

Name KEY

Period _____

Name _____

Electricity

In this activity you will be using Electricity learning labs to experiment and learn about the exciting and entertaining world of electronics. Complete the lab exercises on the pages listed below. Be sure to have your teacher stamp your sheet for each task that you complete.

Page 20 (15 points) Approval Stamp _____

1. _____
2. _____
3. _____
4. _____
5. _____

Page 22 (15 points) Approval Stamp _____

9. _____
10. _____

Compare and contrast circuits 9 and 10. Why is it necessary to press both S1 and S2 to operate the buzzer in circuit 9 and not in circuit 10? CIRCUIT 9 IS A SERIES CIRCUIT HAVING ONLY ONE PATH FOR THE CURRENT TO FLOW. CIRCUIT 10 IS A PARALLEL CIRCUIT WITH MULTIPLE PATHS FOR CURRENT.

Page 22 (Continued)

11. _____
12. _____

Page 24 (5 points) Approval Stamp _____

1. _____ After completing the circuit, how many milliamps does the meter read? .42 MA

How is a resistors resistance calculated? IN OHMS USING THE COLOR CODE.

Page 25 (10 points) Approval Stamp _____

- 1 and 2 _____
- 1 and 2 _____

How is current reduced in a circuit? WITH A RESISTOR.

Page 28 (15 points) Approval Stamp _____

1. _____
2. _____

3. _____

How is a potentiometer different than a fixed resistor? A POTENTIOMETER ALLOWS YOU TO ADJUST RESISTANCE.

Page 29 (15 points) Approval Stamp _____

1. _____
2. _____
3. _____
4. _____

Compare and contrast circuits 1 and 2. How are the two circuits different? IN CIRCUIT ONE LIGHT INCREASES CURRENT, IN CIRCUIT TWO LIGHT DECREASES CURRENT.

Page 33 (15 points) Approval Stamp _____

Capacitors are measured in MICROfarads.

1. _____
2. _____
3. _____

What is the purpose of a capacitors in a circuit? CAPACITORS ARE USED TO PASS PULSES OF CURRENT, BLOCK CONTINUOUS CURRENT, AND STORE AN ELECTRICAL CHARGE.

Page 35 (15 points) Approval Stamp _____

1. _____

Why does the meter quickly jump up and then quickly fall back? THE NEEDLE JUMPS UP AND THEN QUICKLY FALLS BACK AS CAPACITOR ONE DISCHARGES.

Page 35 (Continued)

2. _____
3. _____
4. _____

Extra Credit

(15 points) _____

Page 36

1. _____
2. _____
3. _____
4. _____

(10 points) _____

Page 39

1. _____
2. _____

(15 points) _____

Page 40

1. _____
2. _____
3. _____
4. _____