MADLY PRODUCTIVE
PATHWAYS
PROJECT-BASED CTE CURRICULUM
FOR BUSINESS & TECH CLASSROOMS

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PROJECT-BASED. REAL-WORLD. FUTURE-READY.

START HERE

Start Here

This lesson takes four 45-minute periods. Everything is printable, and every page has a key. You don't need a computer science background to teach it.

Students should already know: Students need no Python before this lesson. They only need to type on a keyboard and open a link.

Every file, and when you use it

File	Folder	What it is	When you use it
Teacher Guide and Pacing	00 Start Here	The plan for each day, what to print and how to grade	Before you start
Skills map	00 Start Here	Which Florida standards each day teaches	When you plan
Slide deck	01 Present	One deck for all four days. Each day starts at its own dark Day slide, and the speaker notes say what to say.	Every day
Slide script	01 Present	The speaker notes, printed	If you want your notes on paper
Bell ringers	01 Present	A short warm-up for each day	At the start of each day
Google Slides	01 Present	A page with a link that makes your own Google Slides copy of the deck. It has the same slides and speaker notes.	If you teach from Google Slides
Guided notes	02 Student Handouts	One packet for all four days, in PDF and Word. Students fill in the blanks during the slides, with the word bank on the page.	During the slides, every day
Vocab slip	02 Student Handouts	The lesson's words and what they mean, on one page	Day 1. Students keep it.
Predict the Output	04 Activities	Students predict the exact output of eight short programs, on paper with computers closed.	Day 1, the middle of the period
First Words, PAPER or ONLINE	03 Labs	Students write three short programs that print lines exactly and explain why each one works, on paper or in CodeGrove. Print the PAPER or the ONLINE version, not both.	Day 2, the middle of the period
Sign Maker, PAPER or ONLINE	03 Labs	Students lay out three signs with blank lines, symbols and comments, and explain why each one works, on paper or in CodeGrove. Print the PAPER or the ONLINE version, not both.	Day 3, the middle of the period
Field Trip Flyer, PAPER or ONLINE	04 Activities	Students write a short field trip flyer program alone, on paper or in CodeGrove. Print the PAPER or the ONLINE version, not both.	Day 4, before the quiz
Exit tickets	05 Assessment	Quick questions that show who needs more help	At the end of each day

File	Folder	What it is	When you use it
Lesson quiz	05 Assessment	8 multiple-choice questions and 2 written answers about all four days	Day 4, after Field Trip Flyer
Google Forms	05 Assessment	A page with links that make your own Google Forms copies of the exit tickets and the quiz. The multiple choice grades itself. Never give students these links. Use a Form that asks students to read code only on school-managed Chromebooks, with locked mode turned on in the Form's Settings. On every other device, use the paper version.	If students answer online instead of on paper
Answer keys	06 Answer Keys	A key for each day (its bell ringer, notes and exit ticket) and the activity and lab keys, plus the quiz key	When you grade
CodeGrove	Online	An online game with its own levels for this lesson: First Words on Day 2, Sign Maker on Day 3 and Field Trip Flyer on Day 4. It needs a computer or tablet.	Days 2, 3 and 4, if you pick ONLINE

Paper or online: you choose

These hands-on parts come in two versions. Print one, not both. Both versions have the same tasks, the same points and one answer key. Online is never required. It needs a computer or tablet for each student or pair.

Day and part	PAPER	ONLINE
Day 2 lab: First Words	Students write three programs on the sheet and read each one from top to bottom to check it. No computers are needed.	Students play First Words, a level of CodeGrove, our online game, on a computer or tablet. They do each task in the game, then write their code and the Why answer on the sheet.
Day 3 lab: Sign Maker	Students write three sign programs on the sheet and read each one from top to bottom to check it. No computers are needed.	Students play Sign Maker, a level of CodeGrove, our online game, on a computer or tablet. They do each task in the game, then write their code and the Why answer on the sheet.
Day 4 activity: Field Trip Flyer	Students write the program on the sheet and read it from top to bottom to check it. No computers are needed.	Students play Field Trip Flyer, a level of CodeGrove, our online game, on a computer or tablet. They do the task in the game, then write their code and the Why answer on the sheet.

The fastest way to run it

1. Print one guided notes packet for each student. It covers all four days, with a header for each day.
2. Open the slide deck. Each day starts at its own dark Day slide, so you always know where today begins. The speaker notes under each slide say what to point to, what to say and which blanks to fill in. The same notes are printed in 01 Present/Slide_Script_and_Speaker_Notes.pdf.

3. Run the activity or lab in the middle of the period. That is where students practice the day's skill. When it comes in two versions, print the one that fits your room.
4. Collect the exit ticket on the way out. It takes a few minutes and shows you who needs more help.

The lesson quiz is on Day 4

Day 4, Quotes and Careful Output, teaches new material first, in its slides and notes. Then students do a short practice task and take the quiz. Keep the Day 4 slides, because the quiz covers them.

- **When:** Day 4, after Field Trip Flyer. Collect that sheet before the quiz.
- **What's on it:** 8 multiple-choice questions and 2 written answers. They cover all four days.
- **How long:** about 15 minutes. Students work alone.
- **Points:** 12 in all. Part A has 8 three-choice questions worth 1 point each. Part B has 2 written questions worth 2 points each. You grade the written answers by hand.
- **The key:** 06 Answer Keys/1.1_Lesson_Quiz_Answer_Key.pdf. It gives the right choice and the reason for each choice question, and for each written one, a sample answer and what to look for.

CodeGrove, the online game

CodeGrove is an online game that goes with this lesson. Students play it in a browser on a computer or tablet, with no account. It doesn't work on phones, and it's never required.

This lesson's level is **First Words**. It practices writing programs that print lines of text exactly, with blank lines and comments.

It's the ONLINE version of the Day 2 lab, which takes 27 minutes. Handing out the sheets and opening the game takes about 3 minutes. Students work for about 18 minutes, 14 in the game and 4 to finish their boxes with computers closed. Then the class goes over the three programs for about 6 minutes.

ONLINE students write each answer on the sheet as they go, so writing the answers is part of the 14 minutes. The Day 3 lab, Sign Maker, is a second level that also takes about 14 minutes. The Day 4 task, Field Trip Flyer, is a third level that takes about 10 minutes.

Students don't need an account, and there is nothing to install. The first time CodeGrove opens on a slow Chromebook, Python can take 10 to 20 seconds to start, so students read the task while it loads.

Game link: madlyproductivepathways.com/codegrove?level=1.1

If you're short on time

Keep every day's slides and notes, because the quiz covers them. To save time, skip a day's bell ringer and exit ticket.

Safety and ethics

Every person, school, club and event in this lesson is invented.

Students work on paper or in CodeGrove. They never sign in or make an account.

WHAT'S REAL AND WHAT'S INVENTED

Every person, school, club and event in this lesson is invented. The labs run on paper or in CodeGrove, our online game, so students never sign in or make an account.

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