Math Bomb IV

Contents

Welcome to MATH BOMB. This is a fun, interactive mathematics experience where students defuse a bomb. This package includes 4 components:
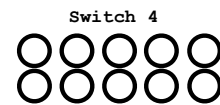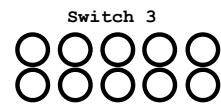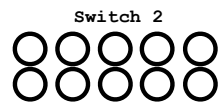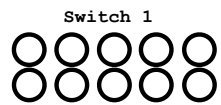
1. Bomb Video: The bomb video can be found at this link. The timer is set at 40 minutes. The activity can take shorter or longer depending on the group of students you are working with.

2. Answer Sheets: Has prompts to guide students through the bomb defuse.

3. Manual: Printable instructions to defuse the bomb.
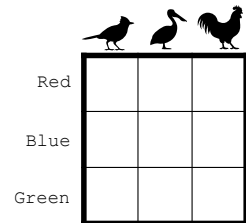
4. Solutions: A filled in answer sheet for reference.

This bomb is intended for grade 6-9 students, but can also work for gifted grade 2-5 students or as a fun activity for grade 10 and above students. Below is a brief description of some mathematics concepts that are required to defuse this bomb:

- Addition and subtraction of fractions.

- Logic and reasoning.

- Algebra.

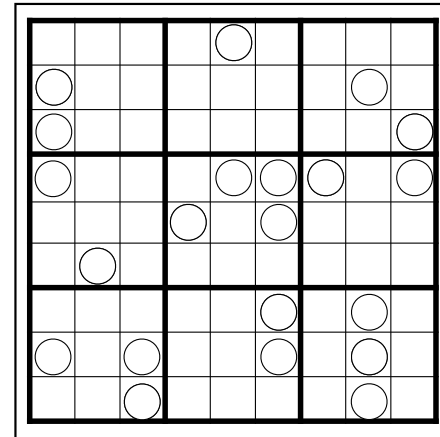Switch 1   Switch 2   Switch 3   Switch 4   Switch 5

Put each switch in the correct position

Red

Blue

Green

Write the correct values

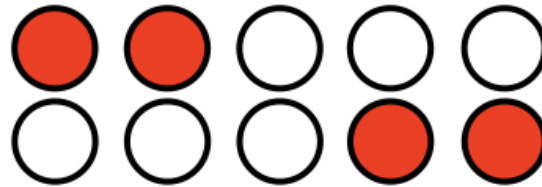Shade the buttons that are pressed

Shade in breakers that are ON.
Cross out breakers that are OFF.

Connect the right wires

Order the levers
you pull from
1-10

On the bomb there is a light board that is controlled by 5 switches. You must turn on the right switches so that the lights in the positions below are activated.
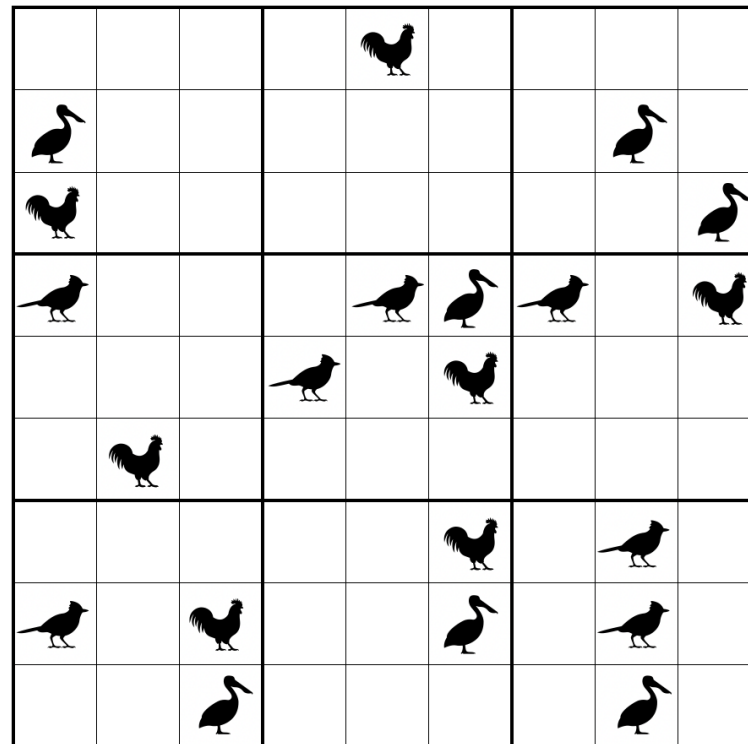

Note that each switch controls a set of lights. Pay close attention to what happens to the lights when more than one switch is activated.

On the bomb there is a large grid with several buttons each with a value from 1-9. You must insure that the following holds true:

1. There is one button pressed in each row, column, and 3×3 cage.

2. Each value from 1-9 is pressed exactly once.

There are 10 levers on the sides of the bomb that must be pulled in ascending order. Each lever corresponds to a unique value. You will need the diagram below to decipher the values:

There is a 6×6 grid of breakers on the bomb. The green breakers are already in the correct positions. The remaining breakers must be turned either ON or OFF so that:

1. In each row and column there will never be more than 2 'ON's or 'OFF's in succession. For example, you would never see 'OFF, OFF, OFF' in any row or column.

2. There is the same number of 'ON's and 'OFF's in each row and column.

   If there is any confusion a correct breaker schematic is shown below:

ON	ON	OFF	OFF
ON	OFF	OFF	ON
OFF	OFF	ON	ON
OFF	ON	ON	OFF

Switch 1   Switch 2   Switch 3   Switch 4   Switch 5

Identify lights for reference
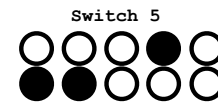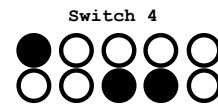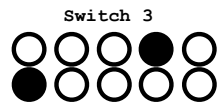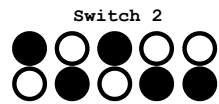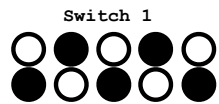
Put each switch in the correct position

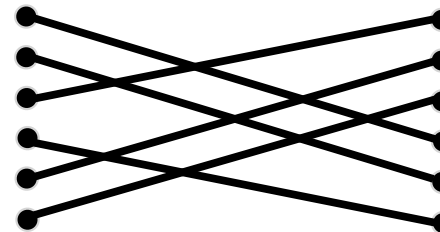| | Red | 7 | 9 | 4 |
| | Blue | 6 | 3 | 2 |
| | Green | 8 | 1 | 5 |

Write the correct
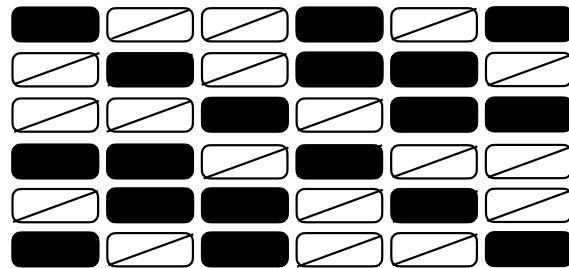
Shade in breakers that are ON. Cross off breakers that are OFF.
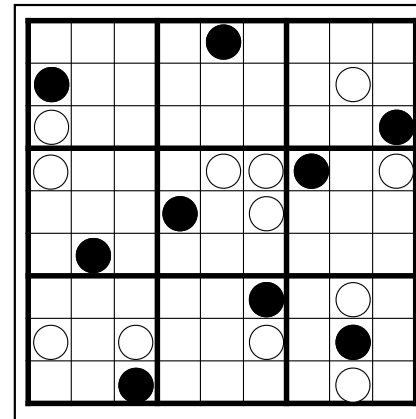
Shade the buttons that are pressed

Connect the proper wires

Order the levers you pull from 1-10

13

15

10

5

7

3

10

24

1

6

2

8

19   11   14   20

8   4   6   9