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.

**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