

No Kits Required

Teaching Robotics, Coding, and Engineering in Any Classroom

Aman Bansal · Qweebi

While we wait — drop your grade level and school in the chat.

What stopped you last time?

The last time you wanted to run a robotics or engineering project — what got in the way?

Supplies

Cost

Time

Storage

Prep

Something else

One word in the chat.

Your mission

Design and build a Rube Goldberg Machine to feed a pet.



Design criteria

- 1 Use at least 3 simple machines
- 2 Run your machine for at least 7 seconds
- 3 Once started, no human intervention until the task is complete



You'll make the decisions. **I'll control the screen**

Let's build one.

LIVE · [switch to Qweebi](#)

STUDENT SHOW-AND-TELL

See the student thinking

 Mira • Grade 8



As you watch, notice what **evidence of learning** you hear in Mira's explanation



What evidence of learning did you notice in Mira's explanation?

Put one thing in the chat

You just named the standards

8.2.5.ED.2

Explore multiple solutions

Collaborate to brainstorm and evaluate possible solutions using sketches or models.

8.2.5.ED.4

Work within criteria and constraints

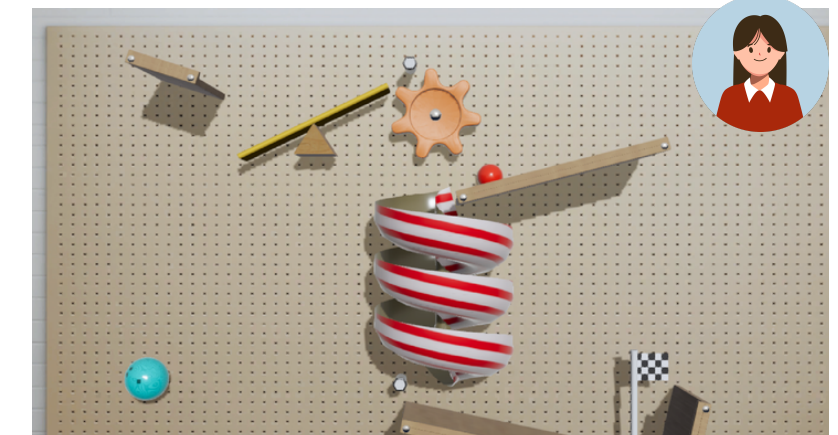
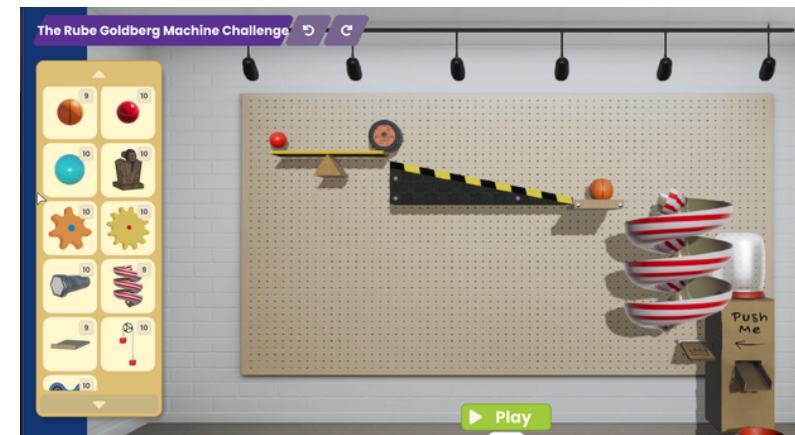
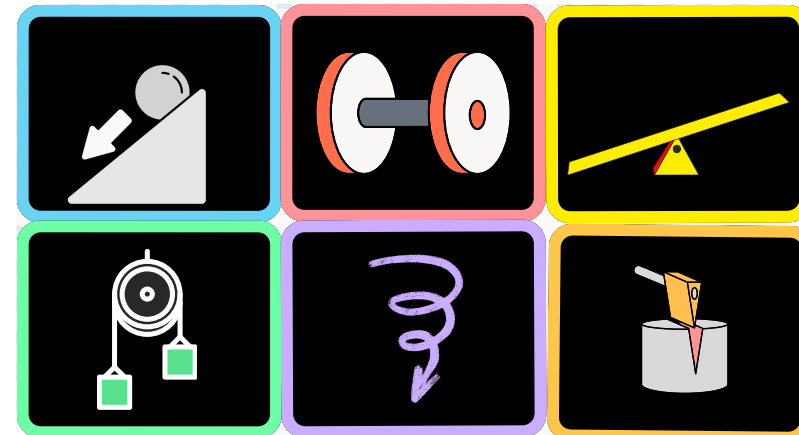
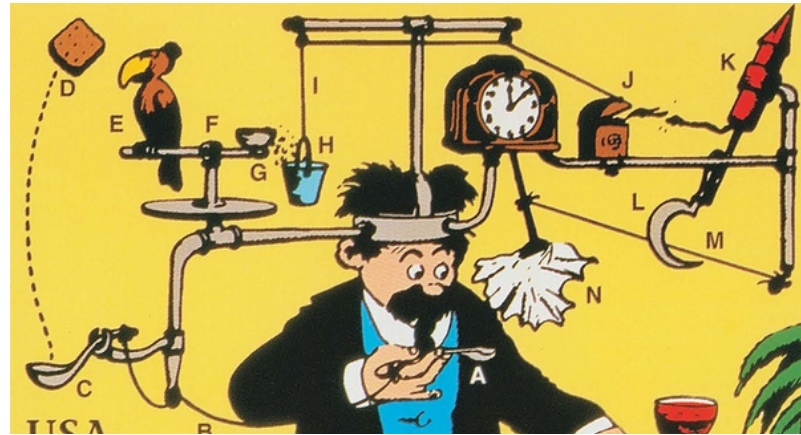
Explain how resources, criteria, and constraints influence the development of a product.

8.2.5.ED.5

Design around limitations

Describe how specifications and limitations affect the design process.

What does teaching this project look like for you?



1

The Hook

10 min

You introduce the challenge and lead the discussion.

2

Simple Machines Bootcamp

80 min

The instruction is built in. You guide the discussion and support students.

3

Final EDP Challenge

40 min

Students build and improve. You coach with questions.

4

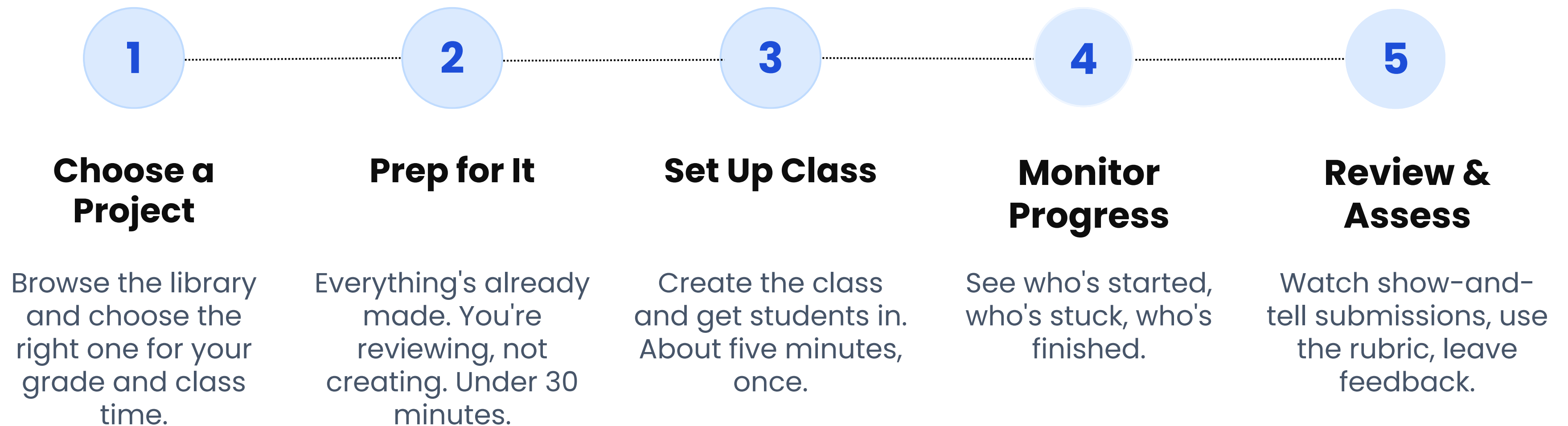
Reflection & Show-and-Tell

40 min

Their videos appear in your dashboard. You assess reasoning and reflection.

About 4 class periods • Under 30 minutes of total prep

Set Up, Monitor, and Assess



Set Up, Monitor, and Assess

LIVE · [switch to the teacher dashboard](#)

Your mission

Program your PickBOT to clear the rocks.



Design criteria

- 1 Clear all the rocks from any 2 patches
- 2 Collect at least 10 apples
- 3 Avoid getting run over by tractors and harvesters



Same learning cycle. This time, students improve an algorithm instead of a machine.

Same challenge. Different algorithms.

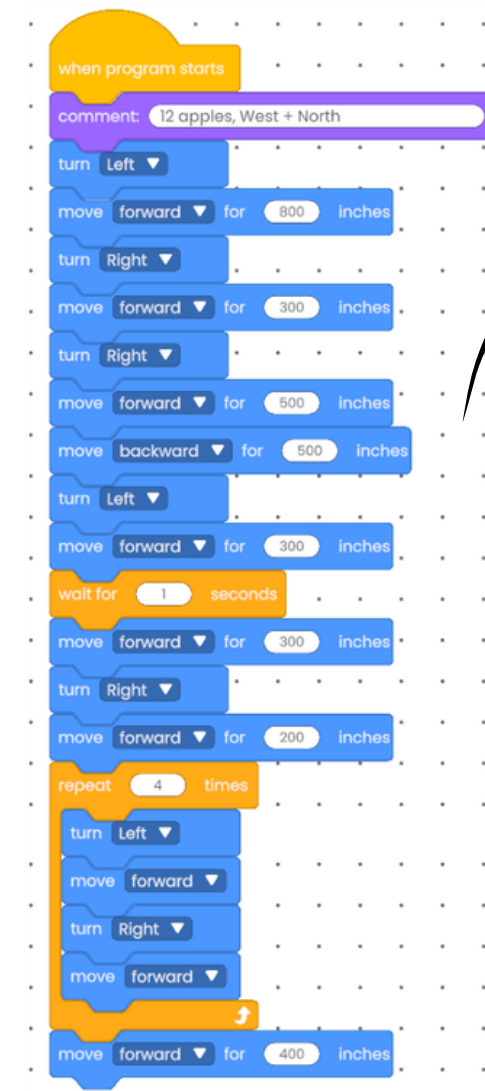
Both solve the task. Students can compare which approach better fits the goal.

Solution A: 10 apples, West + East



Longer
program
with more
steps

Solution B: 12 apples, West + North



More
efficient.
Fewer
blocks

What students are practicing:

Break the task into steps
8.1.5.AP.4

Plan an algorithm
8.1.5.AP.1

Sequences and loops
8.1.5.AP.3

Test, debug and refine
8.1.5.AP.6

Where Qweebi fits in your toolkit

Digital scalability, with meaningful design, testing, and iteration.

	Physical kits	Code.org / Scratch	Unplugged	Qweebi
Supports coding concepts	Varies	Strong	Partial	Strong
Supports engineering design	Strong	Limited	Partial	Strong
No supplies, storage or cleanup	No	Yes	Yes	Yes
Every student can test repeatedly	Harder to scale	Yes	Limited	Yes

What teachers notice:

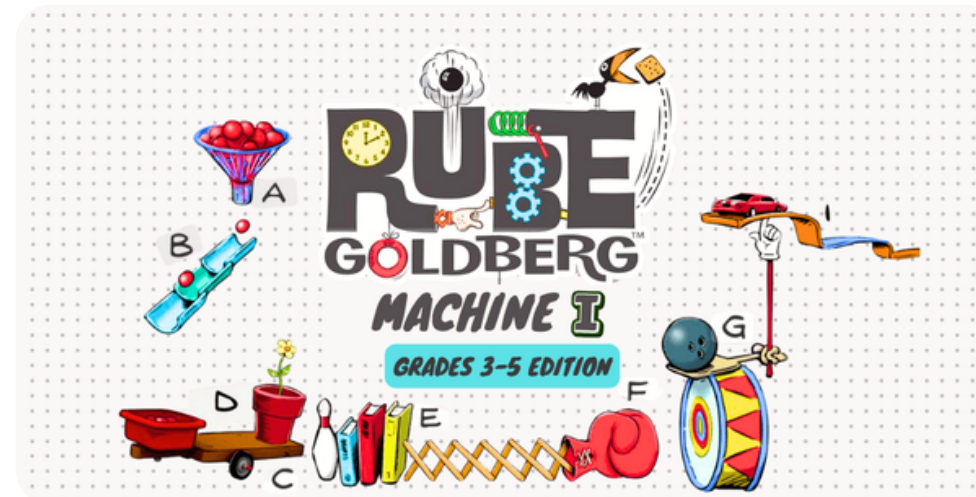
“What I like about this project, more than Code.org, is the real life application. Students see Robots solve real-world problems.”

Allison Hill, STEM Teacher, Bradley School, Connecticut

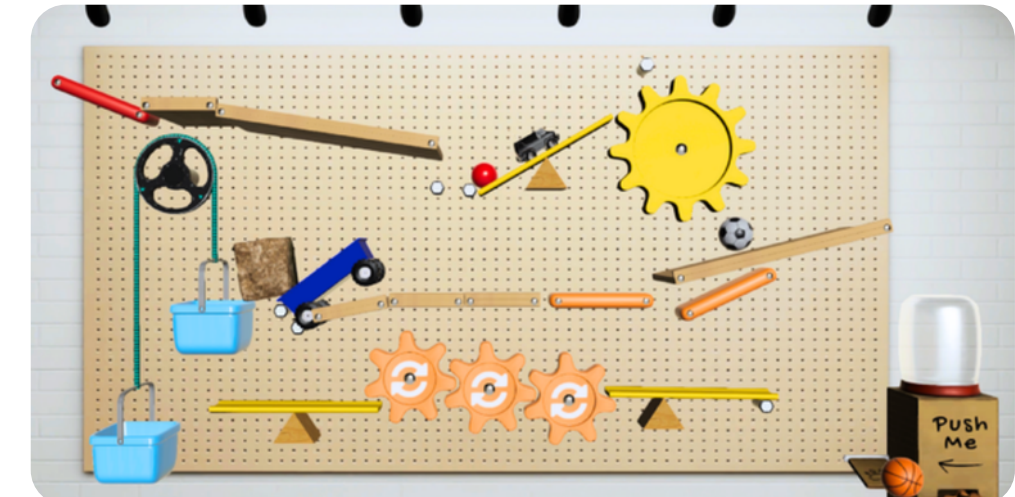
One platform. Multiple ways to teach STEM and CS.



Roller Coaster



Rube Goldberg Machine I



Rube Goldberg Machine II



Mars Rover Explorer



Mars Rover Transporter



Farm Robotics PickBOT

The same ready-to-run classroom structure, across engineering, robotics, and coding.

Coming this fall: wind, solar and drone.

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Type the project you'd run first in the chat.

Questions

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