



Design an app that helps users navigate everyday challenges. Create digital solutions that respond to user input and environmental changes. Develop systems that protect sensitive data from cyber threats. Analyze large data sets to uncover patterns and make predictions. Build simulations that model complex real-world scenarios. Whether seeking a career in technology or simply looking to solve real-world problems using computational thinking, students in Computer Science Foundations will learn to develop creative digital solutions and gain practical experience with user-centered design, programming fundamentals, and data analysis techniques that are essential in today's increasingly connected world.

The PLTW Computer Science Foundations (CSF) course includes 80 days of hands-on, structured learning experiences to engage students in individual or group problem solving. Students learn about the fundamentals of computer systems, security, data and simulations, emerging technologies, and the impact of computing. They then transition into algorithms and programming through app development and creative problem solving. Along the way, they practice transportable skills including collaboration, communication, and ethical reasoning. The course also exposes students to a variety of computer science careers and highlights a diverse group of industry professionals.

Computer Science Foundations is designed with strong connections to the [Indiana CS Framework](#). These intentional connections will help students gain confidence and reinforce essential concepts and skills students need beyond high school. The course includes the following two units:

CSF Unit Summary

Unit 1	Data, Innovations, and Security	(38 days)
Unit 2	App Development	(42 days)

Unit 1: Data, Innovations, and Security (38 days)

Unit 1 introduces students to the world of computer science, covering a wide range of topics. It begins with careers, innovation, and ethics, then moves on to how computers and the internet function, personal security, and safety practice. The unit concludes with subjects such as cryptography, large-scale data processing, and an introduction to AI concepts.

Data, Innovations, and Security Unit Summary

Lesson 1.1	How Computers Impact You	(20 days)
Lesson 1.2	Data Around Us	(13 days)
Lesson 1.3	Impacts of Computing Innovations	(5 days)



Unit 2: App Development (42 days)

Unit 2 focuses on programming concepts and application development for handheld devices.

App Development Unit Summary

Lesson 2.1	Basic App Development	(21 days)
Lesson 2.2	Advanced App Development	(11 days)
Lesson 2.3	Creating Value for Others	(10 days)

Lesson 2.1 Basic App Development

Students start with block-based programming, creating simple apps like a digital doodle, and gradually progress to more complex concepts such as algorithms, conditionals, and event-driven programming. Students learn to develop interactive games while exploring the use of local and global variables, loops, and iteration. This lesson emphasizes user-centered design, iterative development, and debugging, encouraging students to think critically and creatively. Pair programming and collaboration are also highlighted, preparing students for real-world computer science applications.

	Activity 2.1.1	Digital Doodle	(3 days)
(Alternative)	Activity 2.1.1	SciFi Name (3 days)	
	Activity 2.1.2	Happy Accelerometer	(3 days)
(Alternative)	Activity 2.1.2	Zombie Apocalypse	(3 days)
	Activity 2.1.3	Happy Balance	(3 days)
(Alternative)	Activity 2.1.3	Getting Started With Apps	(2 days)
	Activity 2.1.4	Guessing Game - Two Player	(4 days)
	Activity 2.1.5	Guessing Game - One Player	(3 days)
	Project 2.1.6	Creative Expression	(5 days)

Lesson 2.2 Advanced App Development

This lesson introduces more advanced concepts such as databases and Application Programming Interfaces (APIs). Students use creative expression and critical thinking to design their own apps. They practice problem solving, user-centered design, and collaboration and communication skills.

Activity 2.2.1	Interview Databas	(3 days)
Activity 2.2.2	Hack Attack	(3 days)
Activity 2.2.3	Problem Solving and Innovation	(5 days)



Lesson 2.3 Creating Value for Others

Students are guided through the process of developing an app that creates value for others, emphasizing the importance of decomposing projects and applying coding fundamentals. Students define their own app projects, conduct user research, and iterate based on feedback.

Problem 2.3.1 Creating Value for Others

(10 days)

Trademark Attribution: PLTW, Project Lead The Way, and the PLTW logo are registered trademarks of Project Lead The Way, Inc. All other brand names, product names, or trademarks belong to their respective holders.



Project Lead The Way, Inc.
5939 Castle Creek Parkway North Dr.
Indianapolis IN, 46250

2026/27 School Year Quote

(Do Not Pay. Not an invoice. Use to create a purchase order.)

Date Created: 9/15/2026
Expiration Date: 10/15/2026

Bill To

Attention:	Candance Nielsen
Site Name:	Montabella Community Schools
Address:	302 West Main St
City:	EDMORE
State:	Michigan
Zip:	48829

*E&S items on this quote are an aggregated approximation of individual item prices and subject to change. For an itemized list with current prices, visit the PLTW Store at myPLTW.org.

*Your quote may list multiple training registrations; however, checkout can only be completed with one registration per transaction. Registrations are tied to myPLTW accounts, so each teacher needs to register themselves.

Item #	Item	Pathway	PD Attendee Name (if applicable)	PD Date(s)	Base Price	Qty	Total Price
1	Computer Science Foundations Program	Computer Science	n/a	n/a	\$ 499.00	1	\$ 499.00
2	Computer Science Foundations Core Training	Computer Science	n/a	n/a	\$ 1,200.00	1	\$ 1,200.00
3	Computer Science Equip. & Supp. - Durables	Computer Science			\$ 468.50	1	\$ 468.50
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							

PLTW Use Only	
Prepared By:	CR
Approved By:	CR

Subtotal	\$ 2,167.50
High School PF Bundle Adjustment	\$ -
Total	\$ 2,167.50

OVERVIEW

CLOSE X

Computer Science Foundations

Develop the conceptual and instructional understanding you'll need to guide students as they balance technical skills with computational thinking while they collaborate on meaningful projects and develop transferable skills aligned with Indiana's academic standards.

How to Register

Please choose "Register Today" to access or create your myPLTW account and register for your training. For complete myPLTW instructions click [here](#).

Register Today

*This training includes components of live, online instructor-led time PLUS independent work.

Details

Type: Online

Location: Virtual

Time Commitment: 24 hours over 3 weeks + 16 hours of independent work

Date: 9/29/26-10/15/26

Meeting Days: Tuesday, Thursday

Meeting Times: 7pm to 9pm ET (plus 28 hours additional work time)

Tuition: \$1200