

Appendix

Digital PDFS of the following worksheets can be found on our website at:
education.makewonder.com/curriculum

Tips and Tricks Handout

K-2 Planning Worksheet for Dash

K-2 Planning Worksheet for Dot

3-5 Planning Worksheet

Challenge Card Checklists

Blockly Puzzle Tracker

Reflections Worksheet

Advanced Reflections Worksheet

Challenge Card Template

Troubleshooting Handout

Problem Solving & Debugging Handout

Evaluation Rubric

Challenge Card Tips & Tricks



Determine Team Roles

Swap roles with your teammates for each challenge. Team roles include lead programmer, robot wrangler, and documentarian.



Plan Your Path

Draw out the path you want Dash to follow. Then plan out the blocks you'll need. You can also get up and walk the path that you think Dash should take.



Mark Your Spots

Use tape to mark Dash's starting spot and the location of any obstacles/objects.



Go Back to Start

Always put Dash back at the starting spot before playing a program again.



Use the When Start Block

Place your blocks under the **When Start** block. The **When Start** block should always be on your screen.



Think in Centimeters

Dash moves in centimeters. A centimeter is about the width of your finger.



Check Off the Steps

Use a dry erase marker to check off each step as you complete it. Make sure you erase the marks after you're done.



Help Your Robots Hear You

If the classroom is noisy, use the **Hear Clap** cue instead of the **Hear Voice** cue. Ask the teacher if you may try out your program with Dash and/or Dot outside or in the hallway.



Set a Time Limit

Give yourself or your team a set amount of time in which to complete the challenge

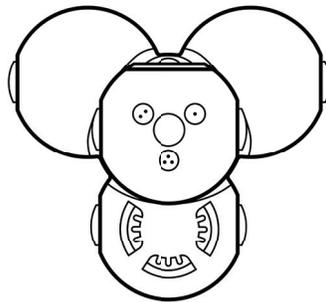
Dash Planning Worksheet

Name(s): _____ Date: _____

Coding Level: _____ Card #: _____

What do you want Dash to do?

Draw out the steps of the challenge or write a few sentences describing your goal.



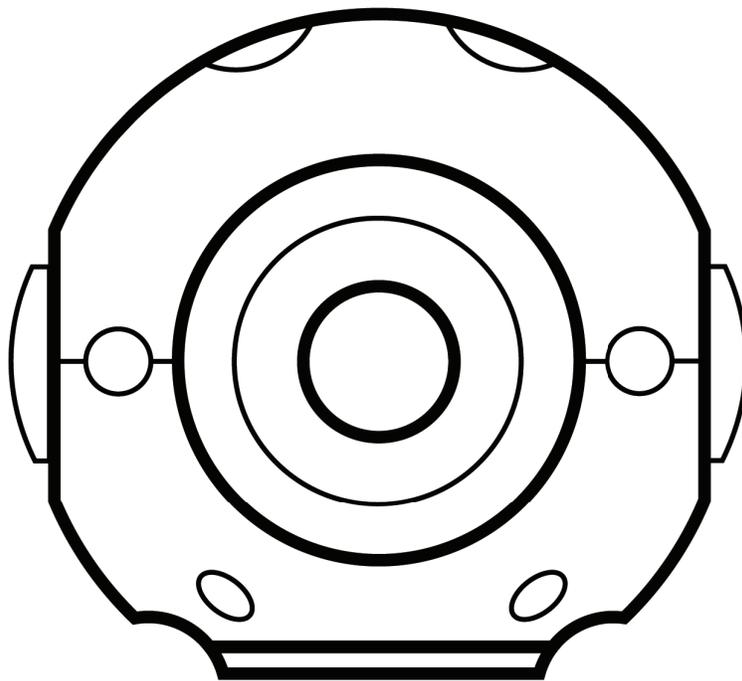
Dot Planning Worksheet

Name(s): _____ Date: _____

Coding Level: _____ Card #: _____

What do you want Dot to do?

Draw out the steps of the challenge or write a few sentences describing your goal.



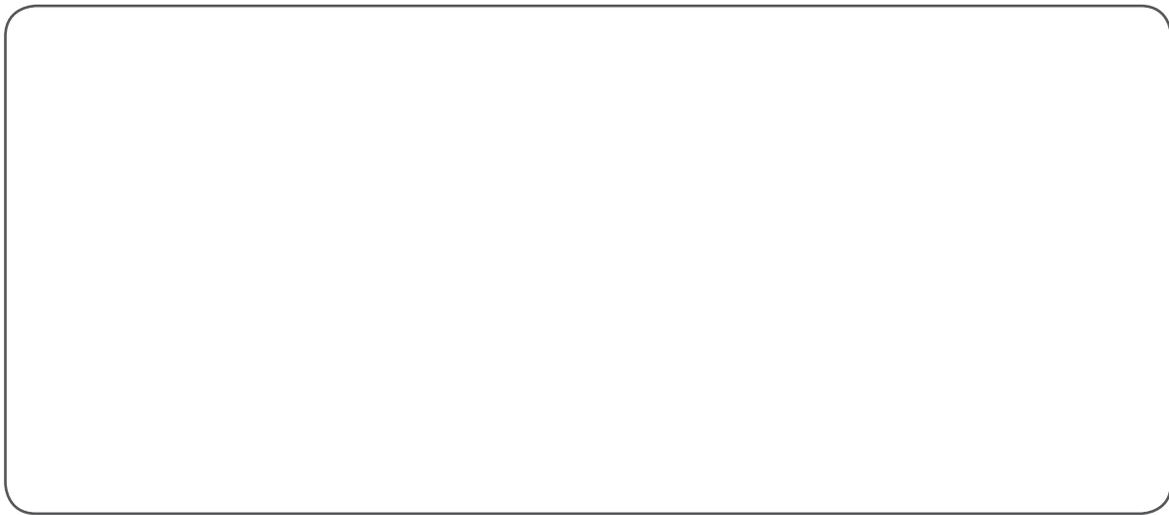
General Planning Worksheet

Name(s): _____ Date: _____

Coding Level: _____ Card #: _____

1. What do you want Dash or Dot to do?

Draw out the steps of the challenge or write a few sentences describing your goal.



2. What will you do to achieve your solution?

What will each team member do? What steps will you need to take? What blocks will you use?



Challenge Card Checklist

Name(s): _____

Level A

- 1.1: Ready, Set, Go!
- 1.2: Ready, Set, Dance!
- 1.3: Ready, Set, Rainbow!
- 2.1: Smile, Dot!
- 2.2: Dot Count Down
- 2.3: Dot's Surprise!
- 2.4: Dash Saves the Day!
- 2.5: Dash the Guard
- 2.6: Dash Guards Again!
- 3.1: The Forever Light Show
- 3.2: Dance, Dash, Dance!
- 3.3: Dash Guards a Lot!

Level B

- 1.1: Dash the Collector
- 1.2: It's Candy Time!
- 1.3: Egg Help!
- 2.1: Petting Zoo
- 2.2: Quick, Hide!
- 2.3: You Are Getting Sleepy
- 2.4: Littered Lake
- 2.5: Recycling Rush
- 2.6: Dash's Trash
- 3.1: On Your Mark!
- 3.2: Get Set!
- 3.3: Go, Go, Go!

Challenge Card Checklist

Name(s): _____

Level C

- 1.1: No Homework!
- 1.2: Come Back!
- 1.3: Wait!
- 2.1: Connect the Dots
- 2.2: The Dot Show
- 2.3: It's Your Turn!
- 2.4: Sleepy Time
- 2.5: Wake Up!
- 2.6: Lights Out!
- 3.1: Spaceship Spinout!
- 3.2: Help, help, help!
- 3.3: Robot Rescue!

Level D

- 1.1: Cheer Up, Friends!
- 1.2: Step It Up!
- 1.3: Happy Dance Flash Mob!
- 2.1: Follow the Coach
- 2.2: Training Day
- 2.3: The Big Event!
- 3.1: Fire Monster!
- 3.2: Big and Scary!
- 3.3: Curious Fire Monster
- 3.4: The Dot Monster
- 3.5: Dash's Escape!
- 3.6: Dash Escapes Again

Challenge Card Checklist

Name(s): _____

Level E

- 1.1: Rootin' Tootin' Line Dance!
- 1.2: Dance Along with Dot!
- 1.3: Dance Machine Dash!
- 2.1: Follow the Leader
- 2.2: GOAAAAAL!!!
- 2.3: Ready or Not!
- 3.1: Dance Rehearsal
- 3.2: Fancy Wheelwork
- 3.3: Dance Off!
- 3.4: Dog Trainer
- 3.5: Tricks Galore!
- 3.6: Obstacle Course!

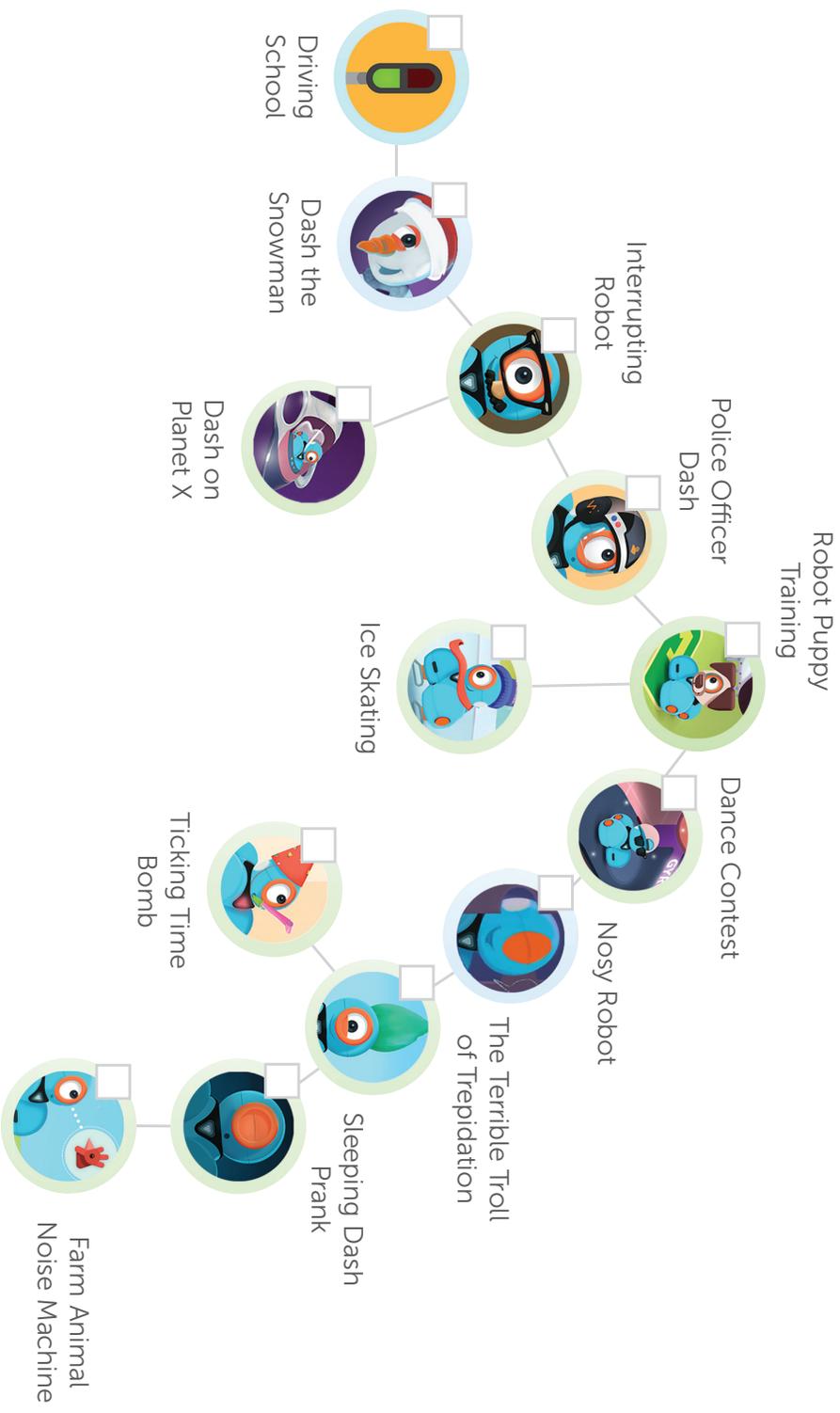
Level F

- 1.1: Dash-chund
- 1.2: Ruff, ruff!
- 1.3: Nom, nom, nom!
- 2.1: Road Trip!
- 2.2: Pump It Up!
- 2.3: On the Road!
- 3.1: Magic Dot Ball
- 3.2: Duck, Dot, Goose!
- 3.3: Win, Lose, or Dot!
- 3.4: Lucky 7's
- 3.5: 13 = Yuck!
- 3.6: Black Cats!

Blockly Dash Puzzle Tracker

Name(s): _____

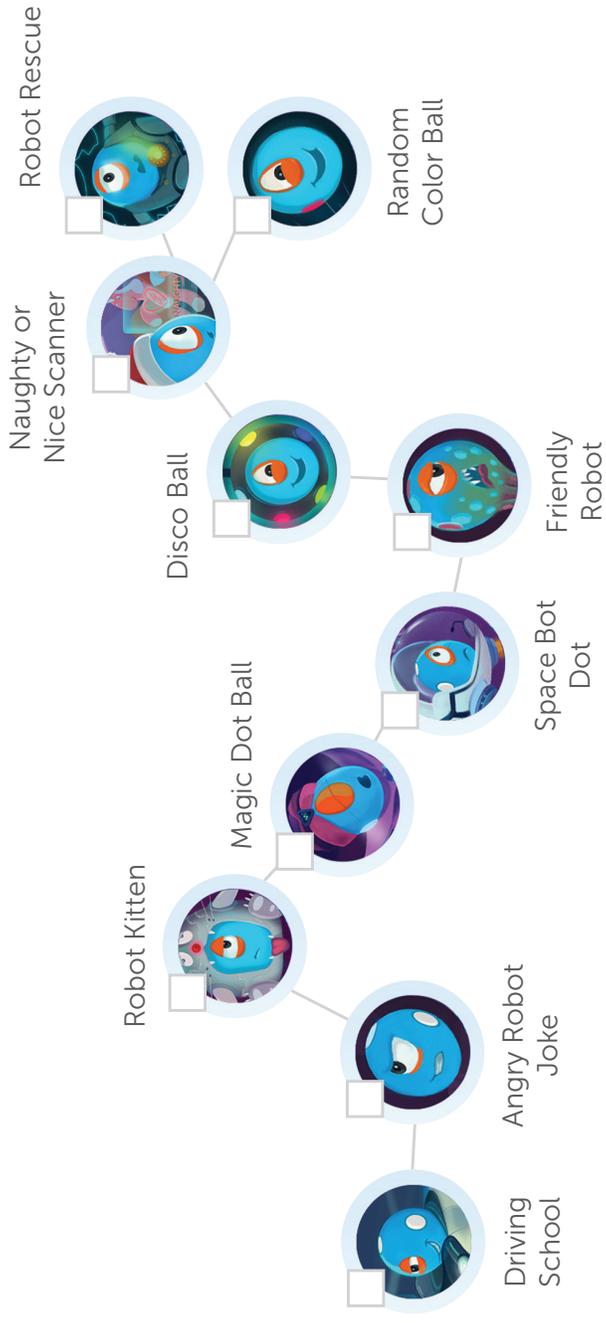
Check off the puzzles that you complete in the Blockly app!



Blockly Dot Puzzle Tracker

Name(s): _____

Check off the puzzles that you complete in the Blockly app!



Reflection Worksheet

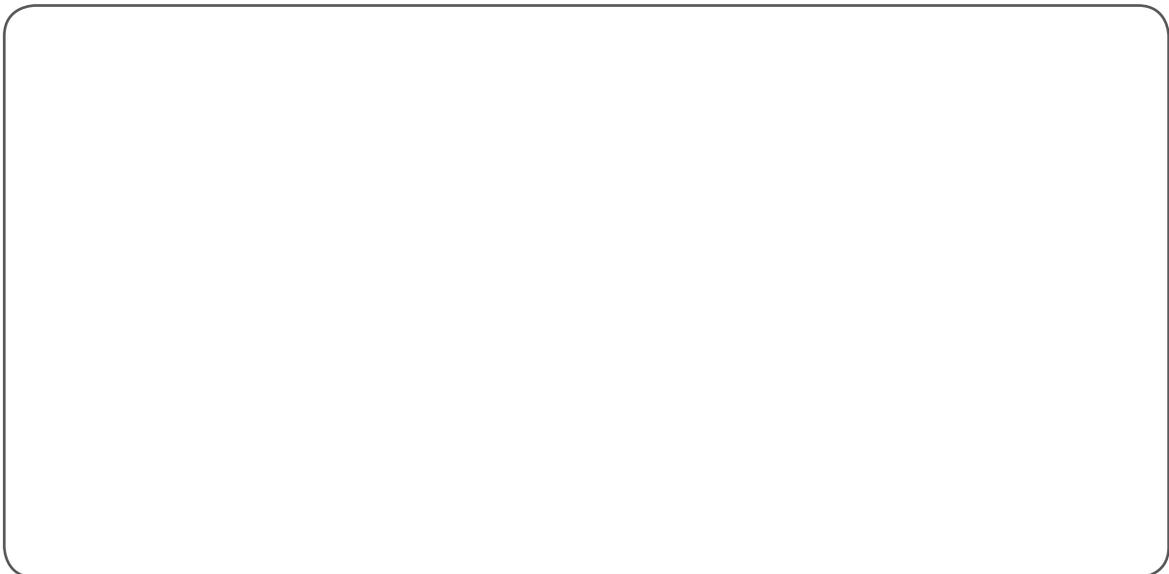
Name(s): _____ Date: _____

Coding Level: _____ Card #: _____

1. What did Dash and/or Dot do when you ran your program?



2. Did you make any mistakes? If so, how did you fix them?



Advanced Reflection Worksheet

Write a reflection entry in your Wonder Journal. Try to answer these questions as part of your reflection:

Results

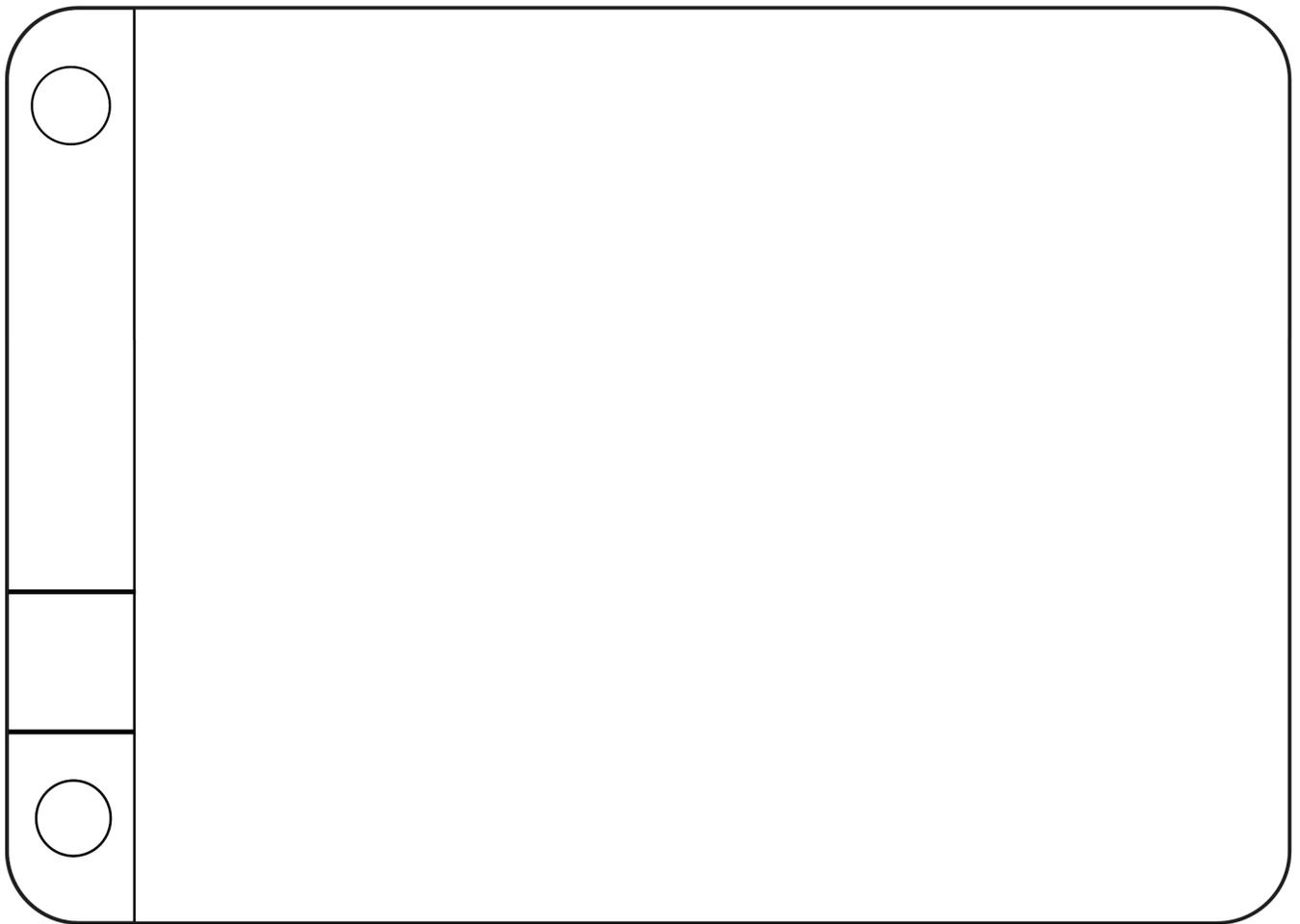
- What did Dash and Dot do when you ran your program?
- Did you make any mistakes? If so, how did you fix them?

Connections

- What did you like the most about this challenge? Why?
- What was the most difficult part of the challenge? What did you learn from it?

Next Steps

- If you had more time, how would you change or add to your code?
- What are you planning to do next? Will you try another Challenge Card or start a new coding project?



Troubleshooting

If your program is not running correctly . . .

- Check if Dash and/or Dot are turned on.
- Make sure Dash and/or Dot are connected to the app.
- Make sure your blocks are connected to the **When Start** block.
- Try restarting the app.

If Dash and/or Dot are disconnecting . . .

- Turn off the robots and turn them on again. Then reconnect the robots to the app.
- Press play and then press stop to make the robots reset.
- Try charging the robots.

Three, then me!

- Ask or get help from three of your classmates. If you still need help, then ask the teacher.

Problem Solving & Debugging

Break down the challenge

- What do you need for the challenge? Which robots? Which materials and/or accessories?
- What are Dash and/or Dot supposed to do?
- Have you solved similar challenges to this one?
- Focus on one step at a time.

Plan your solution

- Draw a picture or make a list of what you want Dash or Dot to do.
- What blocks will you need to complete the challenge?
- Are there any hints on the card that can help?
- Use tape to mark Dash's starting point.
- Use tape to mark each obstacle's location.

Test Your Code

- Does your code complete the challenge?
- If not, play your code again. Watch as the program goes through each block. Do you notice any mistakes?
- Do you need to change, delete, or add more blocks?
- Are your blocks telling Dash to do something when you actually want Dot to do something?

Improve your work

- Ask another student or group to check your program.
- Is there an easier way to complete the challenge? Can you use fewer blocks?
- How can you improve your program? Could you add more lights, sounds, or other customizations?

Evaluation Rubric

	Programming	Reflection & Documentation	Collaboration & Communication	Creativity
1 Novice	Completed part of the activity and needed assistance throughout the process.	Use a journal, worksheets, and/or multimedia tools (such as video and images) to document some of the activity results.	Participated little or not at all in classroom discussions. Demonstrated little to no cooperation with group members during the activity.	Demonstrated limited creativity in developing ways to complete the activity.
2 Developing	Used the targeted coding concept(s) to complete the activity with some assistance.	Incorporated some target vocabulary and some thoughtful reflection on the coding process while documenting activity results using journal entries and multimedia tools.	Occasionally participated in classroom discussions and cooperated somewhat with group members.	Developed a few different ways to complete the activity, but the solution was not particularly creative.
3 Proficient	Used the targeted coding concept(s) to complete the activity without assistance.	Incorporated target vocabulary and reflection on the coding process. Clearly documented activity results using journal entries and multimedia tools.	Actively participated in classroom discussions. Answered questions and cooperated with group members during the activity.	Applied the iterative process to develop creative and unexpected solutions for the activity.
4 Exemplary	Used the targeted coding concept(s) to complete the activity without assistance. Enhanced the solution with more efficient (e.g., fewer blocks) and/or advanced features (e.g., lights, sounds) in the code.	Incorporated advanced target vocabulary and in-depth reflection on the coding process. Thoroughly and clearly documented and presented activity results.	Actively participated in classroom discussions and cooperated with group members. Gave constructive feedback to others and effectively incorporated feedback from others.	Went above and beyond to develop, revise, and execute imaginative solutions for the activity.