

UNIT 6

HACKATHON

YOU ARE HERE

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PROJECT PITCH
PROJECT PLANNING
DESIGN SPRINT
PROJECT FEEDBACK
PROJECT CHECK-IN
UNFOCUS GROUP
SHOWCASE PREP
SHOWCASE

UNIT 6

OVERVIEW

THE “BIG IDEA”

In this final unit, students will build on their creative computing experiences by engaging in the design of an open-ended project of their choosing. To help you and your students tackle this open-ended design experience, we were inspired to frame this unit as a hackathon. With its ethos of embracing just-in-time learning and problem solving, encouraging iterative planning-making-sharing, and celebrating a connected and collaborative environment, the hackathon is an ideal creative computing culminating experience.

*School is done but
some students do not
seem to notice.
Busy debugging
their #scratch game.
A team effort.
@Sheena1010*



LEARNING OBJECTIVES

Students will:

- + be introduced to the format of a hackathon event
- + demonstrate knowledge of computational concepts (sequence, loops, events, parallelism, conditionals, operators, data) and practices (experimenting and iterating, testing and debugging, reusing and remixing, abstracting and modularizing) by defining, developing, and presenting a personally meaningful, self-directed project
- + have multiple opportunities for collaboration by working in peer teams, sharing skills, and giving and receiving multiple rounds of feedback

KEY WORDS, CONCEPTS, & PRACTICES

- + hackathon
- + design sprint
- + project pitch
- + unfocus group
- + showcase

NOTES

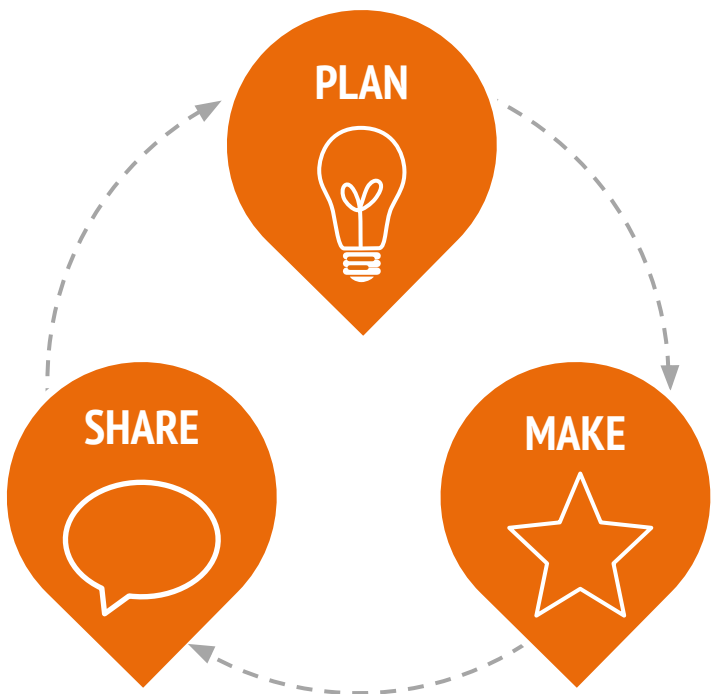
- + This unit can accommodate either independent or collaborative group projects. Pick one option or allow students to choose.

WHAT IS A HACKATHON?

“Hack” has a negative connotation to some – but it has a long history of standing for playfulness, curiosity, persistence, and creativity. One of our favorite definitions frames “hack” as “an appropriate application of ingenuity”. With this definition, what better capacity for young learners than learning how to “hack”?

A hackathon takes the playful ingenuity of hacking – and situates it in an intensely focused and time-limited context. In this unit, learners will brainstorm an idea, develop a project, and showcase a final prototype using an iterative plan-make-share cycle.

Hackathons provide excellent opportunities for learners to invent their own personally meaningful and relevant projects to work on, which can be developed as independent final projects or in collaborative teams. It is a chance for students to demonstrate their knowledge in Scratch, expand upon current skills, and develop and test ideas within a collaborative, creative, flexible, and playful learning environment.



HOW DOES IT WORK?

Throughout the duration of the hackathon, students will engage in iterative cycles in which they **PLAN, MAKE, and SHARE**. This iterative cycle encourages students to engage in meaningful acts of ideation, creation, and reflection.



PLAN

What do you want to work on?
Brainstorm ideas and prepare a plan of action!



MAKE

Design and develop project creations with resources and help from others.



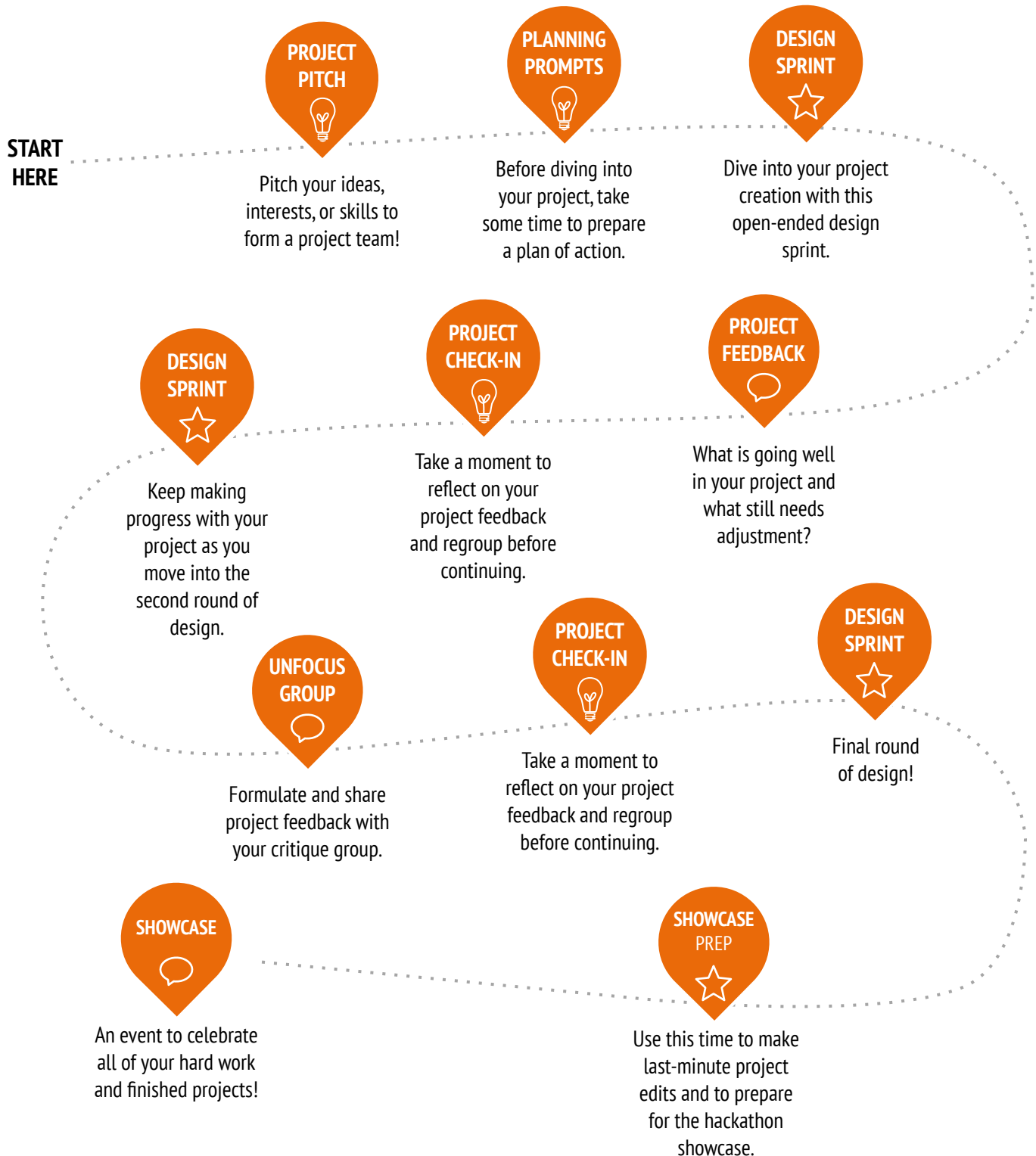
SHARE

Share your project with others and gather feedback to guide your next steps!

POSSIBLE PATH

The hackathon-inspired activities for this unit are designed to challenge students to build up a more complex project within an open-ended and collaborative learning environment. All of the important culture-building we've been doing – encouraging risk-taking and persistence, recognizing failures as learning opportunities, focusing on process over product, and cultivating a culture of cooperation and fun – culminates in this unit.

To help you get started, we have included a suggested sequence of activities that follow the plan-make-share design cycle.





PROJECT PITCH

 SUGGESTED TIME
30–45 MINUTES

OBJECTIVES

By completing this activity, students will:

- + brainstorm project ideas based on personal interests
- + pitch ideas, interests, and skills to form project teams

ACTIVITY DESCRIPTION

- Introduce students to the concept of a pitch. With a pitch, students can either announce a project idea in order to recruit other team members, or they can promote their interests, skills, or talents, in order to be recruited by other teams.
- Distribute the Pitch handout, giving students time to brainstorm and to respond on the handout. Some students already may have a project idea or have identified a specific interest or skill they want to share or further explore. Let students know that if they don't have a specific project idea or interest, they will have an opportunity to join another team. Optionally, have students review inspiration projects identified during the Unit 1 My Studio activity.
- Give each student a chance to pitch to the rest of the group. Ask people to line up if they want to pitch, and give them thirty seconds each to describe their project, interest, or skill.
- Provide time for students to form project groups of 3 or 4 people. Optionally, have students write their names and project interests on sticky notes that can be arranged and sorted on a wall to facilitate team-building.

NOTES

- + Students can be enormously valuable in providing support and guidance to each other throughout all of the Scratch sessions, and particularly during the hackathon sessions. Encouraging young people to share their knowledge and skills with others makes things easier for the facilitator, but can also significantly deepen creators' learning and understanding.

RESOURCES

- Pitch handout
- sticky notes (optional)

REFLECTION PROMPTS

- + What has been your favorite project to work on so far?
- + What kinds of projects are you interested in creating next?
- + What knowledge, skills, or talents could you contribute to a project?

REVIEWING STUDENT WORK

- + Did each student get a chance to pitch their idea or interests?
- + Did each student find a project team to join?

NOTES TO SELF

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PROJECT PITCH

PROJECT PITCH BY: _____

Use the prompts below to brainstorm ideas for projects you're interested in working on during the hackathon. You will have 30 seconds to pitch your ideas, interests, and skills to the rest of the group!

MY FAVORITE PROJECT

What has been your favorite project to work on so far? What made this project stand out for you?

MY HACKATHON PROJECT IDEA

What kinds of projects are you interested in creating next?

MY SKILLS AND INTERESTS

What knowledge, skills, or talents would you like to contribute to a project?

PROJECT PLANNING



OBJECTIVES

By completing this activity, students will:

- + identify an appropriately-scoped project to work on
- + develop an outline of activities or tasks required to complete the project
- + generate a preliminary list of resources required to complete the project

ACTIVITY DESCRIPTION

- Taking some time at the start of the final project to explore ideas, identify tasks involved in completing the project, and list what is (and isn't) already known can be very beneficial for successful project completion.
- Divide the group into project teams. Optionally, distribute the Project Planning and Project Sketches handouts to each team or individual.
- Review different elements for planning projects (project sketches, outline of tasks, list of resources, storyboards/wireframes). Give the teams 15 minutes to brainstorm ideas, plans, and resources for their projects. Students who already have a clear concept and plan are welcome to start working on their project design.
- Optionally, collect the completed Project Planning and Project Sketches handouts at the end of this activity to return to students at the beginning of Design Sprint sessions.

RESOURCES

- Project Planning handout
- Project Sketches handout

REFLECTION PROMPTS

- + What project do I want to create?
- + What steps will I take to develop my project?
- + What resources (e.g., people, sample projects) do I already have to develop my project?
- + What resources (e.g., people, sample projects) might I need to develop my project?

REVIEWING STUDENT WORK

- + Is the project appropriately scoped for the amount of time and resources available for this hackathon?
- + How can you make resources accessible to students who need them?

NOTES

- + Although planning is helpful, it shouldn't be all-consuming or the only way of doing things. Different students will want and need to plan and tinker to different extents – and different phases of the project will require different approaches. Multiple design and development styles should be encouraged and accommodated.

NOTES TO SELF

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Music

Glass Rain Add Sounds
Air Purifier

Garden

Magic

Two player games

Sports

Art

Reduce the number of... in 1 PPs

Turkish Magic Daffin

black to spell

Make it... in the...

PROJECT PLANNING

PROJECT PLANS BY: _____

Use the prompts below to start thinking about the elements needed to develop your project.

MY PROJECT

Describe the project you want to create.

List the steps needed in order to create your project.

MY RESOURCES

What resources (e.g., people, sample projects) do you already have?

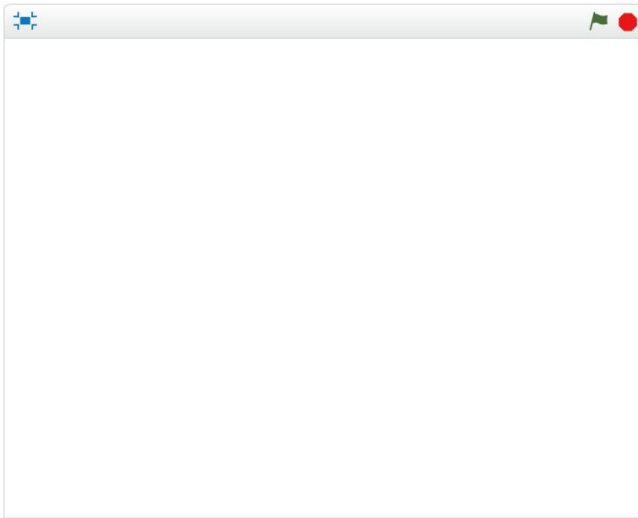
What resources (e.g., people, sample projects) might you need to develop your project?

PROJECT SKETCHES

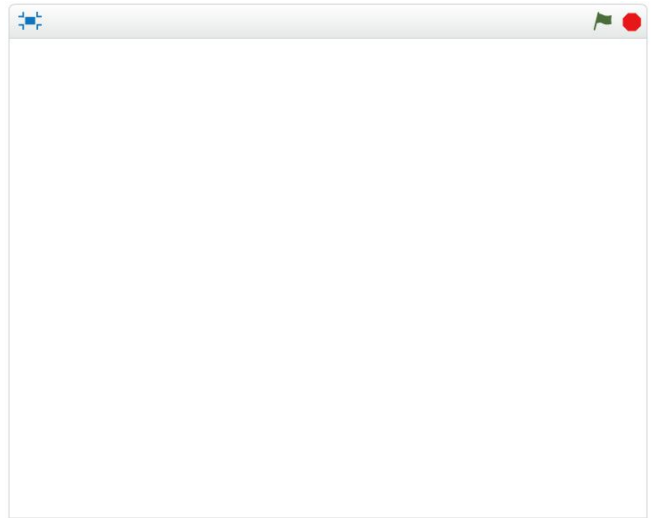
PROJECT SKETCHES BY: _____

Use the space below to draw sketches of what your project will look like!

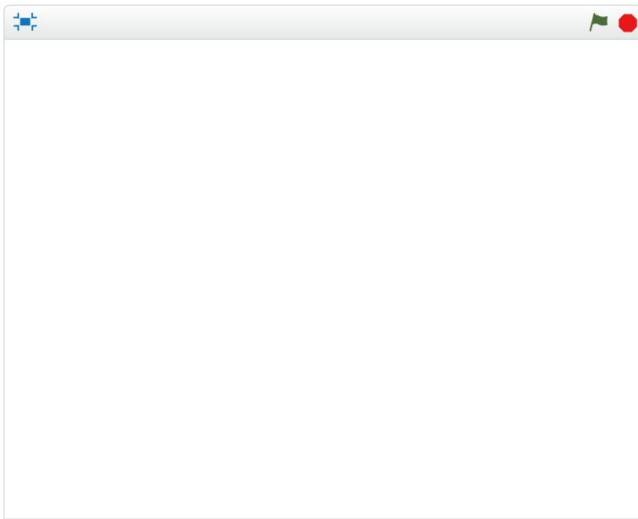
MY PROJECT SKETCHES



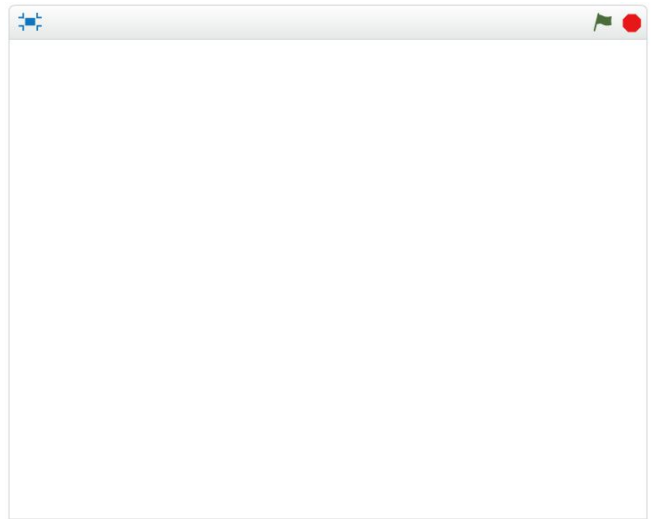
What's happening? What are the important elements?



What's happening? What are the important elements?



What's happening? What are the important elements?



What's happening? What are the important elements?

DESIGN SPRINT

 SUGGESTED TIME
45–60 MINUTES

OBJECTIVES

- By completing this activity, students will:
- + use computational concepts and practices to further develop a Scratch project of their choosing

ACTIVITY DESCRIPTION

- Introduce students to the concept of a design sprint, which is a specified amount of time dedicated to working intensely on developing projects.
- Ask students to write down goals for this session using the Project Check-In activity or by responding to the reflection prompts in their design teams or in their design journals. Give students their completed Project Planning, Project Feedback, and Unfocus Group handouts to guide them in reflecting on original project goals and to encourage them to make plans for refinement based on feedback.
- Give students self-directed time to work on their projects. Introduce and distribute additional support resources as needed. In addition to peer support, having a collection of readily-available support resources can help students continue to make progress. Sample projects on the Scratch website (<http://scratch.mit.edu>) can provide ideas, and additional resources can be found on the ScratchEd website (<http://scratched.gse.harvard.edu>).
- Optionally, ask students to post their project drafts in a class studio.

RESOURCES

- additional resources (e.g., sample projects, handouts, Scratch Cards, craft material)

REFLECTION PROMPTS

- + What part of your project will you be working on today?
- + What might you need help with in order to make progress?

REVIEWING STUDENT WORK

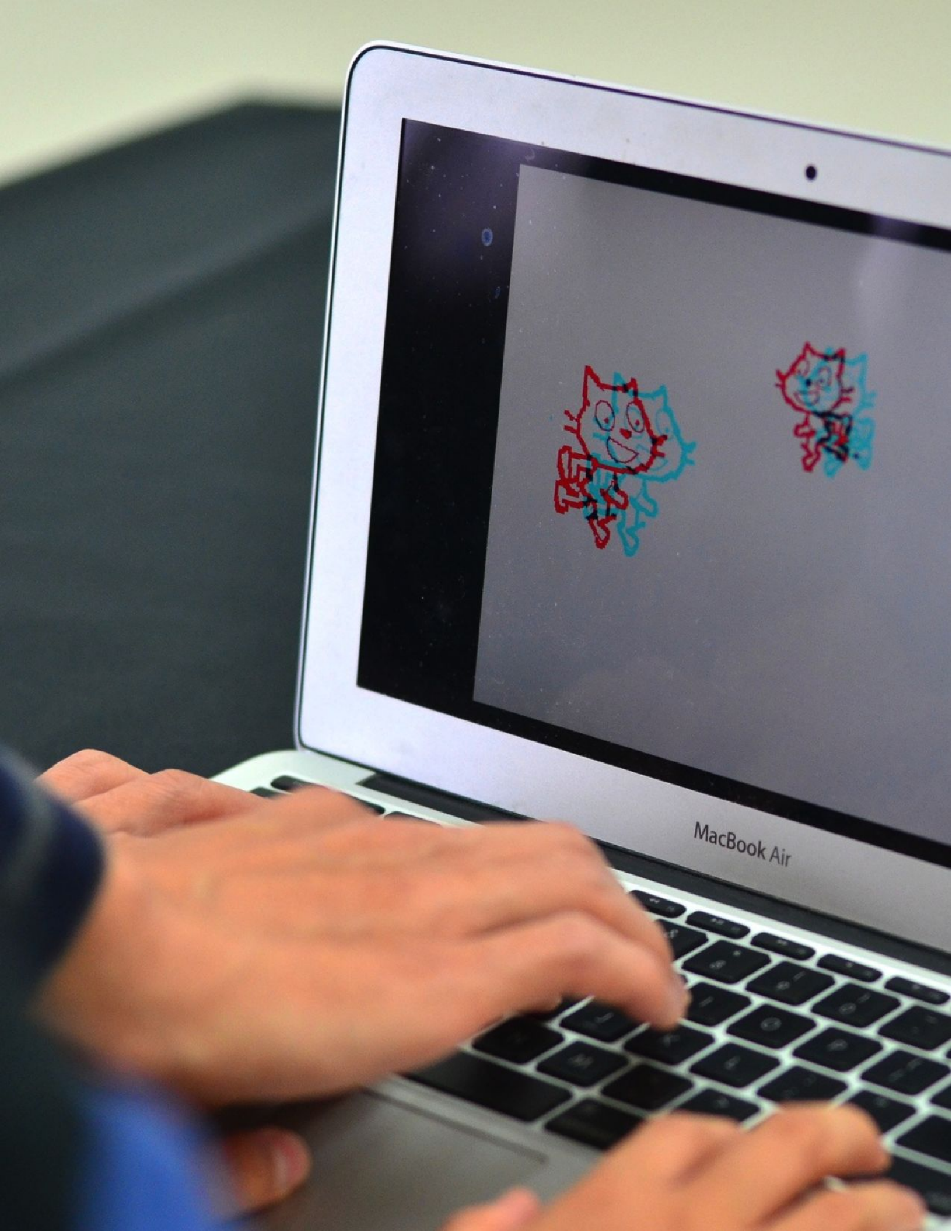
- + Are individuals or groups making reasonable progress?
- + What feedback or suggestions do you have for the projects?

NOTES

- + All design activities are constrained – by time, by resources, by our own abilities at a given moment – and compromises may need to be made. The open-ended designing sessions are a great opportunity to have conversations with students about the essential elements of their projects. What are the most important aspects of the projects? What can reasonably be accomplished in the remaining time?

NOTES TO SELF

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- _____
- _____
- _____



MacBook Air

DESIGN SPRINT REFLECTIONS

NAME:

RESPOND TO THE FOLLOWING REFLECTION PROMPTS
USING THE SPACE PROVIDED BELOW OR IN YOUR
DESIGN JOURNAL.

+ What part of your project will you be working on today?

+ What might you need help with in order to make progress?

PROJECT FEEDBACK

 SUGGESTED TIME
30-45 MINUTES

OBJECTIVES

By completing this activity, students will:

- + will work together in small critique groups to give each other preliminary feedback on their projects
- + test projects-in-progress
- + formulate and share feedback for others

ACTIVITY DESCRIPTION

- Divide the group into feedback teams of 3-4 people, so that their feedback team members are not also members of their project team. Optionally, have students gather in their critique groups from the Unit 0 Critique Group activity.
- Distribute the Project Feedback handout to each person, and review the different handout elements. Ask students to fill out the top portion of the handout with their name and project title.
- Ask students to spend 10 minutes reviewing each project in their feedback team and critiquing the project draft using the Red, Yellow, Green feedback questions. When the review is complete, each student will have received feedback on their project from the other members of their feedback group.
- After all the feedback rounds have ended, give students time to meet with their project team members to review the feedback and reflect on which suggestions they want to incorporate into their project during the next Design Sprint session. Optionally, collect the completed Project Feedback handouts at the end of this activity to return to students at the beginning of the Project Check-In activity or Design Sprint sessions.

NOTES

- + Different people will provide different perspectives on the project-in-progress. Create opportunities for learners to get feedback from a variety of sources, including themselves!

RESOURCES

- Project Feedback handout

REFLECTION PROMPTS

- + What aspects of your project could someone give you feedback about?
- + What feedback, if any, do you plan to incorporate into your project next?

REVIEWING STUDENT WORK

- + Did each student have opportunities to give and receive feedback from various sources?
- + Did each student complete the Project Feedback handout?

NOTES TO SELF

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PROJECT FEEDBACK

FEEDBACK FOR: _____

PROJECT TITLE: _____

RED, YELLOW, GREEN

FEEDBACK BY	[RED] What is something that doesn't work or could be improved?	[YELLOW] What is something that is confusing or could be done differently?	[GREEN] What is something that works well or you really like about the project?

PARTS OF THE PROJECT THAT MIGHT BE HELPFUL TO THINK ABOUT:

- + Clarity: Did you understand what the project is supposed to do?
- + Features: What features does the project have? Does the project work as expected?
- + Appeal: How engaging is the project? Is it interactive, original, sophisticated, funny, or interesting? How did you feel as you interacted with it?

PROJECT FEEDBACK REFLECTIONS

NAME:

RESPOND TO THE FOLLOWING REFLECTION PROMPTS
USING THE SPACE PROVIDED BELOW OR IN YOUR
DESIGN JOURNAL.

+ What aspects of your project could someone give you feedback about?

+ What feedback, if any, do you plan to incorporate into your project next?

PROJECT CHECK-IN

 SUGGESTED TIME
15–30 MINUTES

OBJECTIVES

By completing this activity, students will:

- + review project progress and feedback
- + develop an outline of activities or tasks required to complete the project
- + generate a list of resources required to complete the project

ACTIVITY DESCRIPTION

- In this activity, students will perform a project check-in, where they will update fellow team members about their design progress so far and outline a plan for an upcoming design sprint based on feedback received. Optionally, give students or groups a Project Check-In handout to guide them during this activity.
- Divide the group into project teams. Optionally, redistribute to students their completed Project Planning, Project Feedback, and Unfocus Group handouts.
- Give teams time to reflect back on original project goals and acquired feedback. Invite students to outline next steps and plans for project refinement for an upcoming design sprint.

RESOURCES

- Project Check-In handout

REFLECTION PROMPTS

- + What has been your favorite part of the process so far?
- + What parts of your project still need to be worked on?
- + What parts of your project will you be working on next?
- + What might you need help with in order to make progress?

REVIEWING STUDENT WORK

- + Are teams making reasonable progress and plans?
- + Are group members working cooperatively and collaboratively while discussing and sharing project responsibilities?

NOTES

- + The Project Check-In is a short planning activity. We recommend using it as a warm-up activity at the beginning of each Design Sprint session.

NOTES TO SELF

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PROJECT CHECK-IN

CHECK-IN BY: _____

Discuss your design progress with your team and outline a plan for next steps based on feedback.

PROJECT PROGRESS

What has been your favorite part of the process so far?

What parts of your project still need to be worked on?

NEXT STEPS

What parts of your project will each group member be working on next?

What might you need help with in order to make progress?

UNFOCUS GROUP



SUGGESTED TIME
30–45 MINUTES

OBJECTIVES

By completing this activity, students will:

- + interview, observe, and ask others for feedback on projects-in-progress

ACTIVITY DESCRIPTION

- Hosting an unfocus group is an idea we borrow from IDEO. Introduce the unfocus group concept, where students will share their projects-in-progress and request feedback from a diverse collection of people.
- Optionally, distribute the Unfocus Group handout to each person.
- Help students brainstorm possible unfocus group participants. Encourage them to consider their target audience as well as unusual users or unexpected cases who can offer a unique perspective or interesting feedback (e.g., parents, teachers, siblings, other students, community members).
- Give students time to identify, interview, observe, and record feedback from two unfocus group members.
- Allow students time to meet with their project team members to share feedback collected from different unfocus group sources. Optionally, collect the completed Unfocus Group handouts at the end of this activity to return to students at the beginning of the Project Check-In or Design Sprint sessions.

RESOURCES

- Unfocus Group handout

REFLECTION PROMPTS

- + Describe your unfocus group participants and why you chose them.
- + How might their ideas influence your project?

REVIEWING STUDENT WORK

- + Did students identify and interview two unfocus group participants?

NOTES

- + Help students get creative in researching and discovering feedback sources. Is there a local game design company that might be interested in helping? Could projects be shared with students from another school?
- + If unfocus group members are not available to be interviewed during the session (e.g., teachers, parents, siblings, community members), you can organize this activity for outside of class time or assign it as homework.

NOTES TO SELF

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UNFOCUS GROUP

PROJECT TITLE: _____
INTERVIEW BY: _____

In this activity, you will interview and observe others to get feedback on your project-in-progress.

IDENTIFY

- + What kinds of people might be able to offer you a unique perspective on your project?
- + Who are two unfocus group members you plan to share your project draft with?

OBSERVE

Share your project with your unfocus group and observe their reactions.

- + What are they getting stuck on?
- + Are they interacting with your project the way you imagined?
- + Are they doing anything surprising?

INTERVIEW

After you observe, interview your group about their experience.

- + What feedback did you receive from your interview?
- + What suggestions, if any, do you plan to incorporate into your project next?

UNFOCUS GROUP REFLECTIONS

NAME:

RESPOND TO THE FOLLOWING REFLECTION PROMPTS
USING THE SPACE PROVIDED BELOW OR IN YOUR
DESIGN JOURNAL.

+ Describe your unfocus group participants and why you chose them.

+ How might their ideas influence your project?

SHOWCASE PREP

 SUGGESTED TIME
30–45 MINUTES

OBJECTIVES

By completing this activity, students will:

- + work on their final project drafts and prepare for the final project showcase

ACTIVITY DESCRIPTION

- Remind students that they will be sharing their projects with each other (and possibly guests) as a way of acknowledging the hard work that has taken place and of reflecting on their experiences. Explain that this session is an opportunity for finalizing their works-in-progress and coming up with a strategy for sharing their projects with others.
- Give students time to work on their projects and prepare for presenting final drafts at the project showcase. Optionally, collect final works-in-progress into a class studio for ease in presenting. Optionally, invite students to add their projects to the Hackathon studio.
- Distribute the Project Reflections handout to students and discuss the What?, So what?, Now what? framework as a way for them to present their experiences to others.

RESOURCES

- Project Reflections handout
- Hackathon studio
<http://scratch.mit.edu/studios/488267>

REFLECTION PROMPTS

- + What is your project?
- + What was your process for developing the project?
- + What do you want to create next?

REVIEWING STUDENT WORK

- + Did each group or individual complete a Project Reflections handout?

NOTES

- + Students may be feeling anxious or stressed about completing their projects. This is an opportunity to remind them that: (1) this experience is just a waypoint on their paths as computational creators, and (2) some types of stress can be good, helping us to focus on our goals and get things done!

NOTES TO SELF

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PROJECT REFLECTIONS

PROJECT REFLECTIONS BY: _____

Use the prompts below to reflect on your design process.

WHAT?

What is your project?
How does it work? How did you come up with the idea?

SO WHAT?

What was your process for developing the project?
What was interesting, challenging, and surprising? Why?
What did you learn?

NOW WHAT?

What are you most proud of about your project?
What would you change?

WHAT DO
YOU WANT
TO CREATE
NEXT?



SHOWCASE

 SUGGESTED TIME
45–60 MINUTES

OBJECTIVES

By completing this activity, students will:

- + share their final projects with others and reflect on their overall design process and computational creation experiences

ACTIVITY DESCRIPTION

- Create a celebratory mood in the space by inviting guests, playing music, hanging decorations, and/or providing snacks.
- Optionally, use a projector and screen to display projects.
- Invite students to share their final projects and discuss their design processes with others. Optionally, make student progress visible by having design notebooks and prior projects available.
- Give students time to reflect on all of their creative computing experiences by reviewing their design journals and responding to the reflection prompts in their design journals or in a group discussion.

RESOURCES

- projector and screen for presentations (optional)

REFLECTION PROMPTS

- + Look through your design notebook. What types of notes did you take?
- + Which notes were most helpful?
- + What has been your favorite Scratch project to work on so far? Why is it your favorite?
- + What do you want to create next?

REVIEWING STUDENT WORK

- + Did each team or individual have the opportunity to share their work and be celebrated?

NOTES

- + Sharing can take place in a variety of ways: individuals presenting to the entire group, concurrent subsets of students presenting, live demos, accessing projects from the web, etc.
- + Project portfolios, design journals, final project feedback handouts, and final project reflection handouts are a few (of many different possible) types of artifacts that may be collected for assessment purposes. (See Appendix.)

NOTES TO SELF

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SHOWCASE REFLECTIONS

NAME:

RESPOND TO THE FOLLOWING REFLECTION PROMPTS
USING THE SPACE PROVIDED BELOW OR IN YOUR
DESIGN JOURNAL.

+ Look through your design notebook. What types of notes did you take?

+ Which notes were most helpful?

+ What has been your favorite Scratch project to work on so far? Why is it your favorite?

+ What do you want to create next?

