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

**TI-Nspire 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-Nspire TI-Basic**

* Overview of TI-Nspire (video from Digital Mood Ring project) [link](https://www.youtube.com/watch?v=gdHOCeoScio&list=PL17Fe0ZmhCR_j09b202PUI0wfaRYSLQka&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=kaTWqt2CDx4&list=PL17Fe0ZmhCR_j09b202PUI0wfaRYSLQka&index=3)
* 10 Minutes of Code for TI-Basic [link](https://education.ti.com/en/activities/ti-codes/nspire/10-minutes)
  + Unit 1: Program Basics
* **Meet the Rover** [link](https://resources.tistemprojects.com/tistemprojects-home?resource_id=3485)

* [10 Minutes of Code for TI-Basic](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/nspire/10-minutes-innovator)
  + Unit 1: Getting Started with the TI-Innovator Hub
  + Unit 4: Make Rover Move!
* **Introduction to TI-Nspire Teacher Software (video)** [link](https://youtu.be/KfH9oHNcwBo)

**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=2905)
* **On-Ramp to Robotics: Unit 1 Motion Mars Challenge** [link](https://resources.tistemprojects.com/tistemprojects-home/?resource_id=2069)
* **On-Ramp to Robotics: Unit 2 Sensing Mars Mineral Challenge** [link](•https:/resources.tistemprojects.com/tistemprojects-home/?resource_id=2176)
* [**10 Minutes of Code for TI-Basic**](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/nspire/10-minutes-innovator)
  + Unit 4: Make Rover Move!
  + Unit 5: Rover’s Sensors
  + Unit 6: Coordinates with Rover
* **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
* **STEM Event TI-Innovator Hub and Rover activities** [link](•https:/resources.tistemprojects.com/tistemprojects-home/?resource_id=2986)

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

**TI-Innovator Hub Projects and Activities**

**Smart System Projects**

* **Digital Mood Ring** [link](https://resources.tistemprojects.com/tistemprojects-home/?resource_id=1890)
* includes step-by-step videos [link](https://www.youtube.com/playlist?list=PL17Fe0ZmhCR_j09b202PUI0wfaRYSLQka)
* download teacher document [link](https://education.ti.com/en/~/media/95ee62a955f94b0cbbfde59fbd14f168.ashx?h=16&thn=1&w=16&rev=5a8d1baa-0bed-4b9c-ac46-a6b2a4a577f5)
* download teacher project background document [link](https://education.ti.com/en/~/media/6b32df8635b9403dba33ad8d32fbffdb.ashx?h=16&thn=1&w=16&rev=35bc94de-dc4e-48e7-b07d-c7b47b418061)
* download student handout [link](https://education.ti.com/en/~/media/196e269017224c0ba9827201c8b44c61.ashx?h=16&thn=1&w=16&rev=b1e656a3-5097-4e1f-8dd1-6758d17826fc)
* download TI-Nspire file with example programs link
* download Explore the science of color TI-Nspire file [link](https://education.ti.com/en/~/media/238fc7e6ab3649df9aa8cbf59eea7578.ashx?h=16&thn=1&w=16&rev=bad895af-0552-403b-8564-62fb5c46a70f)
* **Four-Chambered Heart** [link](https://resources.tistemprojects.com/tistemprojects-home/?resource_id=2175)
  + Download Heart Build Sheet PDF [link](•https:/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=1802)
  + Blog Post from US Teacher [link](https://education.ti.com/en/bulletinboard/2022/smartwater)
  + Demonstration Video by TI STEM Team [link](https://www.youtube.com/watch?v=U3Nf_9xvWEs)
  + 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=1852)
  + Demonstration video by TI STEM Team [link](https://youtu.be/0EguJwSzcDQ)
* **Some Like it Tepid** [link](https://resources.tistemprojects.com/tistemprojects-home/?resource_id=2435)
* **Making Music with Code** [link](https://resources.tistemprojects.com/tistemprojects-home/?resource_id=2271)
* download teacher document [link](https://education.ti.com/en/~/media/5dfc7db4f13240729307ec0b74dbc6d7.ashx?h=16&thn=1&w=16&rev=2049b042-388c-4812-bcd4-54894cbb779a)
* download student handout [link](https://education.ti.com/en/~/media/132a7455a6f3431eb348a80a4109aaec.ashx?h=16&thn=1&w=16&rev=1176b57d-89e8-4a9c-b8a8-2f8e4ccfb328)
* download piano keyboard reference guide [link](•https:/education.ti.com/en/~/media/397f23785ac34965bc1629b427f18405.ashx?h=16&thn=1&w=16&rev=8b781082-dee9-4a0f-9d9e-4b6ade7db41b)
* **Running the Bases (with TI-RGB Array)** [link](•https:/resources.tistemprojects.com/tistemprojects-home?resource_id=3013)
* **STEM Event TI-Innovator Hub and Rover activities** [link](https://resources.tistemprojects.com/tistemprojects-home/?resource_id=2986)

**Other Resources**

* **TI Codes Lessons and Resources** [link](https://education.ti.com/en/activities/ti-codes/nspire) 
  + 10 Minutes of Code for TI-Basic [link](https://education.ti.com/en/activities/ti-codes/nspire/10-minutes)
  + 10 Minutes of Code for TI-Basic TI-Innovator and Rover [link](https://education.ti.com/en/activities/ti-codes/nspire/10-minutes-innovator)
    - RGB Array Unit 7
  + 10 Minutes of Code Teacher’s Lounge [link](https://education.ti.com/en/activities/ti-codes/nspire/teacher-lounge)
    - Download student handouts
    - See curriculum alignments
* **Path to STEM Projects** [link](https://education.ti.com/en/activities/stem/path-to-stem/nspire-cx)
  + TI-Innovator Hub and breadboard engineering and coding activities that explore analog and digital inputs and outputs, calibration and a feedback and control system.

* **Science through Engineering Design** [link](https://education.ti.com/en/tisciencenspired/us/stem)
  + No coding required Middle School projects using the TI-Innovator Hub, motors and sensors
  + Exploring the depths with uniform motion [link](https://education.ti.com/en/tisciencenspired/us/detail?id=A10A67CC44644D5D92DC397D53FC0446&t=B268ACA7F7784C21A85AB3F7166C933A)
  + One small bite for man [link](https://education.ti.com/en/tisciencenspired/us/detail?id=3B474B653CEA4CB7A623D8246BB856E0&t=B268ACA7F7784C21A85AB3F7166C933A)
  + One small leaf for mankind [link](https://education.ti.com/en/tisciencenspired/us/detail?id=0CD8F1BF343142319047B3A54488D239&t=B268ACA7F7784C21A85AB3F7166C933A)
* **Learning to Code with Python Using TI-Nspire CXII Technology (On Demand Webinars)** [link](https://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)
  + Adventures in Coding and STEM in the Mathematics Classroom