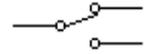


Electrical Circuits Extension Activities. Name: _____

Using SPDT switches, design, construct and draw circuit diagrams for the following circuits.

The symbol for SPDT switches is shown on the right.

(SPDT stands for Single Pole Double Throw)



1. One SPDT switch which switches one light globe on. (One of the switch's connections will not be used but you still have to draw it in.)

5. Two switches and one light globe. Whichever way you slide either switch, the light globe goes off (if it was on) or on (if the light globe was off). This arrangement will be identical to the wiring arrangement found with switches in long hallways or on stairwells (where there are two switches at either end).

2. One SPDT switch switches on one light globe and another SPDT switch switches on another light globe.

3a. When the switch is on the left, one light globe is on, when the switch is on the right, the other light globe is on.

6. 3 switches and 2 light globes. One switch switches on 1 light globe and the other switch switches on the other light globe. The third switch switches on both light globes. (You can use any type of switch you like for this circuit.)

3b. Add a switch to 3a so that you can turn both lights off.

CROCODILE PHYSICS ONLY

7. Connect a motor to a switch so that the motor spins.

4. When the switch is on the left, two light globes are on (in parallel), when the switch is on the right, one light globe is on. (there are three light globes altogether)

8. Connect a DPDT switch to the motor so that when the switch is flicked to the left, the motor spins one way and when the switch is flicked to the right the motor spins the other way. (Toy cars use these types of switches.)