



# Project-Based Coding Activities and Resources for STEM Camps

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## - About us:

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# Why STEM and Coding in the Classroom?

## 1. Collaboration in the Classroom

*Teamwork and Communication*

## 2. Creativity

*Introduce Innovation with  
Real-World Problems*

## 3. Critical Thinking

*Connect Science and Math*

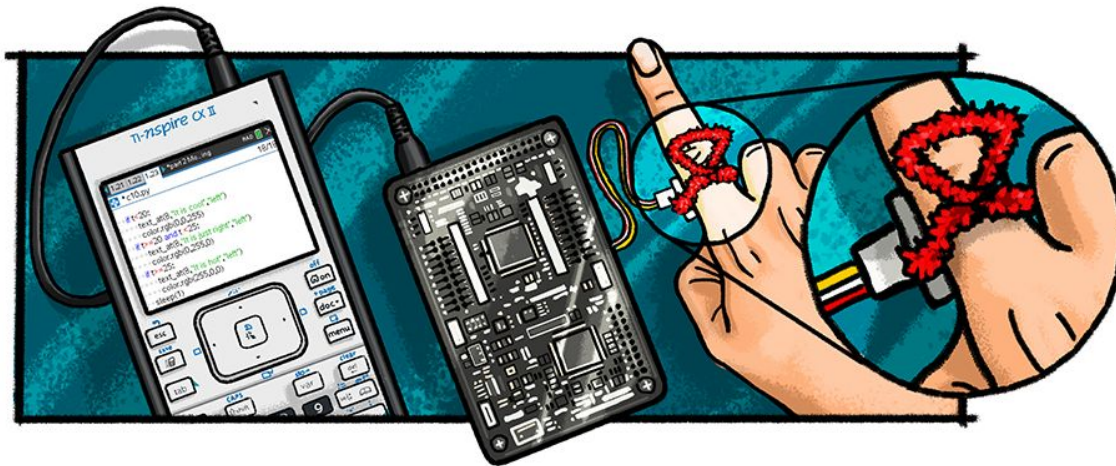


# Ten Minutes of Code



- >> Entry-level
- >> Menu-based
- >> Python (TI- Nspire CX II) or TI-Basic (TI-84 CE/TI-Nspire CX)
- >> STEM integration with TI-Innovator Hub
- >> Spark interest in Robotics with TI-Rover





# Digital Mood Ring

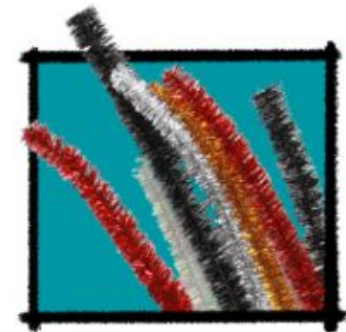
[TI Nspire CX II Python resources](#)

[TI 84 CE Basic resources](#)

[TI Nspire CX Basic resources](#)



TI-Innovator™ Hub



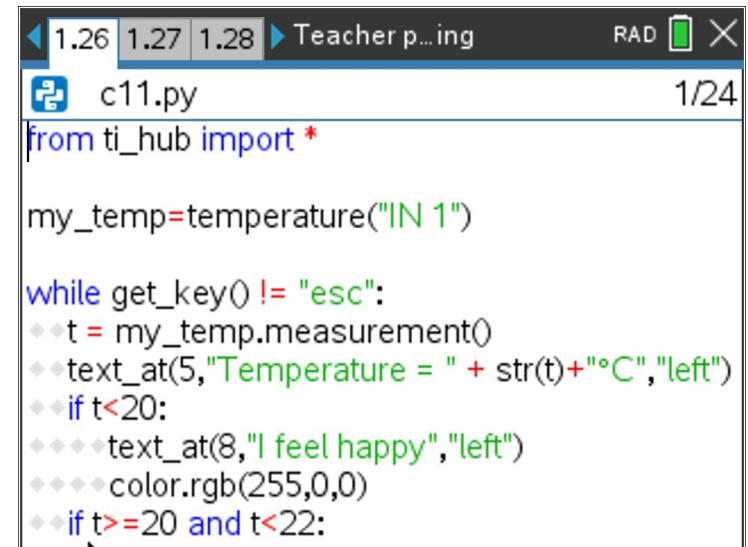
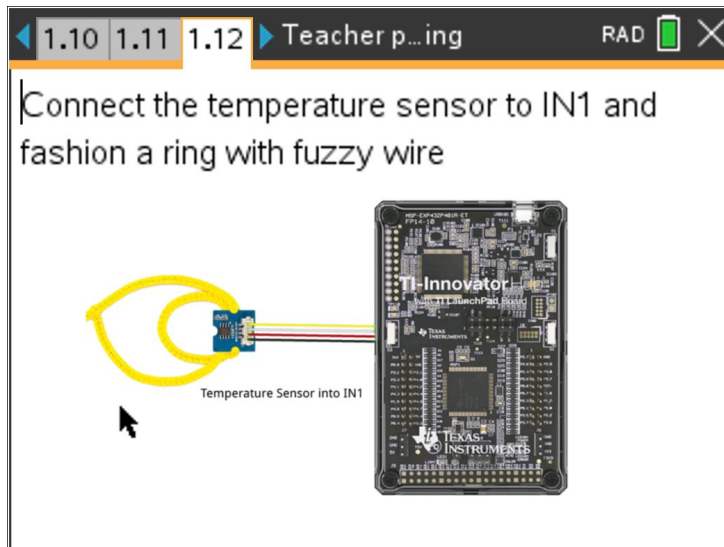
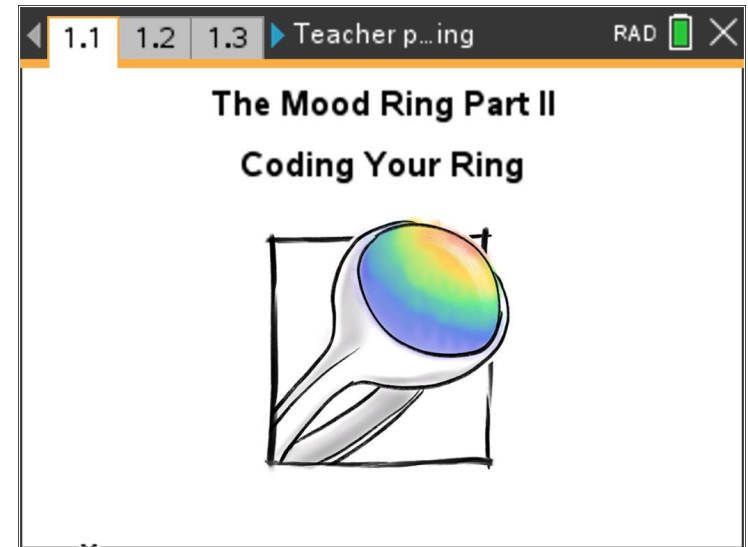
Chenille wire



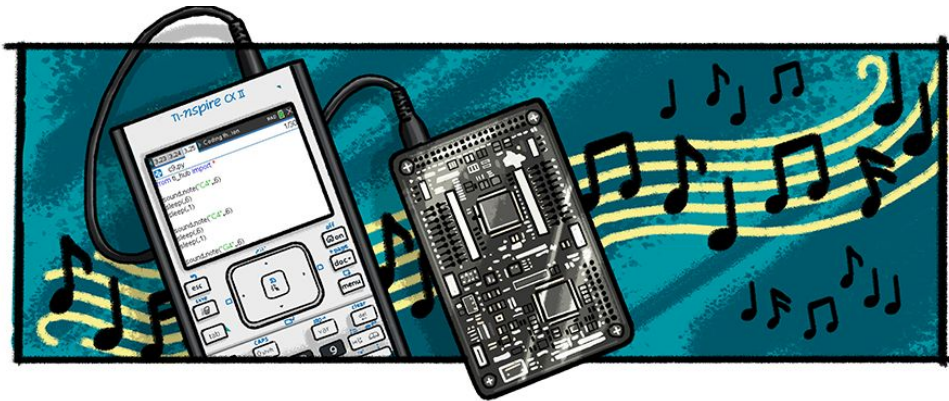
Grove temperature sensor

# Digital Mood Ring

## – Videos





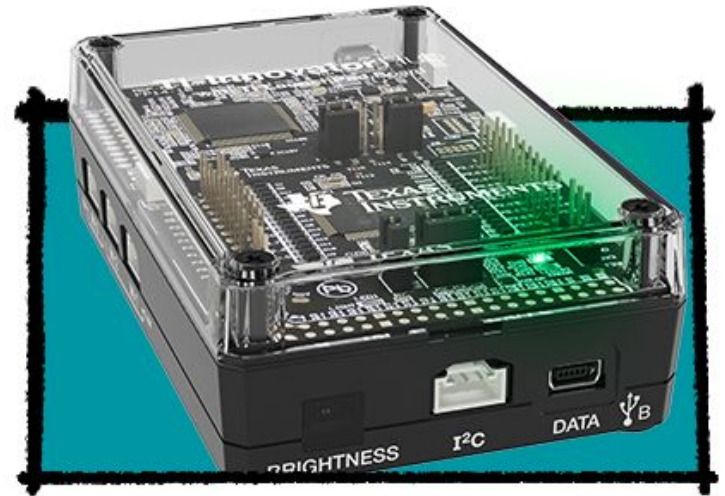


# Sounds of Music

[TI Nspire CX II Python resources](#)

[TI 84 CE Basic resources](#)

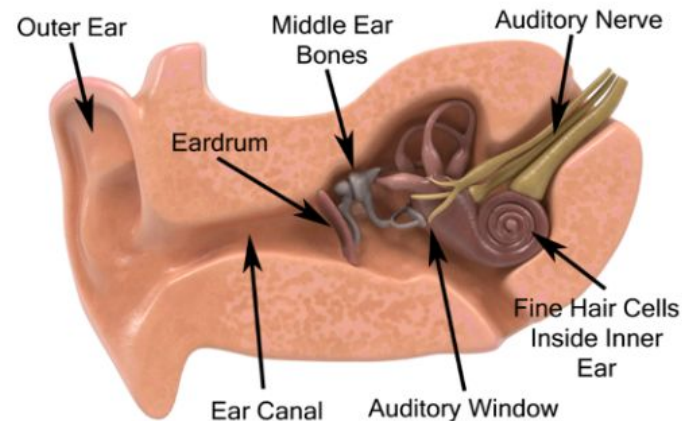
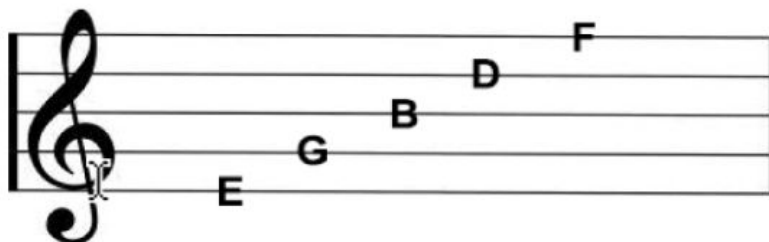
[TI Nspire CX Basic resources](#)



# Coding the Sounds of Music

## – Videos

**Challenge 6 Background:** The notes of a song are written on the five-lined treble clef staff. Each line corresponds to a different note. **Every Good Boy Does Fine** will help you remember the placements on the staff.



```
3.24 3.25 3.26 Coding th...ion RAD 1/30
c9.py
from ti_hub import *

sound.note("C4",.6)
sleep(.6)
sleep(.1)

sound.note("C4",.6)
sleep(.6)
sleep(.1)

sound.note("G4",.6)
```



# Built in Brightness Sensor

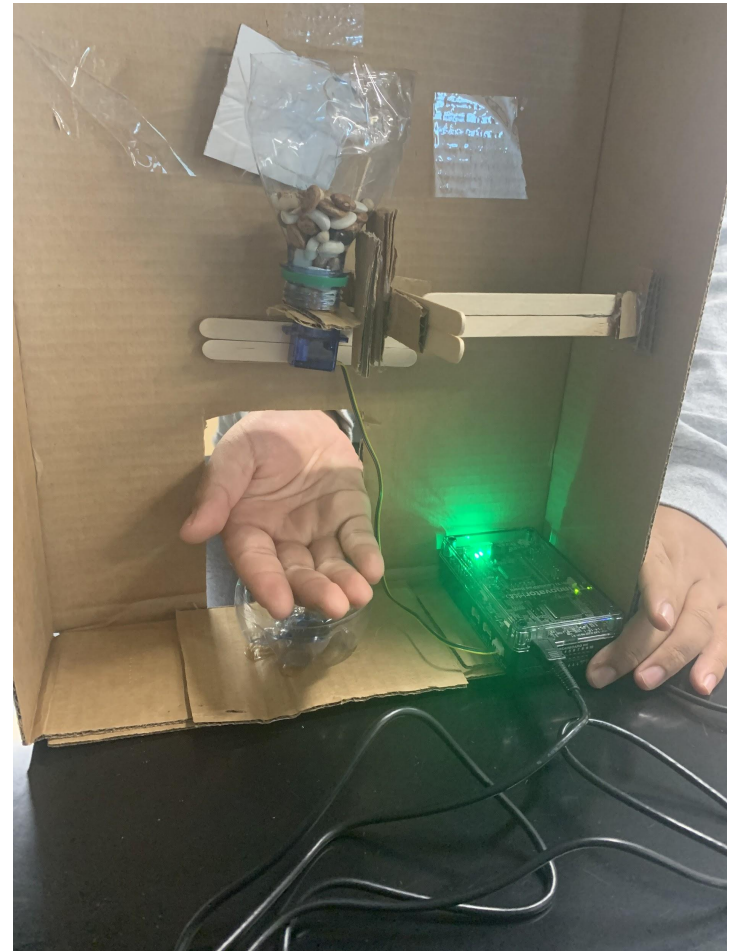
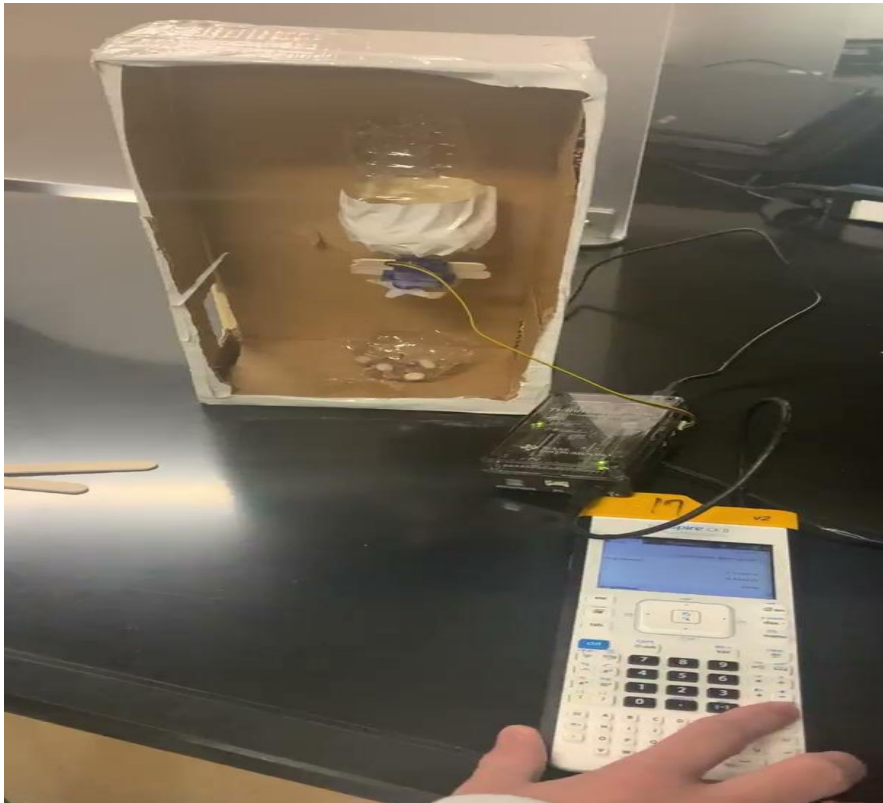
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[TI Nspire CX II Python TMOC](#)

[TI 84 CE Basic TMOC](#)

[TI Nspire CX Basic TMOC](#)

# Built In Brightness Sensor



# Introduction to the Rover



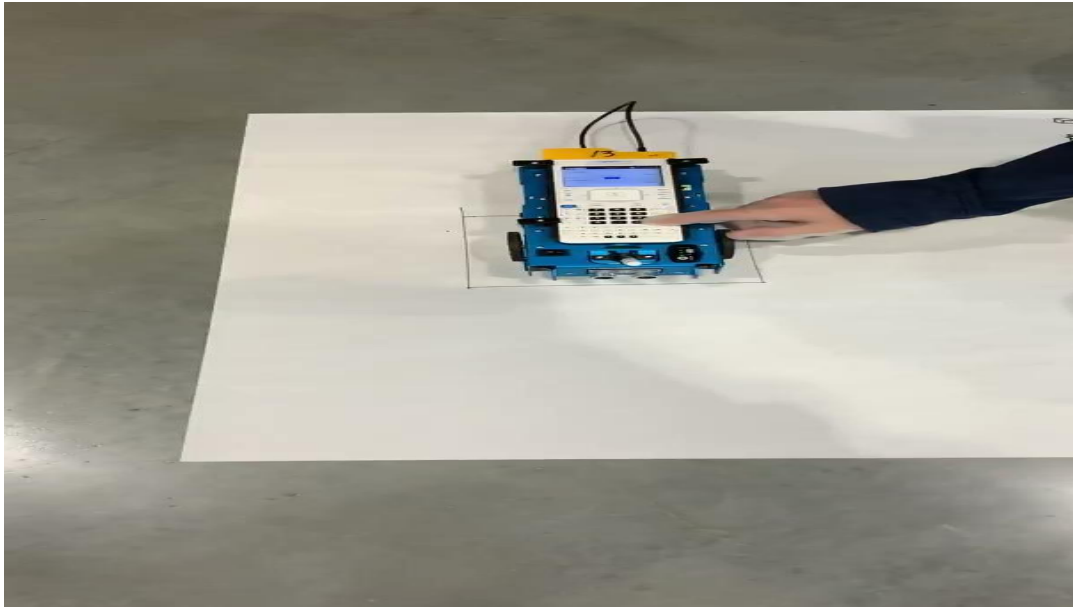
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TI Nspire CX II Python Rover TMOC

TI 84 CE Basic Rover TMOC

TI Nspire CX Basic Rover TMOC

# Rover making a polygon



# Advanced Rover Challenges

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[TI Nspire CX II Python Rover TMOC](#)

[TI 84 CE Basic Rover TMOC](#)

[TI Nspire CX Basic Rover TMOC](#)

# Rover's Sensors

## Range Sensor



## RGB Sensor





- Additional Resources

# Past Webinars:

- » [STEAM Summer Camp Ideas](#)
- » [Exciting Coding Activities for STEM Courses and Camps](#)
- » [Student Challenges: Club and Camp Ideas](#)
- » [STEM Fun for Camps, Classrooms, and Clubs](#)
- » [Are you “Moody”? Introduction to STEM Projects and Camps](#)

# Additional STEM Projects



Pet Car Alarm



Smart Irrigation System



Some Like It Tepid



Mars Rover Challenge



The Heart Project



Running the Bases



Rover, Watch out for Rover!



Mars Mineral Challenge

# STEM Projects - How to borrow supplies



Ask the STEM Team

# Thank you!

– **education.ti.com**

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