STEM 101
Powered by THE STEM ACADEMY

Name: _____
Period: _____

UNIT: ELECTRICAL CIRCUITS

SOUND TRAP ALERT

OBJECTIVE:

Build a buzzer-based alarm triggered by pressure!

MATERIALS:

- ✓ 1 Buzzer
- ✓ 1 Battery + holder
- ✓ 2 foil squares or strips
- ✓ Sponge or soft cardboard piece
- ✓ Tape
- ✓ Jungle-themed “leaf” cover paper (or green paper)

STUDENT DIRECTIONS:

Step 1: Build the Pressure Plate

- Place the **sponge** between the two **foil pieces** like a sandwich.
- Tape it so the foil is on the top and bottom—**not touching each other** unless pressed.

Step 2: Connect the Circuit

- Connect one foil piece to the **positive side** of the battery holder.
- Connect the other foil piece to **one terminal of the buzzer**.
- Complete the circuit by connecting the buzzer’s other terminal back to the battery's negative side.
- Test it! Push gently on the sponge—**does the buzzer sound?**

Step 3: Disguise It Like a Jungle Pro

- Place jungle “leaf” paper over your pressure plate.
- Try placing it under a path or entry point.
- Now **test it** by stepping, tapping, or pressing your trap.

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Test & Record:

Test Action	What You Did	What Happened?
Light Press		
Firm Step		
Jump On It		
Cover with Leaves		

Reflection Questions:

- How does the circuit close and send energy to the buzzer?

  _____

  _____

- What type of force activates the trap?

  _____

  _____

- How could you make your trap more sensitive or louder?

  _____

  _____

Bonus Challenge:
Can you add a **second buzzer** or a **blinking light** to your trap? Defend your jungle base with style and science!

Would you like a printable worksheet version of this next?

Test & Record:

- What happens when pressure is applied?
- How sensitive is your trap?

Reflection:

- How does the circuit close and send energy to the buzzer?

  _____

  _____

- What type of force causes this?

_____

_____

STANDARDS ALIGNMENT

NGSS: MS-PS2-3, MS-PS3-2 **STEL:** STEL 1B, STEL 2B, STEL 3B, STEL 4B, STEL 5B, STEL 7B, STEL 8B **CCSS:** CCCSS.MATH.CONTENT.6.SP.B.4–5, CCSS.MATH.CONTENT.7.RP.A.2, CCSS.MATH.PRACTICE.MP2, CCSS.MATH.PRACTICE.MP4, CCSS.MATH.PRACTICE.MP5, CCSS.MATH.PRACTICE.MP7