

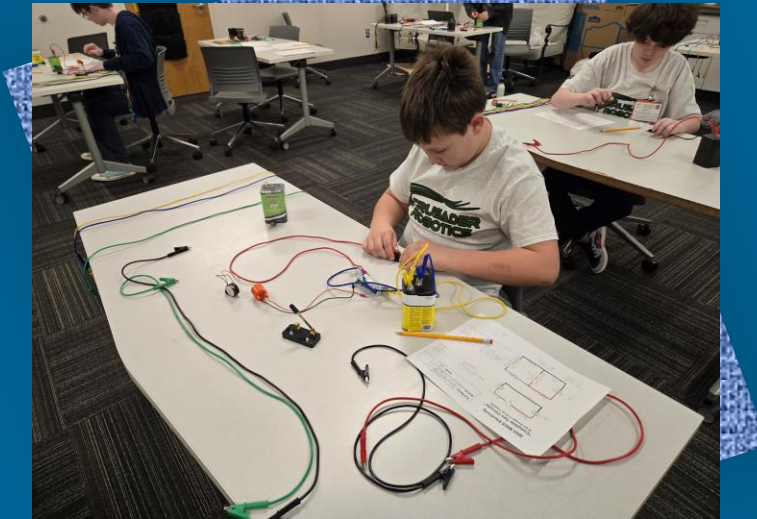
# **Our STEM Websites**

**[STEMAdvancement.com](http://STEMAdvancement.com) (donations and gifts)**

**[STEMTeacherAssociation.com](http://STEMTeacherAssociation.com) (STEM resources)**

**[MississippiRobotics.org](http://MississippiRobotics.org) (programs and services)**

# Electricity in STEM Competition

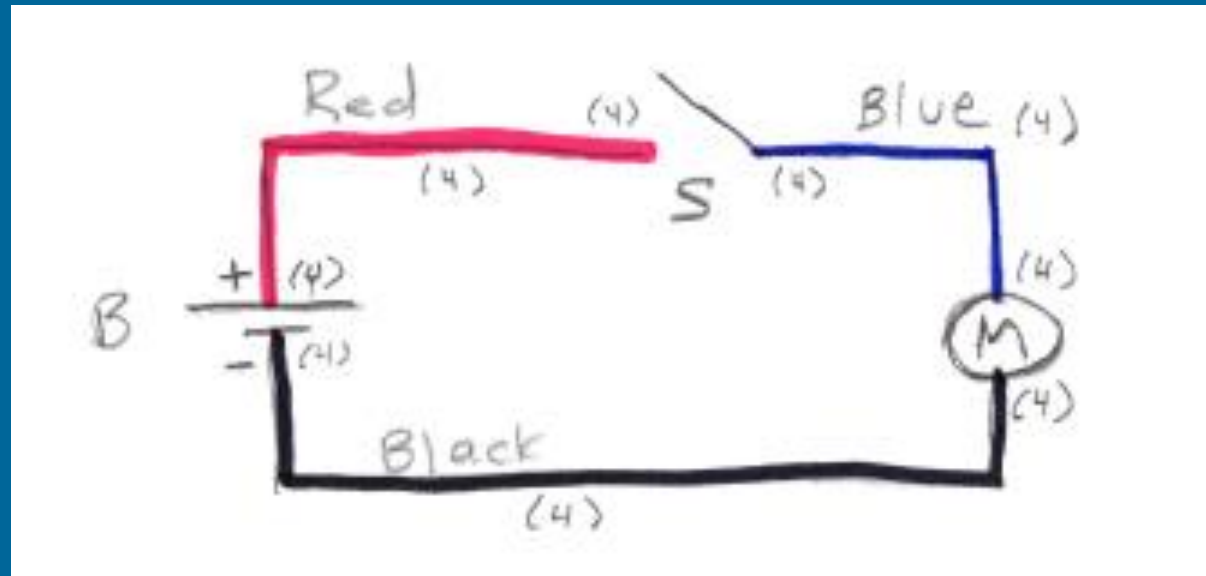


Ray Holt

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# Basic Circuit

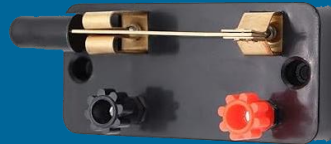
Battery, Switch, & Motor (or light)





# Switches

- ❑ Knife Switch



\$1.50 Amazon

- ❑ Toggle Switch



\$.80 Amazon

- ❑ Rocker Switch



\$6 Amazon

- ❑ House Wall Switch



\$.59  
Walmart

# Light

- ❑ **6v Mini-bulb**



\$ .35 Amazon

- ❑ **Mini-bulb Holder**



\$.30 Amazon

# Buzzer

■ Buzzer 3v-24v



\$1.00 Amazon

# Motor

■ **Motor 3v-6v**



\$1.50 for Anduino  
Amazon

# Test Leads (Jumper Wires)

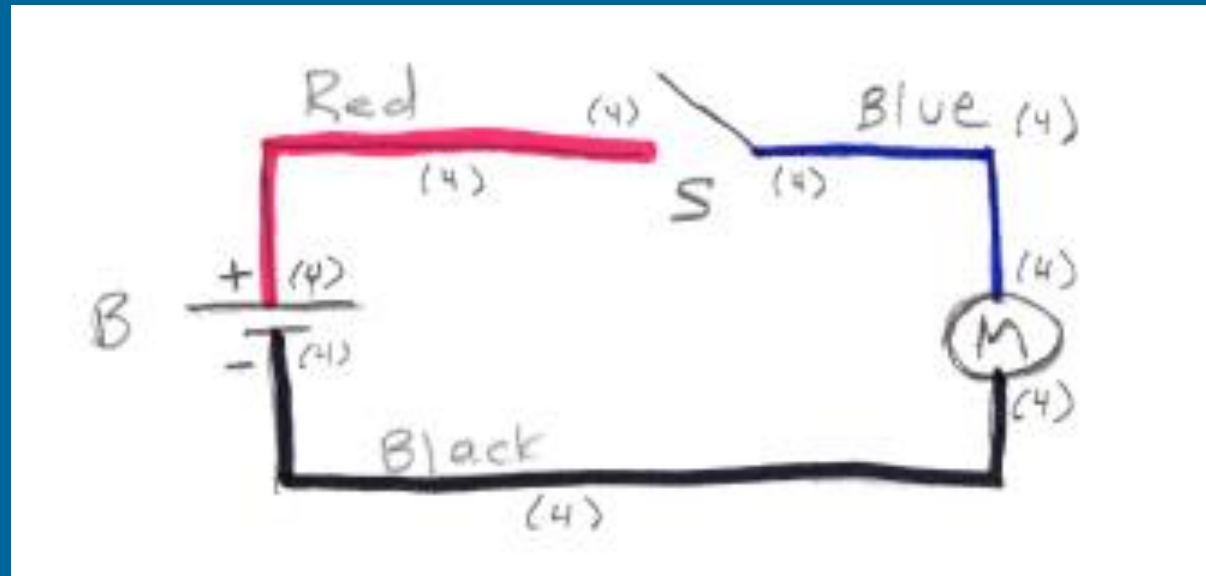
## ■ Test Leads



\$14 set of 5  
3 feet  
5 colors

# Basic Circuit

Battery, Switch, & Motor (or light)



# Lessons

- ✓ Teach safety
- ✓ Teach wiring diagram
- ✓ Teach components must be compatible
- ✓ Teach series and parallel circuits
- ✓ Teach polarity (when important)
- ✓ Teach color-coding with wires
- ✓ Teach accuracy
- ✓ Teach speed (for competition)

# YouTube Lessons

## ✓ Use YouTube for basic electricity lessons

What is Electricity?

[What is electricity? - Science for Kids - Episode 1](#)

Introduction to Electricity

[Introduction to Electricity- video for kids](#)

How to Build a Simple Electrical Circuit

[\(18\) How to Build a Simple Electrical Circuit — At-Home Science Activity for Kids - YouTube](#)

How To Make a Simple Electric Circuit : Closed and Open circuit

[How To Make a Simple Electric Circuit : Closed and Open circuit](#)

Voltage, Current, and Power Explained - Laying the Foundation for Basic Circuits

[Voltage, Current, and Power Explained - Laying the Foundation for Basic Circuits | Basic Electronics](#)

# Two Circuits for Competition

2025 MAIS Electricity

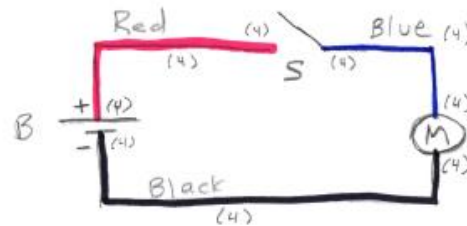
“Complete Two Circuits”

30 sec arrange. 2 min to complete.

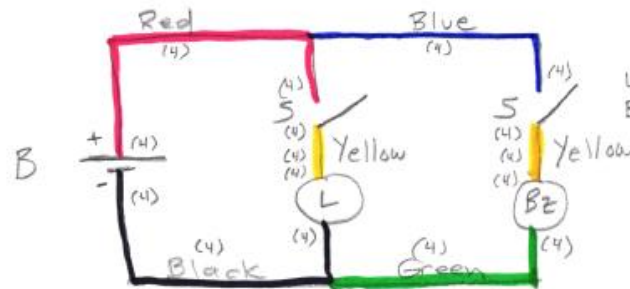
Full Name \_\_\_\_\_

School \_\_\_\_\_

Grade \_\_\_\_\_



\_\_\_\_\_ x 4 = \_\_\_\_\_ Max = 40  
 Motor runs w/switch = \_\_\_\_\_ Max = 10  
 Subtotal #1 = \_\_\_\_\_ Max = 50



\_\_\_\_\_ x 4 = \_\_\_\_\_ Max = 64  
 Light on w/switch = \_\_\_\_\_ Max = 10  
 Buzzer on w/switch = \_\_\_\_\_ Max = 10  
 Subtotal #2 = \_\_\_\_\_ Max = 84

B = battery  
 S = switch  
 M = motor

L = light  
 Bz = buzzer

Motor, Light, Buzzer Works +16

Total \_\_\_\_\_  
max 150

# Two Circuits for Competition

