to use in code

Part 2: upload the images to the CodeX

Part 3: use the images in code

This lesson is mostly part 1 and part 2. The images aren't used in any program, but the code to use the images is given so they can incorporate their own images moving forward.

💻 **Part 1: Find images and prep for CodeX (slides 2-6, pages 1-4)**

Students need to have images to edit. Instructions are not given for finding images. You can give the students pictures, or they can bring their own, or they can find them using a search engine like Chrome. How you want students to find images to use is up to use. Once they have an image, follow the steps to prep them. The easiest way to prep the images is to use the free online photo editor PhotoPea. If you want to use a different photo editor, you may need to play around with the settings to get the correct compression. The CodeX needs images in a particular size and compression. The steps will get the images acceptable to CodeX. If images are not in the correct compression, no error message will be given, they just will not display on the screen.

💻 **Part 2: Uploading images to CodeX (slides 7-12, pages 5-6)**

The CodeX is by default in read-only mode. To upload the images, you need to make the CodeX writable. The steps can be a little tricky the first time. Also, make sure you are pressing the correct buttons. Using the wrong buttons can reformat the Codex. A video is available that shows the steps; it is helpful to see the buttons and lights the first time before you try it. The instructions are written out as well.

Students can upload directly to CodeX, or make a folder on CodeX and upload there. Do what is best for your students. The image in the instructions shows a folder.

The last step is to return the CodeX to read-only mode. You cannot run any code on CodeX unless it is read-only. If you try to run code in writable mode, you will get an error.

💻 **Part 3: Use the images in code (slide 13, page 7)**

A program or assignment is not given for students to use the images in code. So getting the images ready is pretty much the lesson. The last slide / page shows the command needed to use the image in a program. Suggestions are given in the Mission 8 remix to use their own images. And once students know how to do this, they can use them in any program moving forward.

SUCCESS CRITERIA:

- ❏ Use a photo editor to resize an image and change the compression
- ❏ Export an image as a JPG file
- ❏ Upload images to CodeX
- ❏ Return CodeX to read-only mode
- ❏ Know where to find the exported image to use in code
- ❏ Be familiar with the command to display a JPG image file