**TI STEM and Coding Resources: Getting Started and Beyond**

**TI-84 Plus CE TI-Basic using TI-Innovator Hub, TI-Rover and more**

See [link](https://resources.tistemprojects.com/tistemprojects-home?resource_id=3555)

**Getting Started with TI-84 Plus CE TI-Basic**

* Overview of TI-84 Plus CE (video from Digital Mood Ring project) [link](https://www.youtube.com/watch?v=gnknUtkTTSc&list=PL17Fe0ZmhCR-PAuv5pw85vxrtLu5YGeWl&index=2)
* Write your first TI-Basic program with TI-Innovator Hub (video from Digital Mood Ring project) [link](https://www.youtube.com/watch?v=qJC0xevuqhw&list=PL17Fe0ZmhCR-PAuv5pw85vxrtLu5YGeWl&index=3)
* 10 Minutes of Code for TI-Basic [link](https://education.ti.com/en/activities/ti-codes/84/10-minutes)
	+ Unit 1: Program Basics and Displaying on Screen
* **Meet the Rover** [link](https://resources.tistemprojects.com/tistemprojects-home?resource_id=3485)
* **Meet the TI-Innovator Hub** [link](https://resources.tistemprojects.com/tistemprojects-home?resource_id=3605)
* [10 Minutes of Code for Python](https://nam11.safelinks.protection.outlook.com/?url=https%3A%2F%2Feducation.ti.com%2Fen%2Factivities%2Fti-codes%2Fpython%2Fnspire%2520%250d10&data=04%7C01%7Cconchita.england%40acboe.net%7Cff41f4b3a71349184ae208d9a9d5c6a1%7C95906bbc973947fc9c7faf193d7e5c12%7C0%7C0%7C637727557928885500%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=Pb5yIJlMHifaSAHA1xcSr5tHk2JgIDzxGu7qWsBnsv4%3D&reserved=0" \t "_blank" \o "https://nam11.safelinks.protection.outlook.com/?url=https%3A%2F%2Feducation.ti.com%2Fen%2Factivities%2Fti-codes%2Fpython%2Fnspire%2520%250d10&data=04%7C01%7Cconchita.england%40acboe.net%7Cff41f4b3a71349184ae208d9a9d5c6a1%7C95906bbc973947fc9c7faf193d7e5c12%7C0%7C0%7C637727557928885500%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=Pb5yIJlMHifaSAHA1xcSr5tHk2JgIDzxGu7qWsBnsv4%3D&reserved=0)with TI-Innovator Hub and Rover [link](https://education.ti.com/en/activities/ti-codes/84/10-minutes-innovator)
	+ Unit 1: Getting Started with the TI-Innovator Hub
	+ Unit 4: Make Rover Move!
* Introduction to SmartView CE software for demonstration (video) [link](https://youtu.be/A9c10sMT5I8)

**TI-Rover Projects and Activities**

* **Meet the Rover** [link](https://resources.tistemprojects.com/tistemprojects-home?resource_id=3485)
* **Rover, Watch Out for Rover** [link](https://resources.tistemprojects.com/tistemprojects-home?resource_id=2916)
* **On-Ramp to Robotics: Unit 1 Motion Mars Challenge** [link](https://resources.tistemprojects.com/tistemprojects-home/?resource_id=2078)
* **On-Ramp to Robotics: Unit 2 Sensing Mars Mineral Challenge** [link](%E2%80%A2https%3A/resources.tistemprojects.com/tistemprojects-home/?resource_id=2402)
* **Math in Motion Lessons** [link](https://education.ti.com/en/activities/innovator/math)
	+ Move the Cone
	+ Navigate “Math-hattan” Challenge
	+ Drive the Line Challenge
	+ Driving Inequalities Challenge
* [10 Minutes of Code for Python](https://nam11.safelinks.protection.outlook.com/?url=https%3A%2F%2Feducation.ti.com%2Fen%2Factivities%2Fti-codes%2Fpython%2Fnspire%2520%250d10&data=04%7C01%7Cconchita.england%40acboe.net%7Cff41f4b3a71349184ae208d9a9d5c6a1%7C95906bbc973947fc9c7faf193d7e5c12%7C0%7C0%7C637727557928885500%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000&sdata=Pb5yIJlMHifaSAHA1xcSr5tHk2JgIDzxGu7qWsBnsv4%3D&reserved=0)with TI-Innovator Hub and Rover [link](https://education.ti.com/en/activities/ti-codes/84/10-minutes-innovator)
	+ Unit 4: Make Rover Move!
	+ Unit 5: Rover’s Sensors
	+ Unit 6: Coordinates with Rover
* **STEM Event TI-Innovator Hub and Rover activities** [link](%E2%80%A2https%3A/resources.tistemprojects.com/tistemprojects-home/?resource_id=2986)

**Note:** See the project pages to download teacher background PDF’s, student handouts, Teacher files with example programs and student files with scaffolding of the project.

**Connectivity to handhelds**

Transfer files to and from the calculator. Screen Snapshots. Update Handheld OS.

* **TI Connect CE Software for Mac and Windows** [link](https://education.ti.com/en/products/computer-software/ti-connect-ce-sw)
* **TI Connect CE App for Chromebooks** [link](https://chrome.google.com/webstore/detail/ti-connect-ce-app-for-chr/aokihcpccmdjjkebakdanncddpdnkfla?hl=en-US)

**TI-Innovator Hub Projects and Activities**

 **Smart System Projects**

* **Digital Mood Ring** [link](https://resources.tistemprojects.com/tistemprojects-home/?resource_id=1880)
* includes step-by-step videos [link](https://www.youtube.com/playlist?list=PL17Fe0ZmhCR-PAuv5pw85vxrtLu5YGeWl)
* download teacher document [link](https://education.ti.com/en/~/media/b67b71d3a4014e0b92b7b4f10a94fb93.ashx?h=16&thn=1&w=16&rev=0e0f77f1-da07-4580-b755-a2a348830aaa)
* download teacher project background document [link](https://education.ti.com/en/~/media/7615f1d39c1e453ab1d0d1a5716bed31.ashx?h=16&thn=1&w=16&rev=99076902-846b-4de0-b8aa-5dd6847ded28)
* download student handout [link](https://education.ti.com/en/~/media/1ab204e95e39476d92da0cc7156a32ba.ashx?h=16&thn=1&w=16&rev=3af338df-0a4c-48fa-8594-366a6c0be212)
* download zip file with example programs [link](https://education.ti.com/en/~/media/d18a9d69ce9640edb86ff7d55cb3a257.ashx?h=16&thn=1&w=16&rev=11d6de0a-89c7-4421-ba2d-293d883bc914)
* **Four-Chambered Heart** [link](https://resources.tistemprojects.com/tistemprojects-home/?resource_id=2860)
	+ Download Heart Build Sheet PDF [link](%E2%80%A2https%3A/education.ti.com/en/~/media/5c8e40a17dab454bb039f4cd563bed71.ashx?h=16&thn=1&w=16&rev=e526f9bc-e985-4454-9ce6-ed2a52a838d3)
	+ Quick demonstration video [link](https://www.youtube.com/watch?v=PqcsoORAiL0)
* **Smart Irrigation Project** [link](https://resources.tistemprojects.com/tistemprojects-home/?resource_id=1807)
	+ Demonstration Video by TI STEM Team [link](https://www.youtube.com/watch?v=U3Nf_9xvWEs)
	+ Blog Post from US Teacher [link](https://education.ti.com/en/bulletinboard/2022/smartwater)
	+ Video from High School in Portugal [link](https://www.youtube.com/watch?v=afvYR8WNTbI)
* **Pet Car Alarm Project** [link](https://resources.tistemprojects.com/tistemprojects-home/?resource_id=1868)
	+ Demonstration video by TI STEM Team [link](https://youtu.be/0EguJwSzcDQ)
* **Some Like it Tepid** [link](https://resources.tistemprojects.com/tistemprojects-home/?resource_id=2467)
* **Making Music with Code** [link](https://resources.tistemprojects.com/tistemprojects-home/?resource_id=2403)
* download teacher document [link](https://education.ti.com/en/~/media/53160ae10eb34f8c9e3b8707ebade80e.ashx?h=16&thn=1&w=16&rev=d201f84e-e4d0-4e40-8ae5-05417eb95160)
* download student handout [link](https://education.ti.com/en/~/media/41d1300939f1430a9ebb85e99d4de212.ashx?h=16&thn=1&w=16&rev=ce6b43e9-9ddb-48d0-8f0f-5d527196591e)
* download piano keyboard reference guide [link](%E2%80%A2https%3A/education.ti.com/en/~/media/397f23785ac34965bc1629b427f18405.ashx?h=16&thn=1&w=16&rev=8b781082-dee9-4a0f-9d9e-4b6ade7db41b)
* **STEM Event TI-Innovator Hub and Rover activities** [link](%E2%80%A2https%3A/resources.tistemprojects.com/tistemprojects-home/?resource_id=2986)

**Other Resource**

* **TI Codes Lessons and Resources** [link](https://education.ti.com/en/activities/ti-codes/84)
	+ 10 Minutes of Code for TI-Basic [link](https://education.ti.com/en/activities/ti-codes/84/10-minutes)
	+ 10 Minutes of Code for TI-Basic TI-Innovator and Rover [link](https://education.ti.com/en/activities/ti-codes/84/10-minutes-innovator)
		- Unit 7: The RGB Array
	+ 10 Minutes of Code Beyond Basics [link](https://education.ti.com/en/activities/ti-codes/84/beyond-basics)
	+ 10 Minutes of Code Teacher’s Lounge [link](https://education.ti.com/en/activities/ti-codes/84/teacher-lounge)
		- Download student handouts
		- See curriculum alignments
* **Path to STEM Projects** [link](https://education.ti.com/en/activities/stem/path-to-stem/84-plus-ce)
	+ TI-Innovator Hub and breadboard engineering and coding activities that explore analog and digital inputs and outputs, calibration and a feedback and control system
* **Adventures in Coding and STEM in the Mathematics Classroom** **(On Demand Webinar)** [link](%E2%80%A2%09https%3A/education.ti.com/en/t3-professional-development/for-teachers-and-teams/online-learning/on-demand-webinars/2018/adventures-in-coding-and-stem-in-the-math-classroom)