**Lesson 8** Final Project: Emoji Design

**How can we deconstruct a pencil drawing into p5 shapes?**

| **Overview** | |
| --- | --- |
| In this lesson, students will take one of their initial sketches and deconstruct it into basic shapes. They will also create a plan to code their emojis in p5 by using pseudocode. If students’ designs are approved, they may begin drawing in p5. | |
| **Lesson Objectives** | |
| Students will be able to   * Deconstruct a drawing into p5 shapes. * Write pseudocode to create a plan for coding in p5. | |
| **Suggested Duration** | |
| One period (45 minutes) | |
| **Blueprint Foundations Student Outcomes (**https://blueprint.cs4all.nyc/outcomes/) | |
| Abstraction  Analyze | **Describe** how I might use patterns to express an idea |
| Abstraction  Communicate | **Discuss how** technology developed by a community represents its characteristics. |
| Algorithms Analyze | **Describe how** instructions can have different outputs depending on inputs |
| **Vocabulary** | |
| * **Unicode Consortium**: An organization that creates and maintains international software standards to make sure that text in all languages can be readable on every device. They are now responsible for approving and maintaining the “official” set of emoji so that they can be . As of March 2019, there were 3,019 emojis in the Unicode Standard. | |
| **Planning Notes** | |
| * Print out your rubric to distribute to students * In this lesson, students will work on pages 3 and 4 of the [final project packet](https://docs.google.com/document/d/1-9U2eTUzr5GXC7rDdp3gALNFa0FeTFdl7v8Z-j1oCU8/edit?usp=sharing)   + Make extra copies of pages 3 and 4 for students who want to start over with a different design concept. * Have colored pencils or markers available for students to use on their design worksheets. | |
| **Resources** | |
| * [Anyone can create an emoji](https://www.washingtonpost.com/video/business/technology/anyone-can-create-a-new-emoji-heres-an-animated-guide-to-doing-it-right/2018/12/11/1755b4ce-feeb-4f3e-a315-b002ce94186c_video.html?noredirect=on) video from the Washington Post | |
| **Assessments** | |
| * Assess **page 3** of the final project worksheet. Check for the ability to:   + Decompose a freehand sketch into p5 shapes   + Design a recognizable/representational image * Assess **page 4** of the final project worksheet. Check for the ability to:   + Identify coordinates for x and y positions that match the design   + Use pseudocode to break down projects into discrete steps   + Create a logical order for steps based on program flow in p5 | |

| **Do Now:** |
| --- |
| * Students should watch [this video](https://www.washingtonpost.com/video/business/technology/anyone-can-create-a-new-emoji-heres-an-animated-guide-to-doing-it-right/2018/12/11/1755b4ce-feeb-4f3e-a315-b002ce94186c_video.html?noredirect=on) on one person’s journey to create a new emoji. * Discuss the following prompts with your students:   + What are some of the Unicode Consortium’s rules for accepting new emojis? *Answers: High demand, not too specific, multiple uses, new idea, no logos or brands or real people*   + Do you agree with these rules? How might you follow or break these rules in your own emoji design? * Explain that anyone, including anyone in your class, can [submit proposals](https://unicode.org/emoji/proposals.html#submission) to the Consortium to try to get them to approve a new emoji. Use this to show students that the work they do can have far-reaching effects outside of the classroom. |
| **Discussion** |
| * Distribute rubrics to the class. Students should review the rubric and write down any questions they have about expectations for the final project. * Clarify expectations by answering questions about the rubric. |
| **Teacher Demo: Emoji Design** |
| * Display a simple emoji design on **page 3** of [the final project worksheet](https://docs.google.com/document/d/1-9U2eTUzr5GXC7rDdp3gALNFa0FeTFdl7v8Z-j1oCU8/edit?usp=sharing). Here is an [example](https://docs.google.com/document/d/1DedVREO8I7Mpje_fV4JThF5KmwdF2SM5CW-LQK6WlXE/edit?usp=sharing):      * Next, show the pseudocode for this emoji on **page 4** of the final project worksheet ([example](https://docs.google.com/document/d/1DedVREO8I7Mpje_fV4JThF5KmwdF2SM5CW-LQK6WlXE/edit?usp=sharing) is below).   + Explain how you separate each step based on the composition of each visual element (which might be made up of many shapes).   + Ask students about the logical order for the steps (e.g., why make the hat in step 3 and the face in step 1?) Students should reason that the steps should progress in the order that shapes overlap. |
| **Student Activity: Emoji Design and Pseudocode** |
| * Students should review the initial 3 sketches they made in Lesson 7 on **page 2** of the [final project worksheet](https://docs.google.com/document/d/1-9U2eTUzr5GXC7rDdp3gALNFa0FeTFdl7v8Z-j1oCU8/edit?usp=sharing). They should pick their favorite to deconstruct into shapes on **page 3** of the worksheet. * After students have drawn their designs, they should make a plan by writing pseudocode on **page 4**. * If students complete both pages, review their designs with them to make sure their designs are feasible and meet the criteria for the rubric. Also check that their plan/pseudocode is clear and broken down into logical steps. |
| **Wrap Up** |
| * Students should turn in their worksheets so you can check in on their progress.   + If students who didn’t get a chance to finish would like to continue working on pages 3 and 4, you may choose to let them take their worksheets home. |
| **Extensions** |
| N/A |