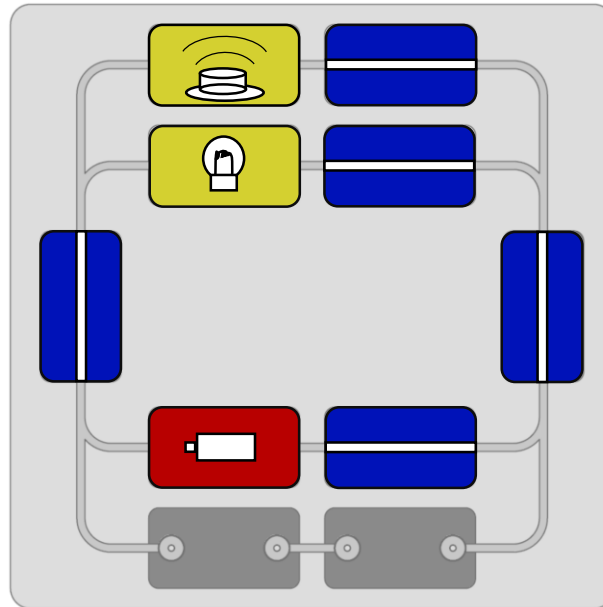


Electricity and Circuits

Activity 1: Changing voltage

Please place the modules as shown:



With **one** battery, what happens?

The bulb:

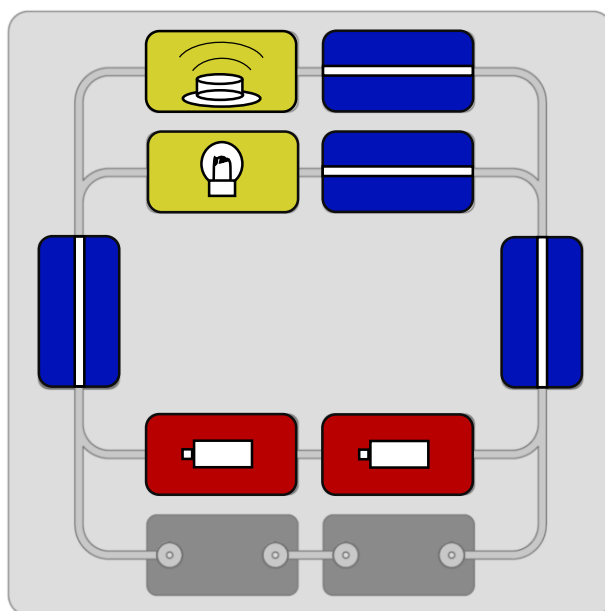
<input type="checkbox"/> Does not light up	<input type="checkbox"/> Lights up dimly	<input type="checkbox"/> Lights up brightly
--------------------------------------------	------------------------------------------	---------------------------------------------

The buzzer:

<input type="checkbox"/> Does not sound	<input type="checkbox"/> Hums softly	<input type="checkbox"/> Buzzes loudly
-----------------------------------------	--------------------------------------	----------------------------------------

Why does this happen?

Now, replace the single battery with **two** batteries.



With **two** batteries, what happens?

The bulb:

<input type="checkbox"/> Does not light up	<input type="checkbox"/> Lights up dimly	<input type="checkbox"/> Lights up brightly
--------------------------------------------	------------------------------------------	---------------------------------------------

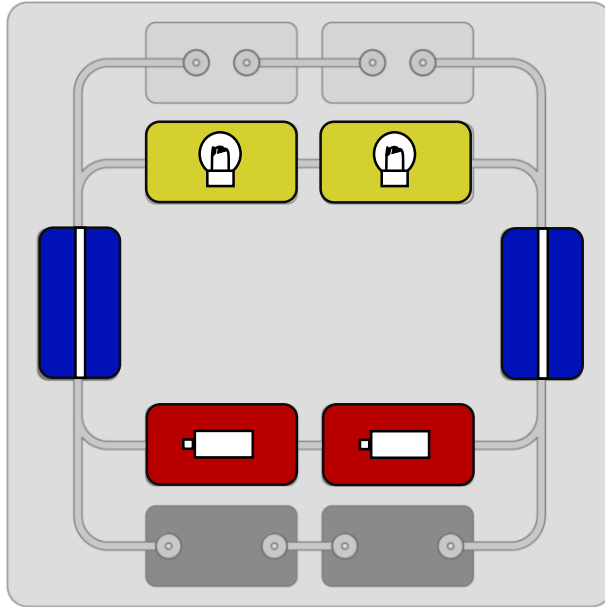
The buzzer:

<input type="checkbox"/> Does not sound	<input type="checkbox"/> Hums softly	<input type="checkbox"/> Buzzes loudly
-----------------------------------------	--------------------------------------	----------------------------------------

Activity 2: Series vs Parallel

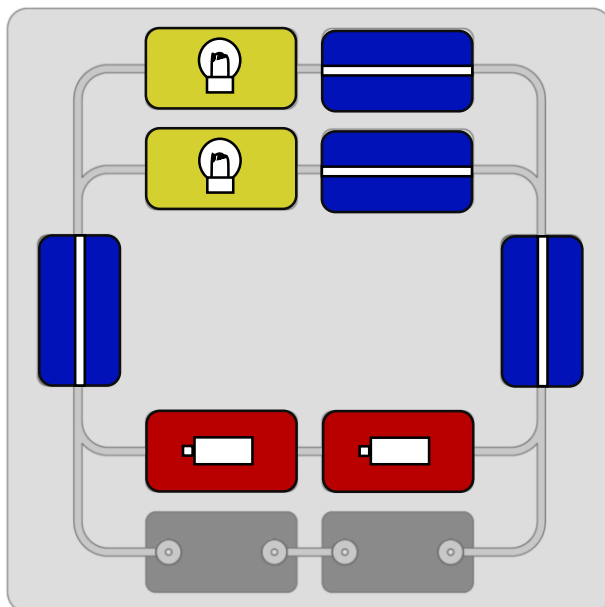
Please place the modules as shown:

The bulbs in **series**:



<input type="checkbox"/> Do not light up	<input type="checkbox"/> Light up dimly	<input type="checkbox"/> Light up brightly
------------------------------------------	-----------------------------------------	--------------------------------------------

The bulbs in **parallel**:

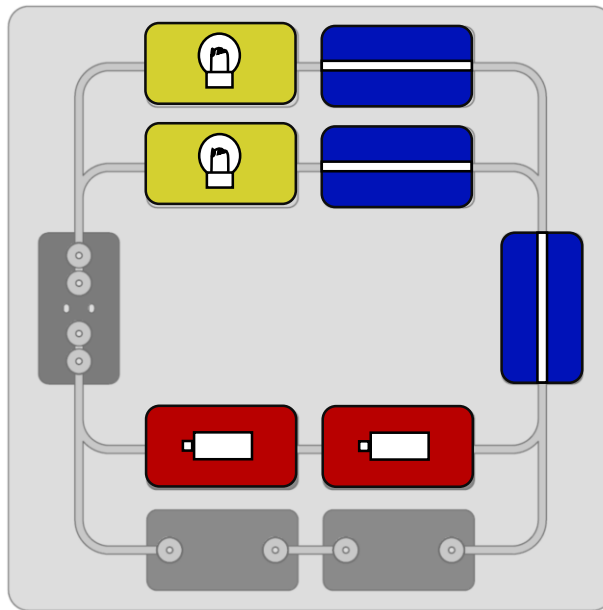


<input type="checkbox"/> Do not light up	<input type="checkbox"/> Light up dimly	<input type="checkbox"/> Light up brightly
------------------------------------------	-----------------------------------------	--------------------------------------------

Why does this happen?

Activity 3: Insulators and Conductors

Please place the modules as shown:

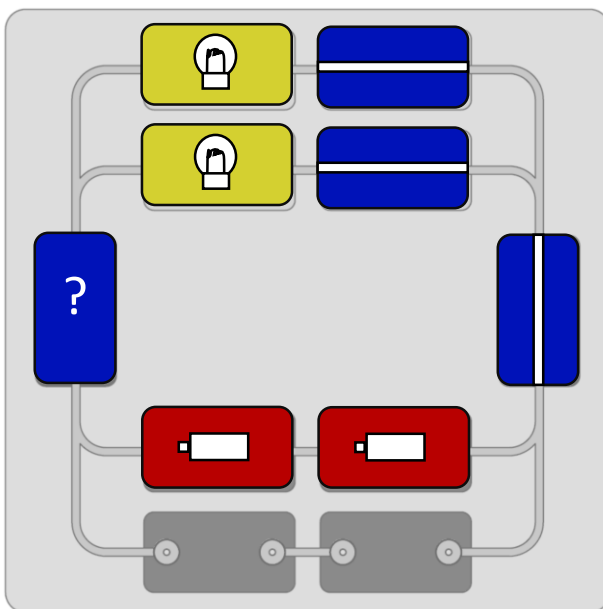


Do the bulbs light up?

<input type="checkbox"/> No	<input type="checkbox"/> Yes, but dimly	<input type="checkbox"/> Yes, brightly
-----------------------------	-----------------------------------------	----------------------------------------

Why does this happen?

Now, try using different materials to complete the circuit



Material: _____

Do the bulbs light up?

<input type="checkbox"/> No	<input type="checkbox"/> Yes, but dimly	<input type="checkbox"/> Yes, brightly
-----------------------------	-----------------------------------------	----------------------------------------

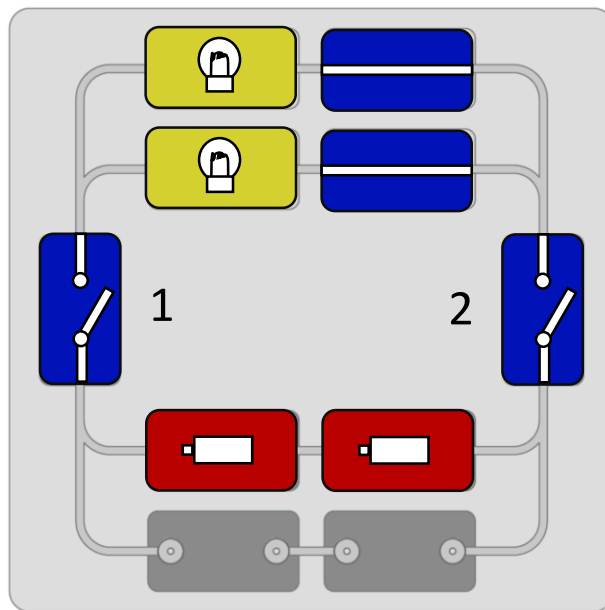
Material: _____

Do the bulbs light up?

<input type="checkbox"/> No	<input type="checkbox"/> Yes, but dimly	<input type="checkbox"/> Yes, brightly
-----------------------------	-----------------------------------------	----------------------------------------

Activity 4: Switches

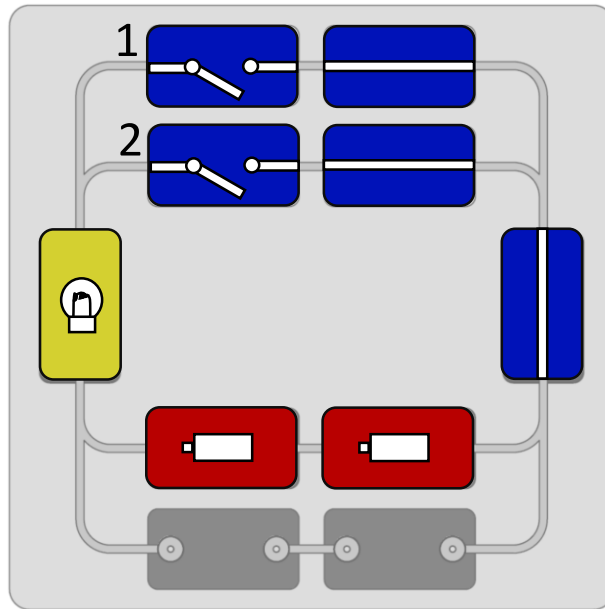
Please place the modules as shown:



Switch 1	Switch 2	Do the bulbs light up?	
Off	Off	<input type="checkbox"/> No	<input type="checkbox"/> Yes
Off	On	<input type="checkbox"/> No	<input type="checkbox"/> Yes
On	Off	<input type="checkbox"/> No	<input type="checkbox"/> Yes
On	On	<input type="checkbox"/> No	<input type="checkbox"/> Yes

Why does this happen?

Now, please place the modules as shown:



Switch 1	Switch 2	Does the bulb light up?	
Off	Off	<input type="checkbox"/> No	<input type="checkbox"/> Yes
Off	On	<input type="checkbox"/> No	<input type="checkbox"/> Yes
On	Off	<input type="checkbox"/> No	<input type="checkbox"/> Yes
On	On	<input type="checkbox"/> No	<input type="checkbox"/> Yes

Why does this happen?
