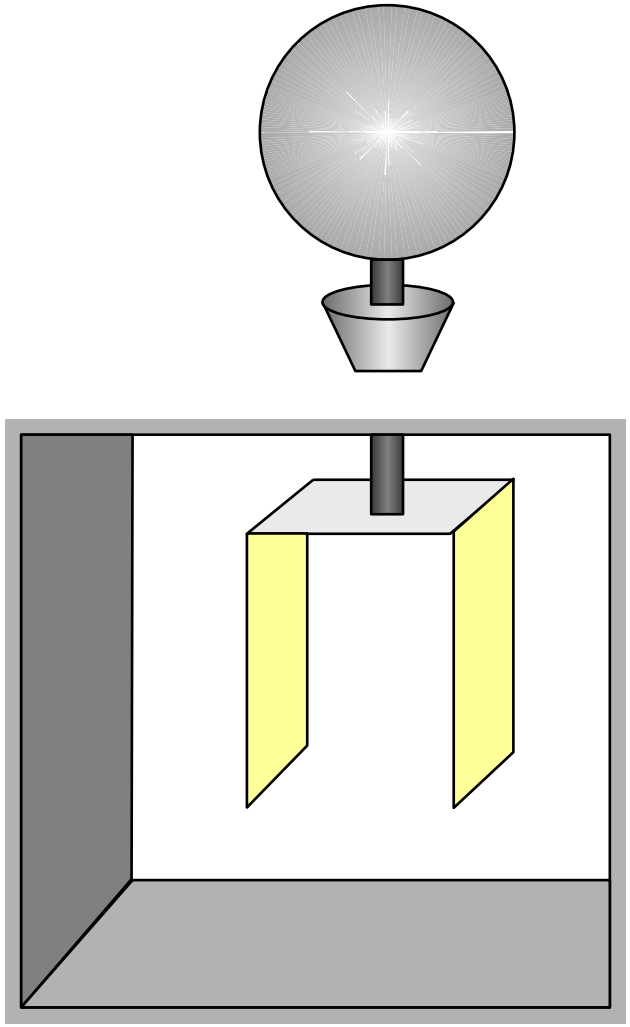
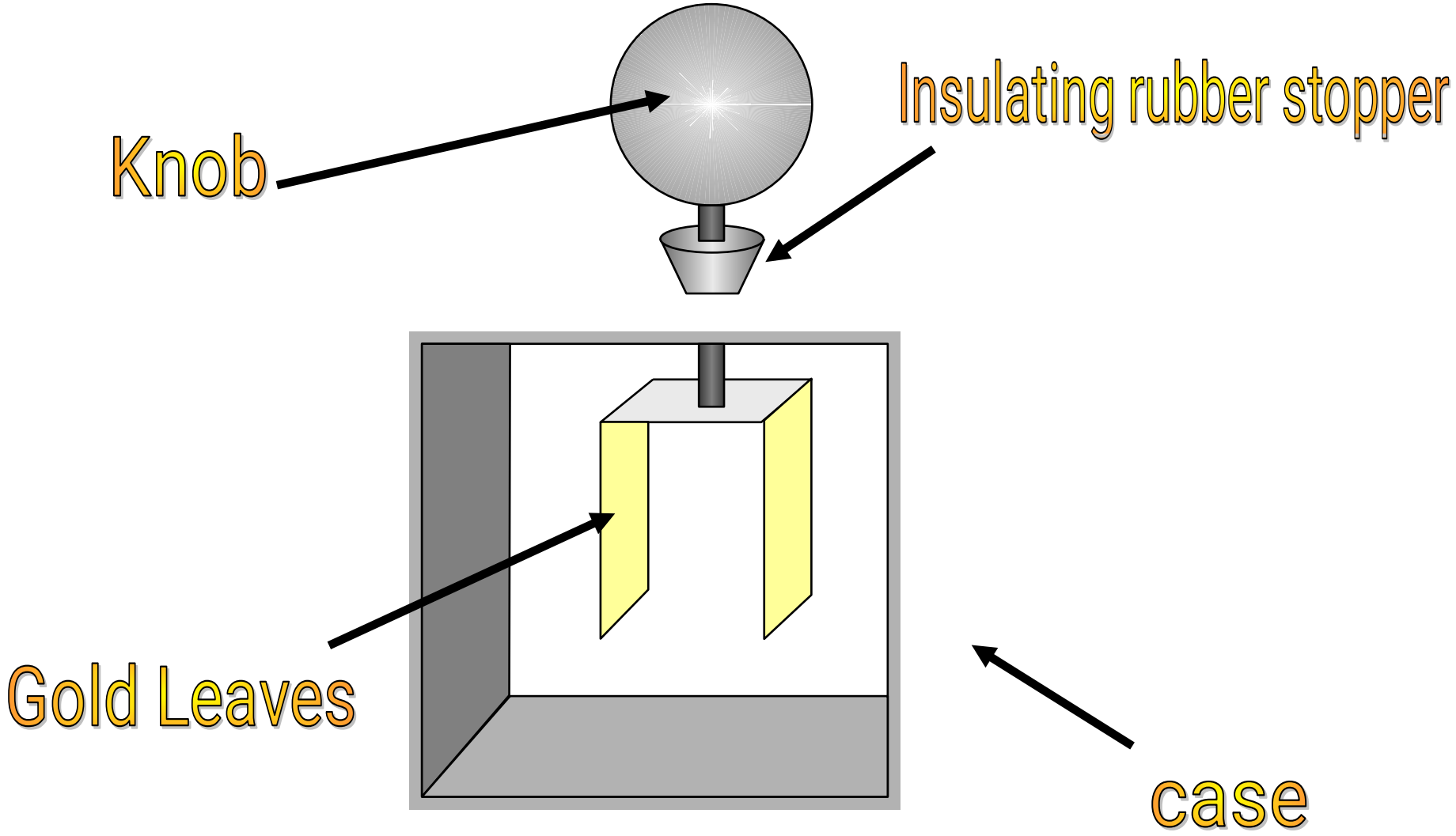
A GOLD LEAF ELECTROSCOPE

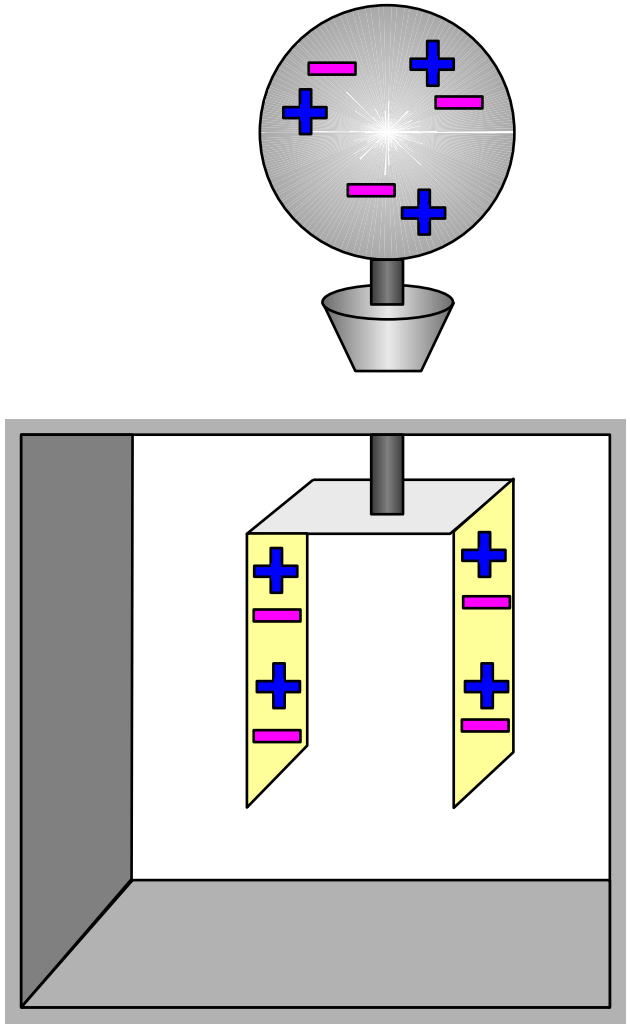


A LEAF ELECTROSCOPE



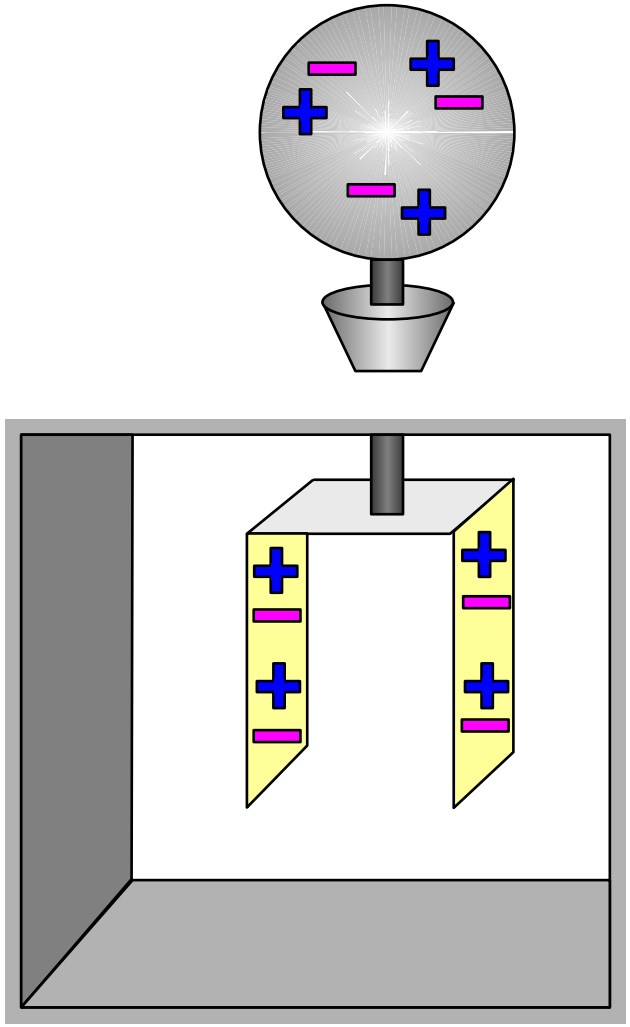
A LEAF ELECTROSCOPE

The electroscope starts out neutral

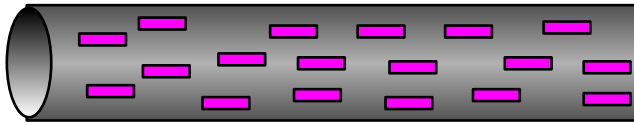


This means there are an equal number of electrons and protons

We will charge this electroscope net negative using a negatively charged rubber rod.

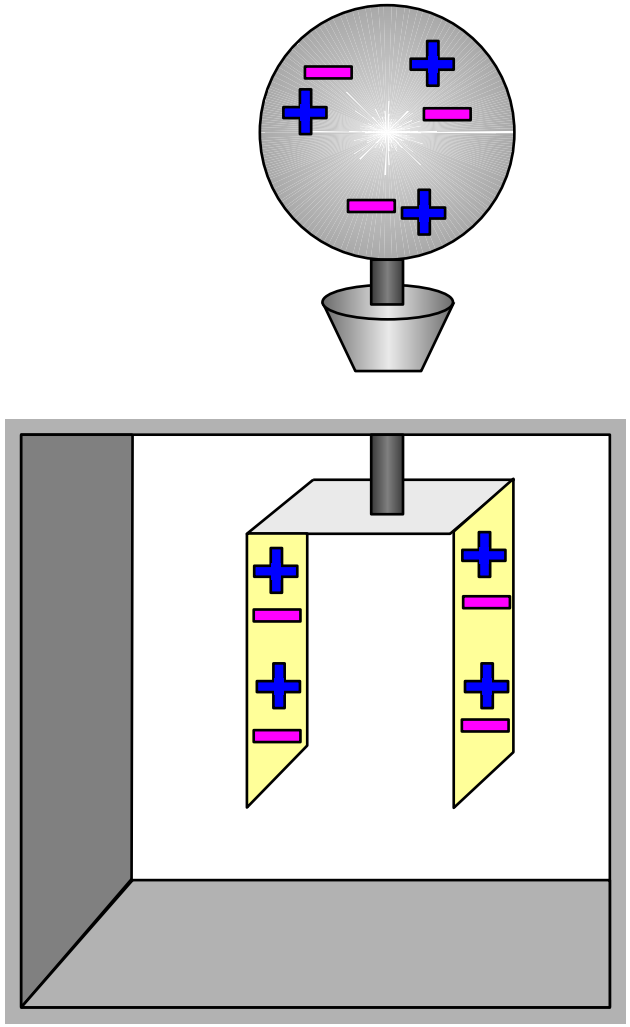


Rubber rod

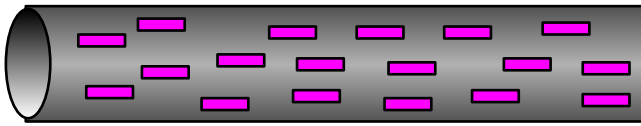


As the negatively charged rod approaches the knob of the electroscope, the electrons in the knob are repelled and move down into the leaves.

We will charge this electroscope net negative using a negatively charged rubber rod.



Rubber rod



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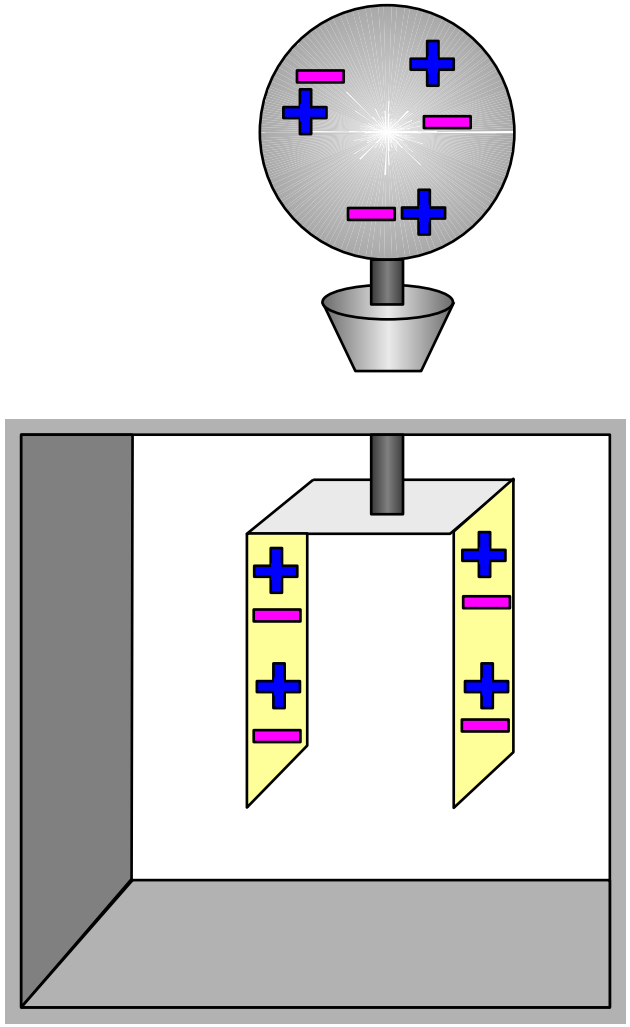
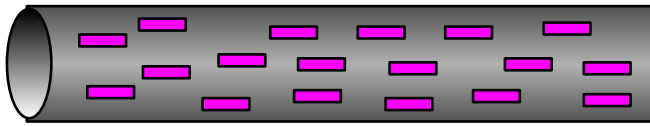
We will charge this electroscope net negative using a negatively charged rubber rod.

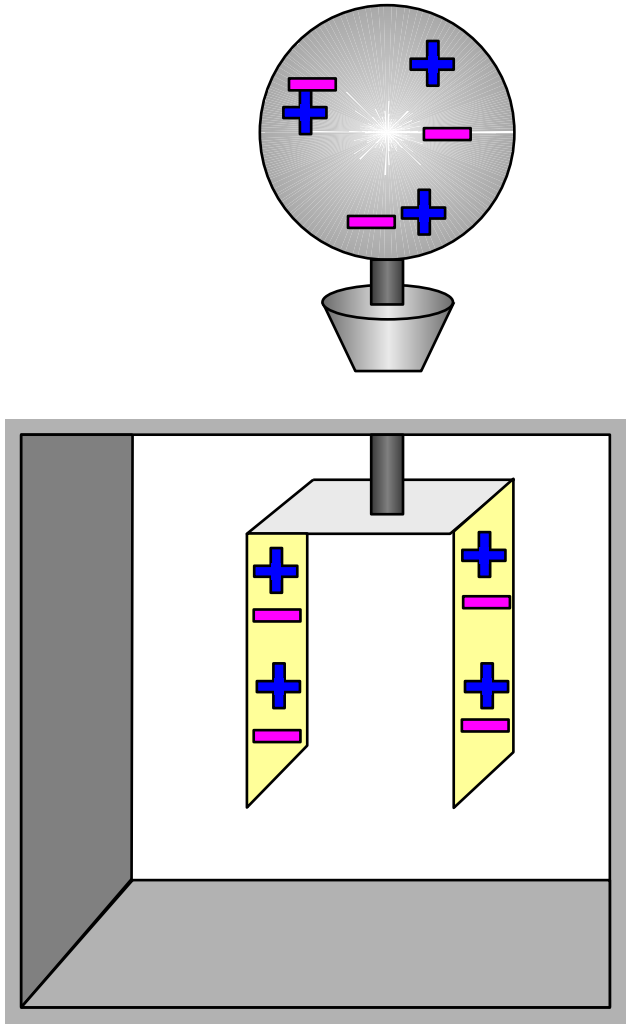


Rubber rod

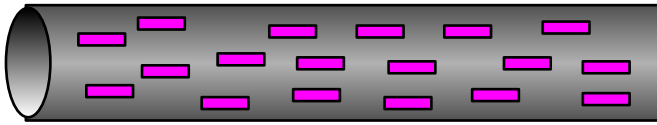


As the negatively charged rod approaches the knob of the electroscope, the electrons in the knob are repelled and move down into the leaves.

We will charge this electroscope net negative using a negatively charged rubber rod.

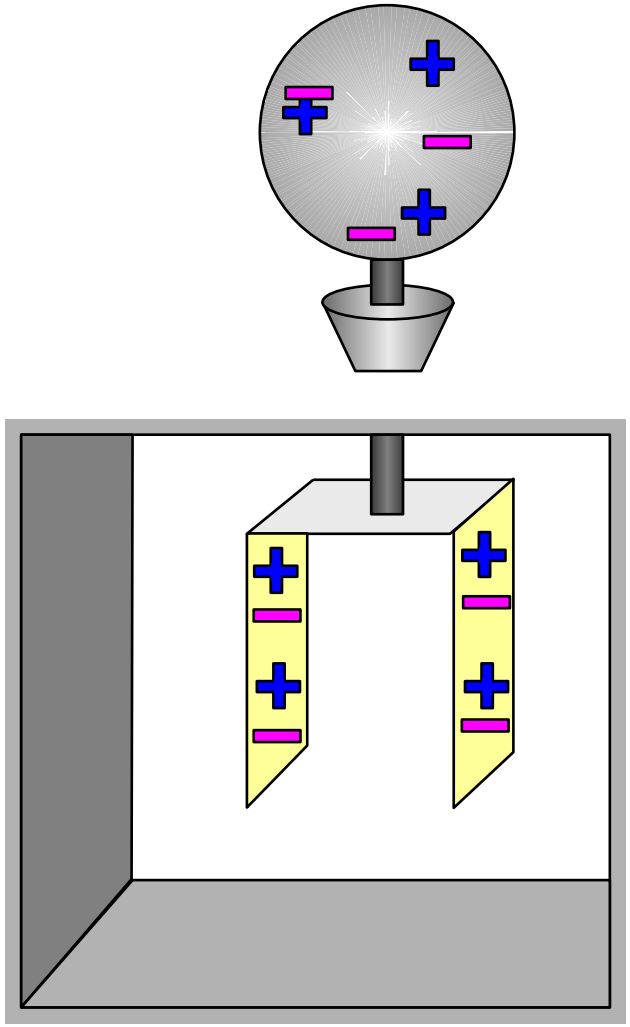


Rubber rod

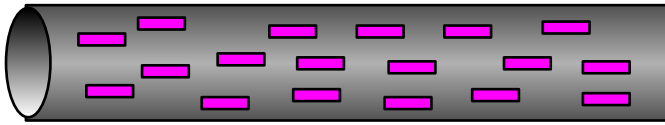


As the negatively charged rod approaches the knob of the electroscope, the electrons in the knob are repelled and move down into the leaves.

We will charge this electroscope net negative using a negatively charged rubber rod.



Rubber rod



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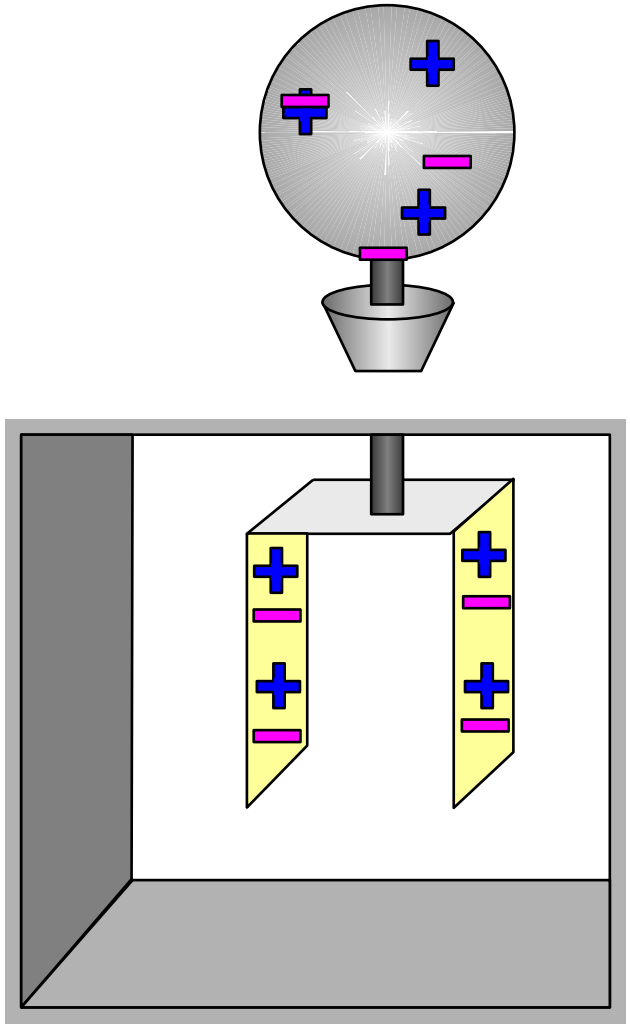
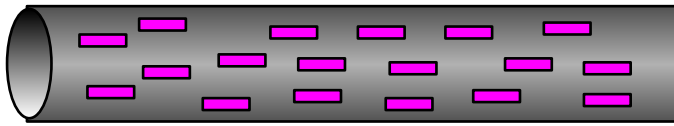
We will charge this electroscope net negative using a negatively charged rubber rod.



Rubber rod



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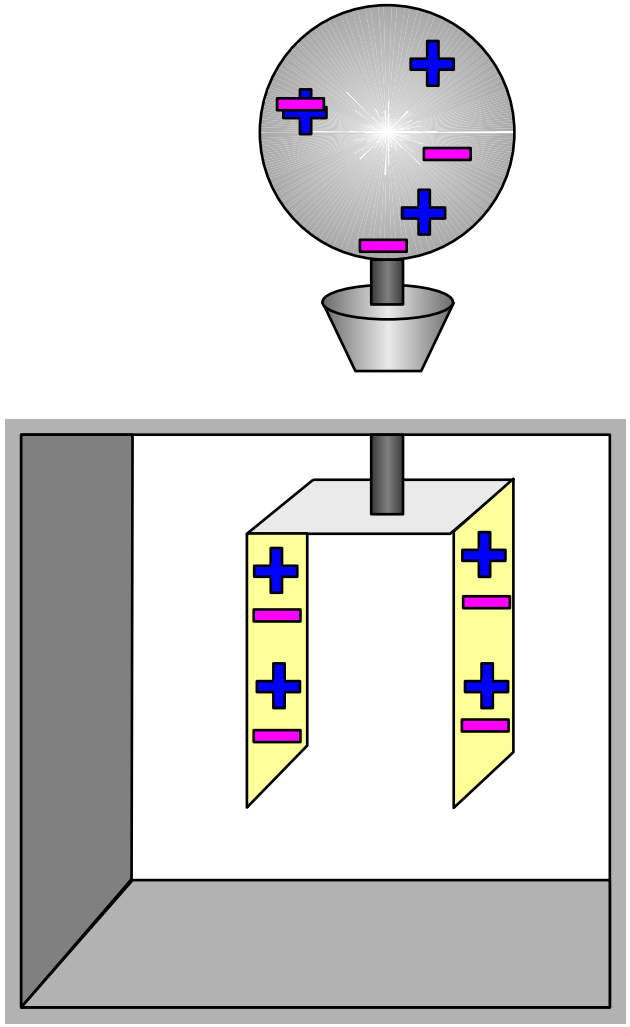
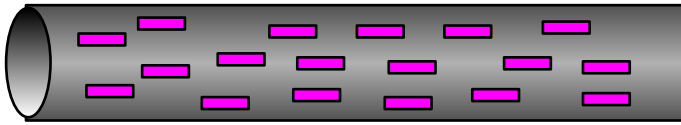


Rubber rod



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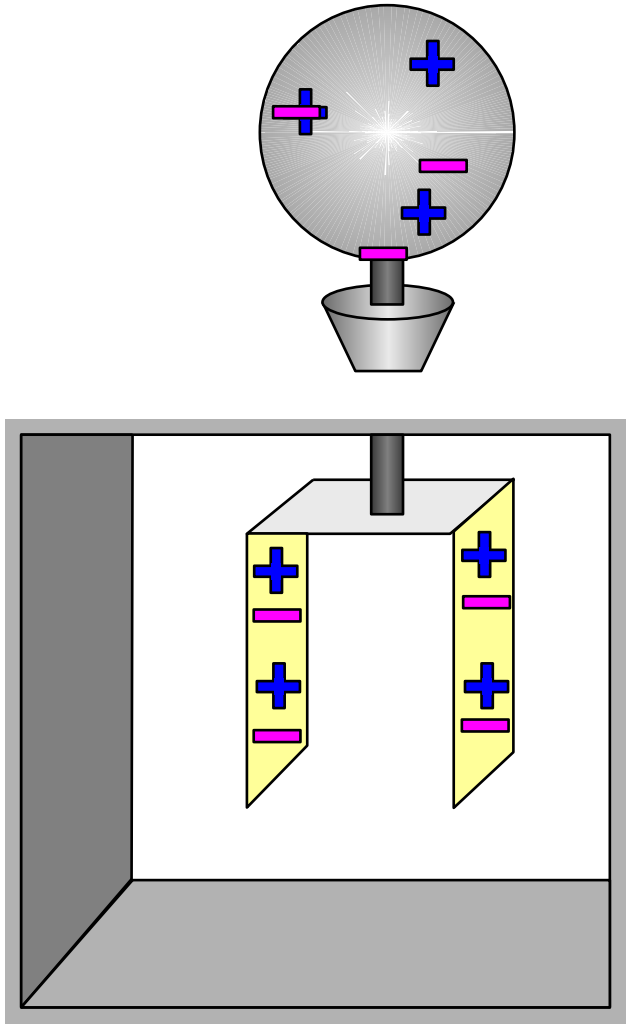
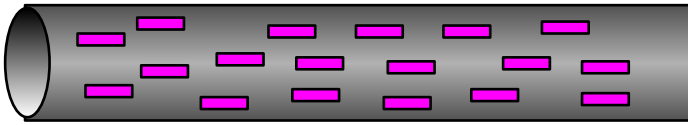


Rubber rod



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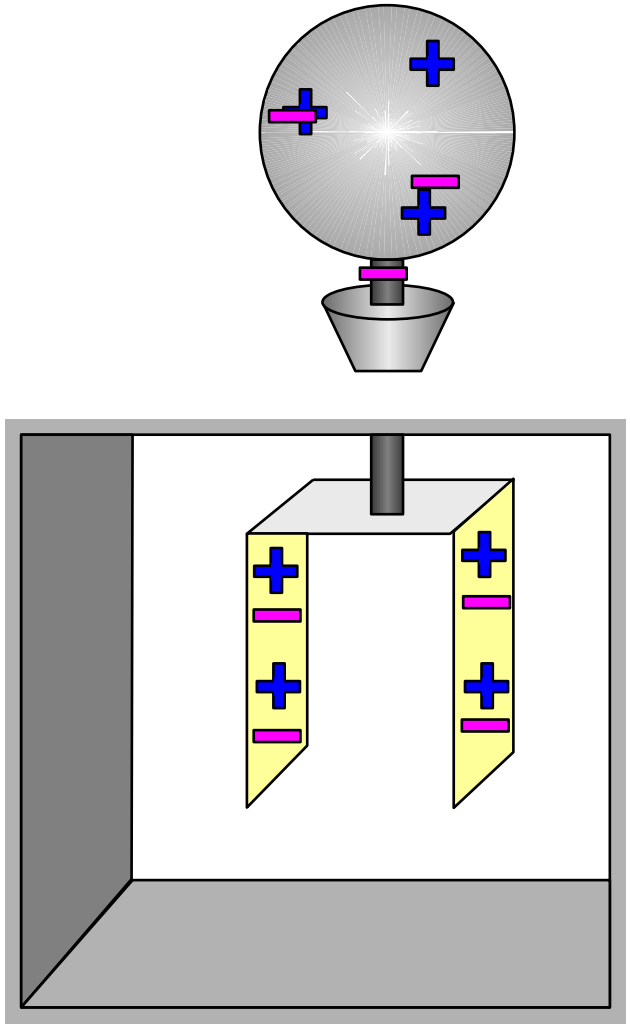
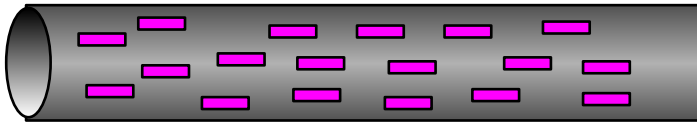
We will charge this electroscope net negative using a negatively charged rubber rod.



Rubber rod



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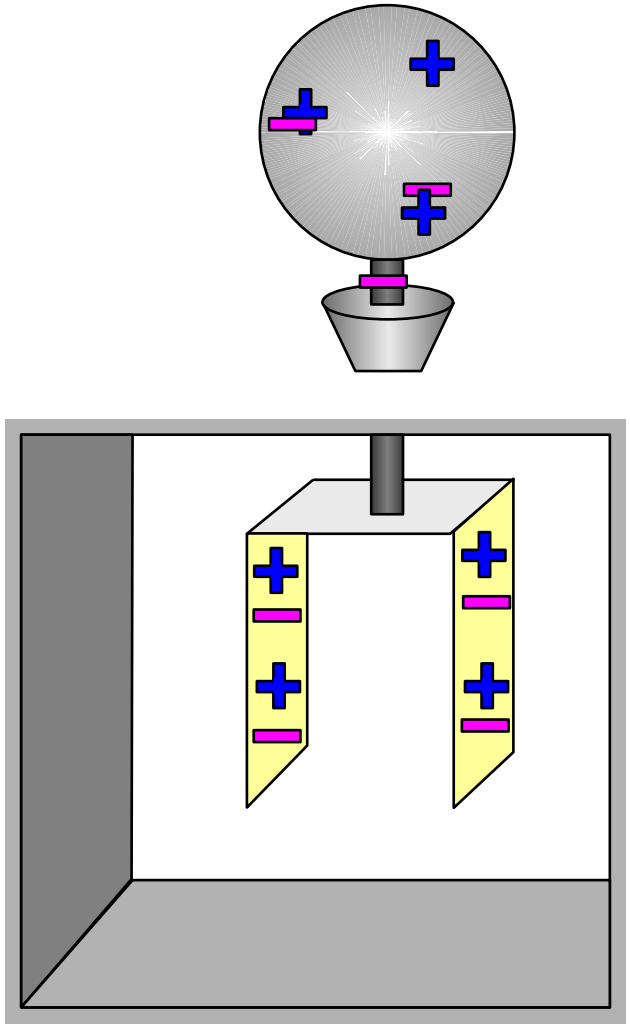
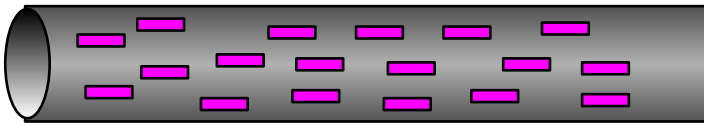


Rubber rod



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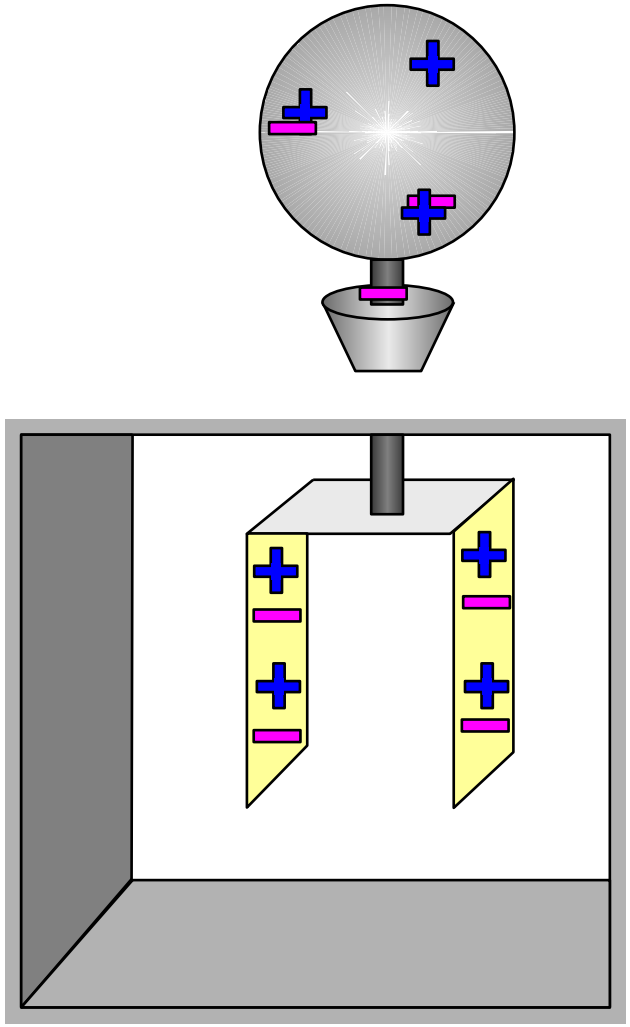

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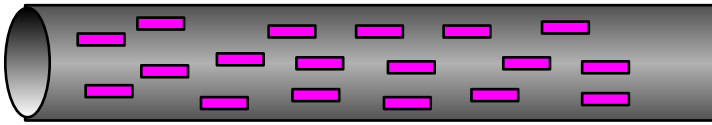

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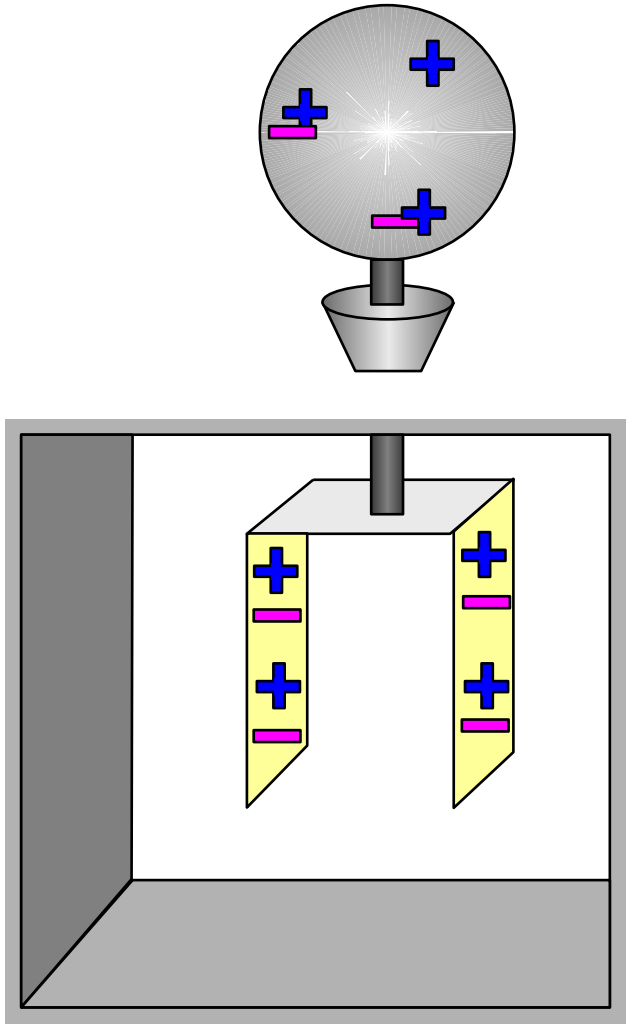
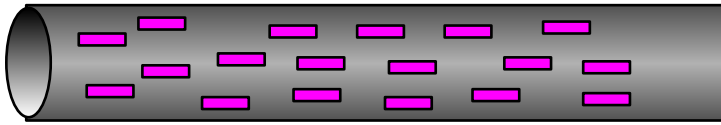


Rubber rod



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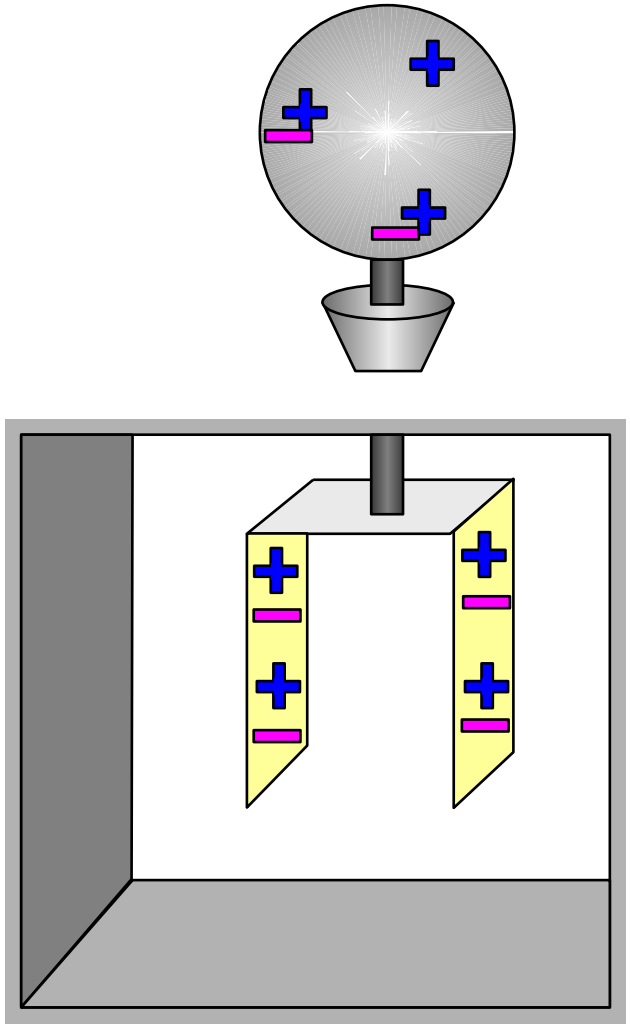
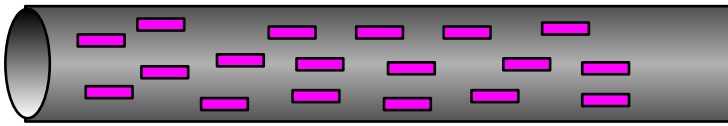


Rubber rod



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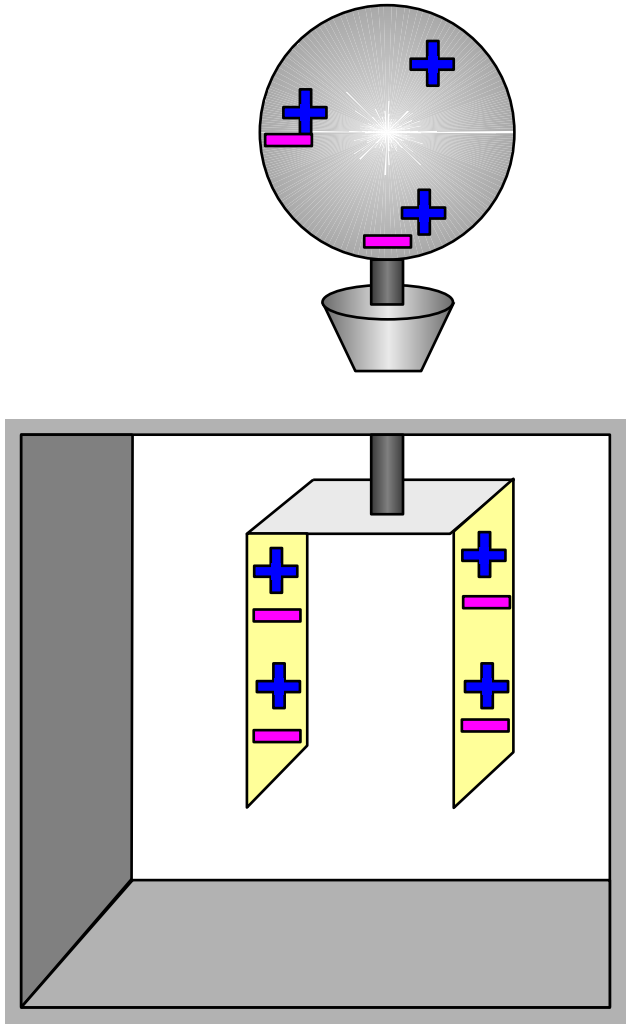
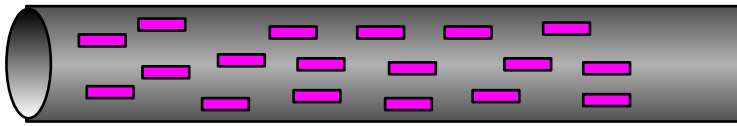


Rubber rod



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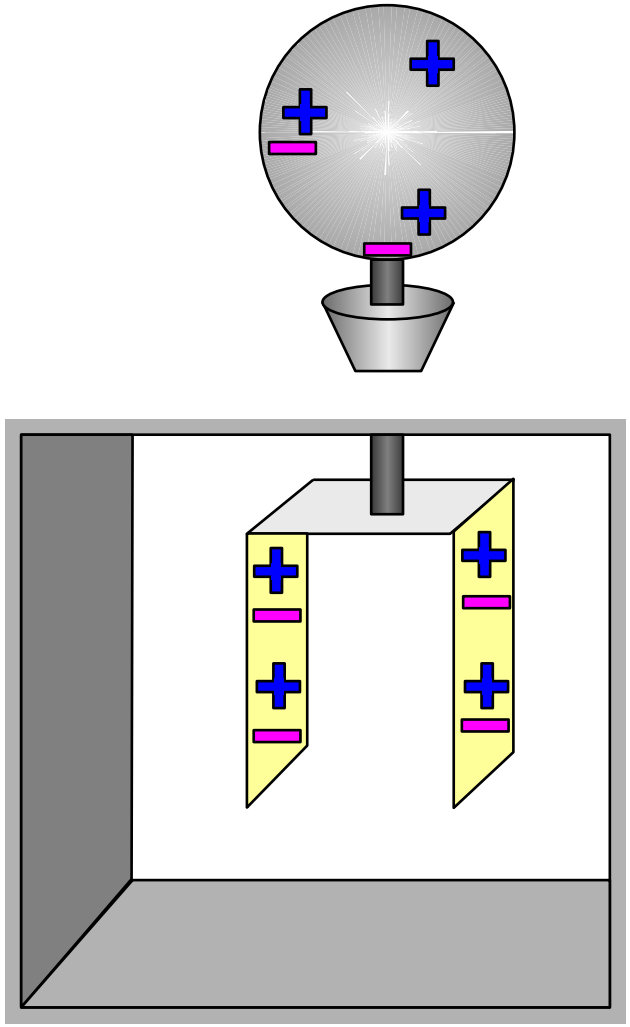
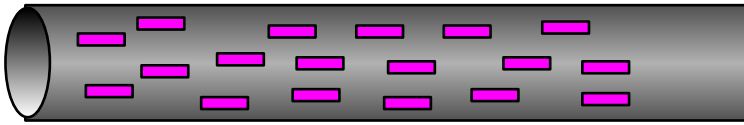


Rubber rod



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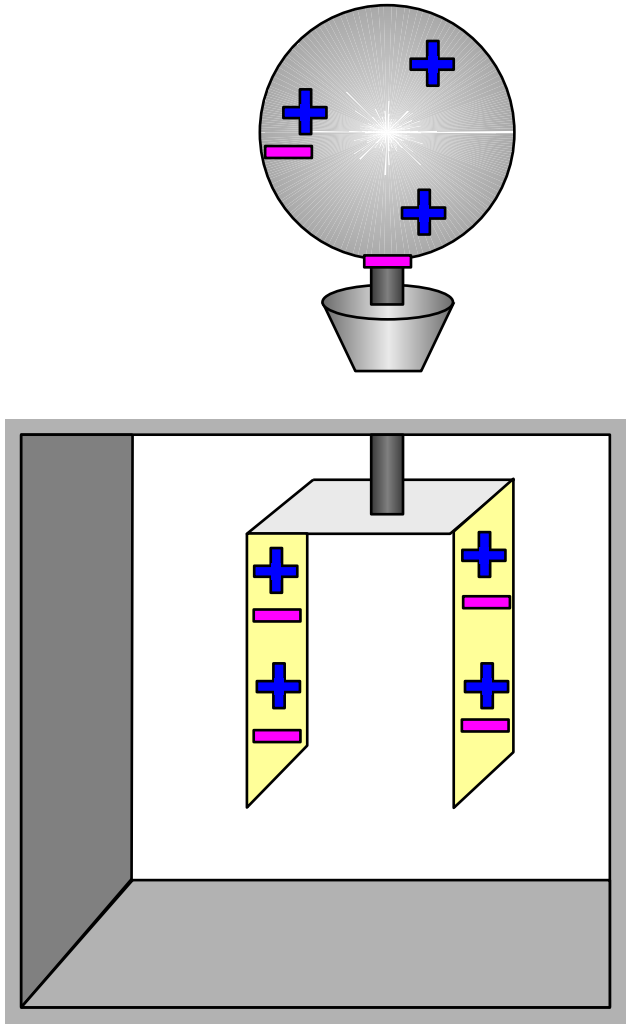
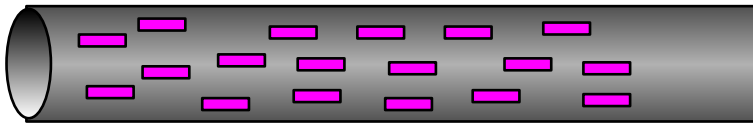


Rubber rod



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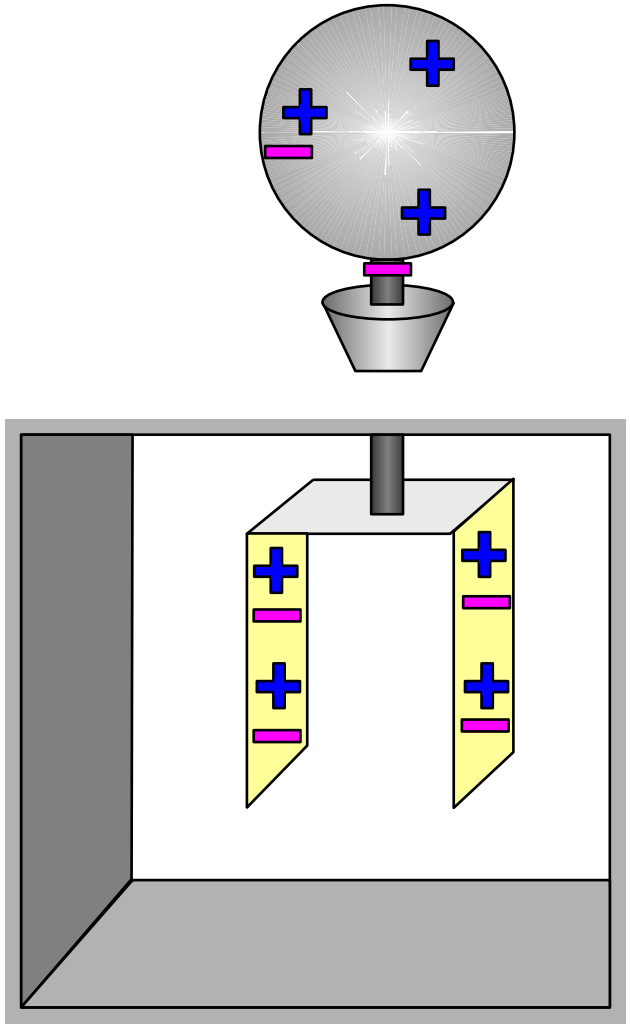
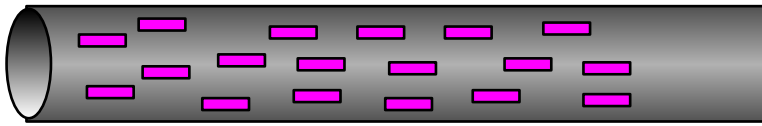
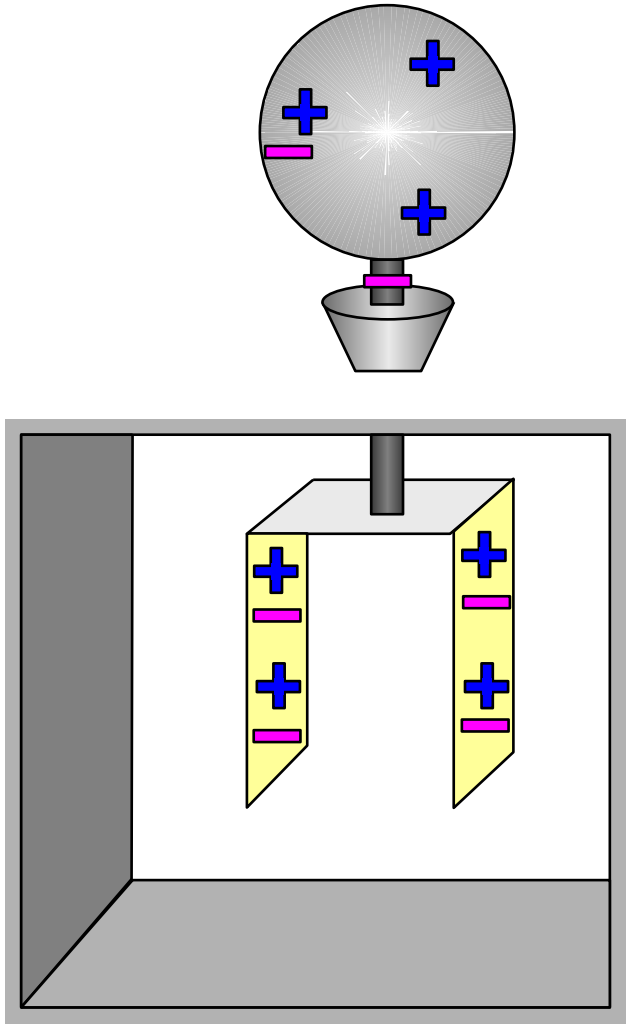


Rubber rod

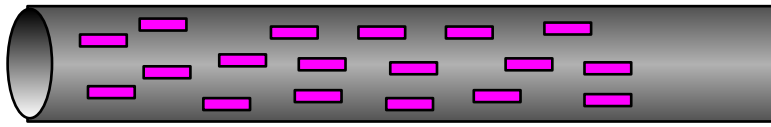


As the negatively charged rod approaches the knob of the electroscope, the electrons in the knob are repelled and move down into the leaves.

We will charge this electroscope net negative using a negatively charged rubber rod.



Rubber rod



As the negatively charged rod approaches the knob of the electroscope, the electrons in the knob are repelled and move down into the leaves.

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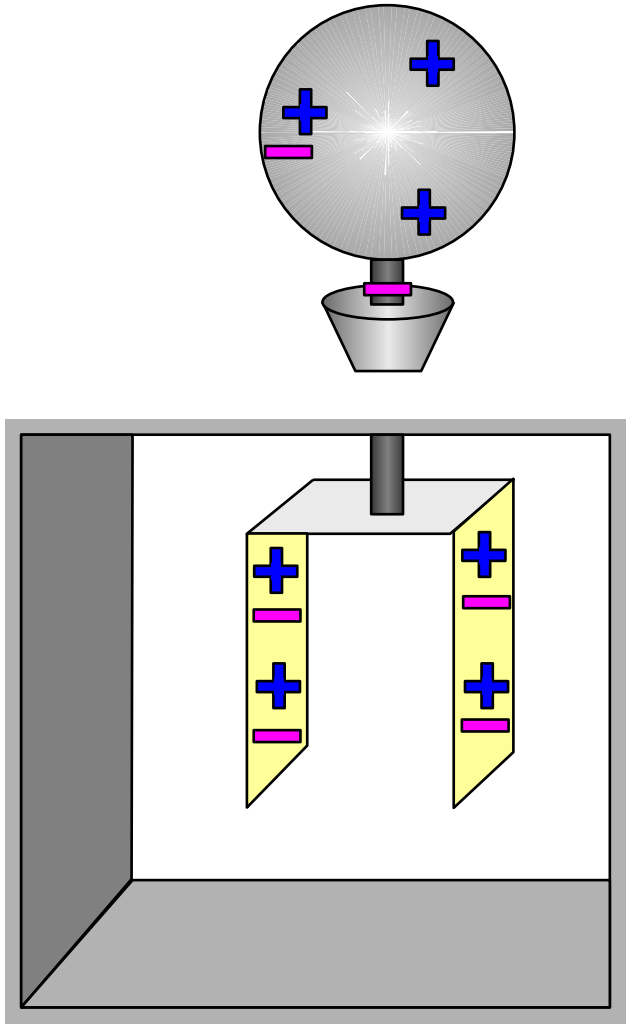
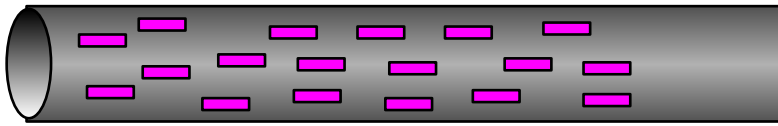


Rubber rod



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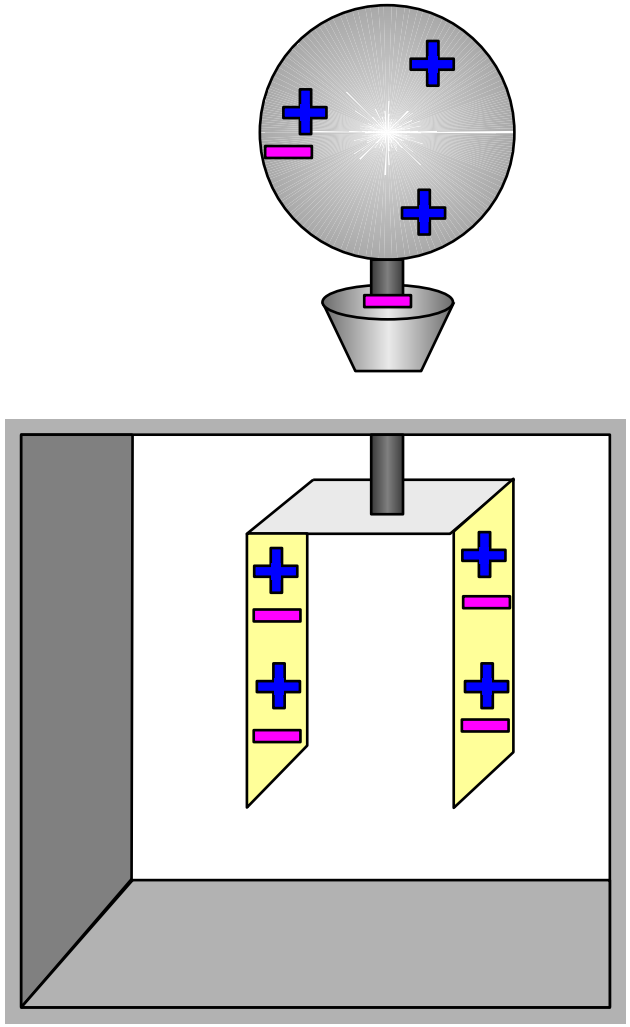
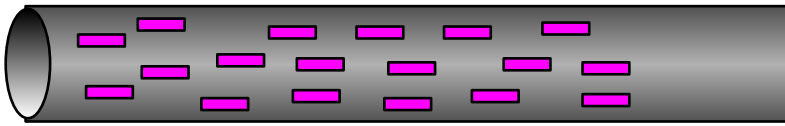


Rubber rod



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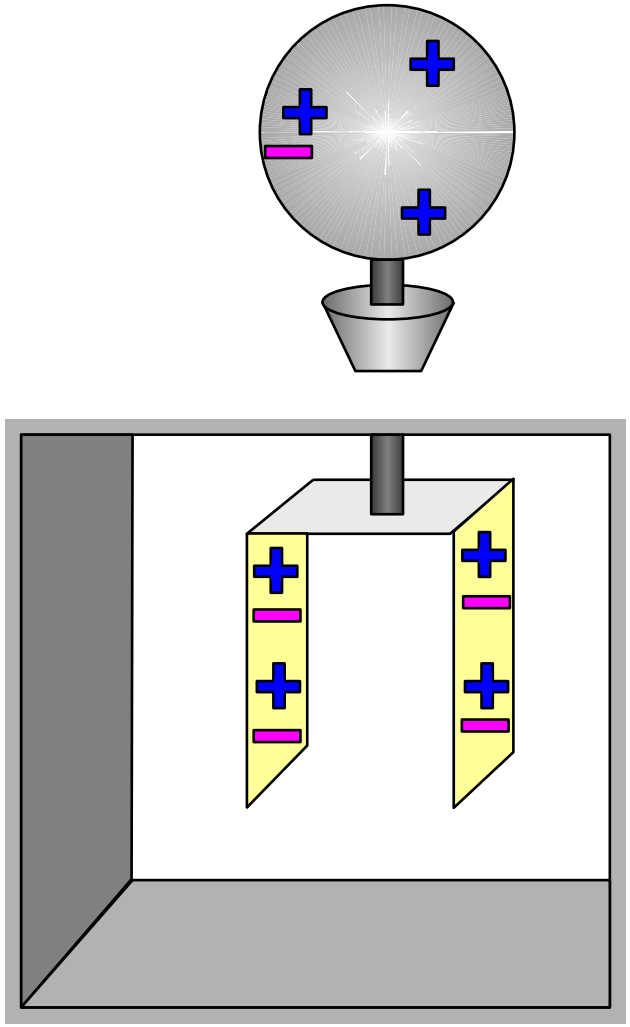
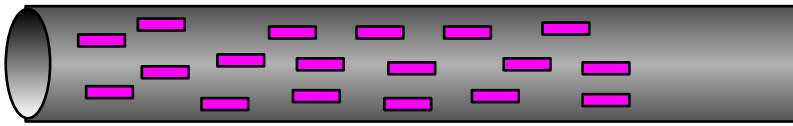


Rubber rod



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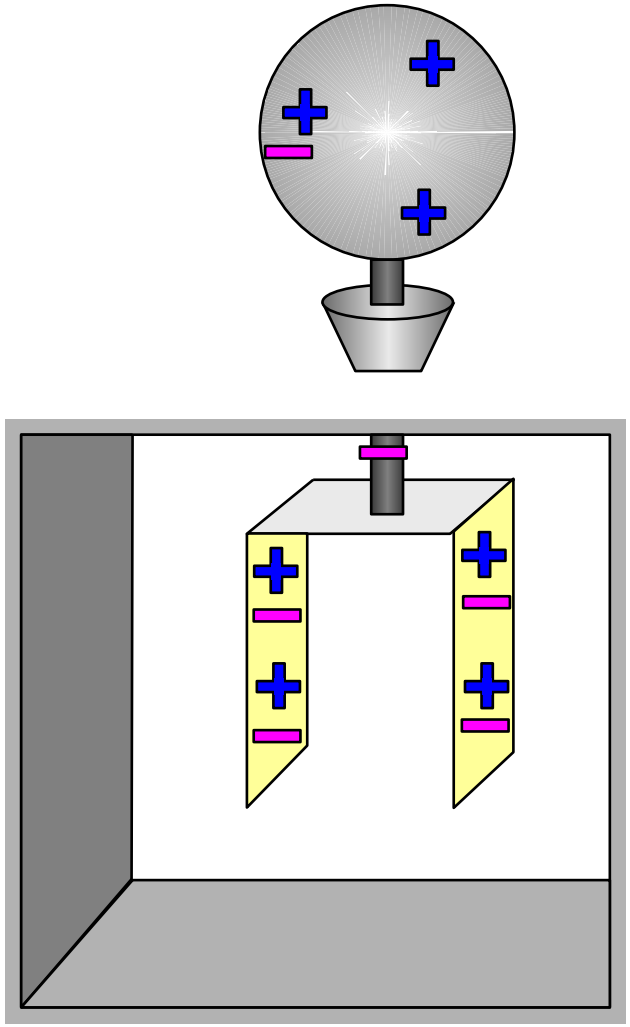
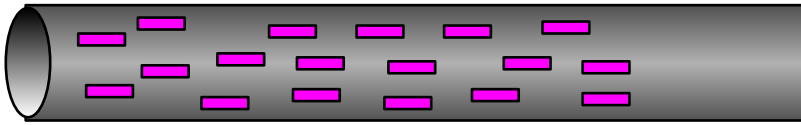


Rubber rod



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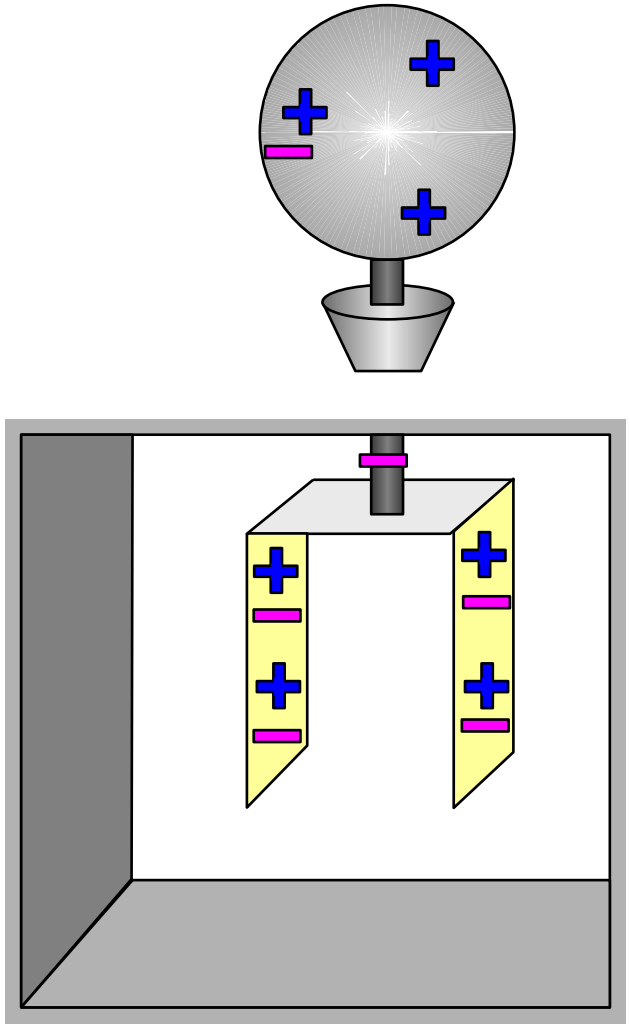
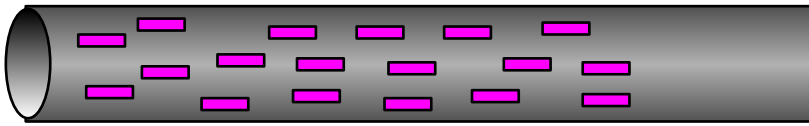


Rubber rod



As the negatively charged rod approaches the knob of the electroscope, the electrons in the knob are repelled and move down into the leaves.

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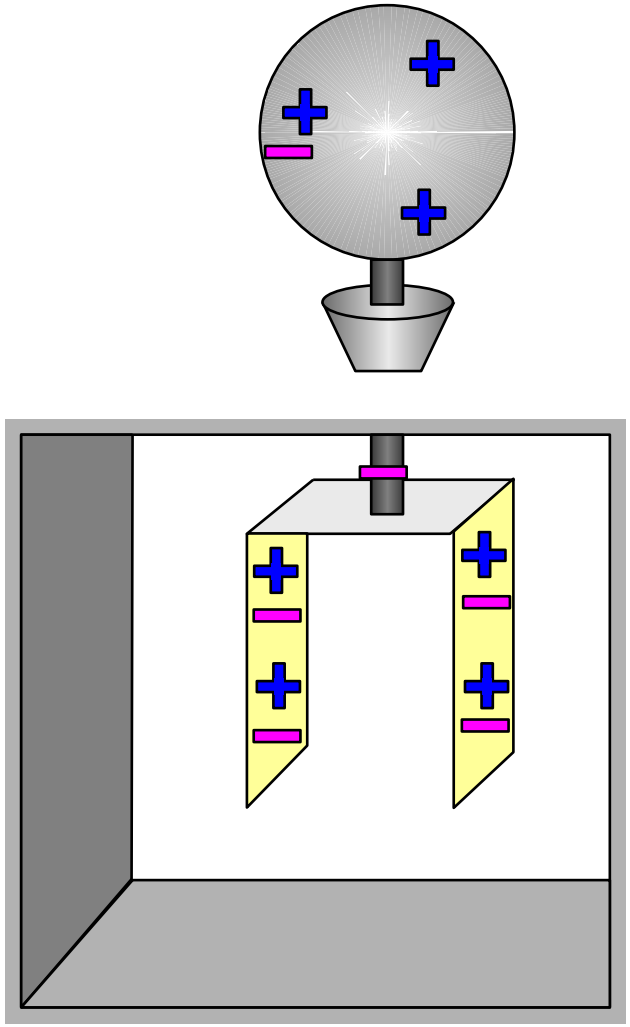
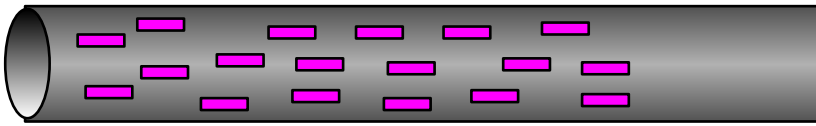


Rubber rod



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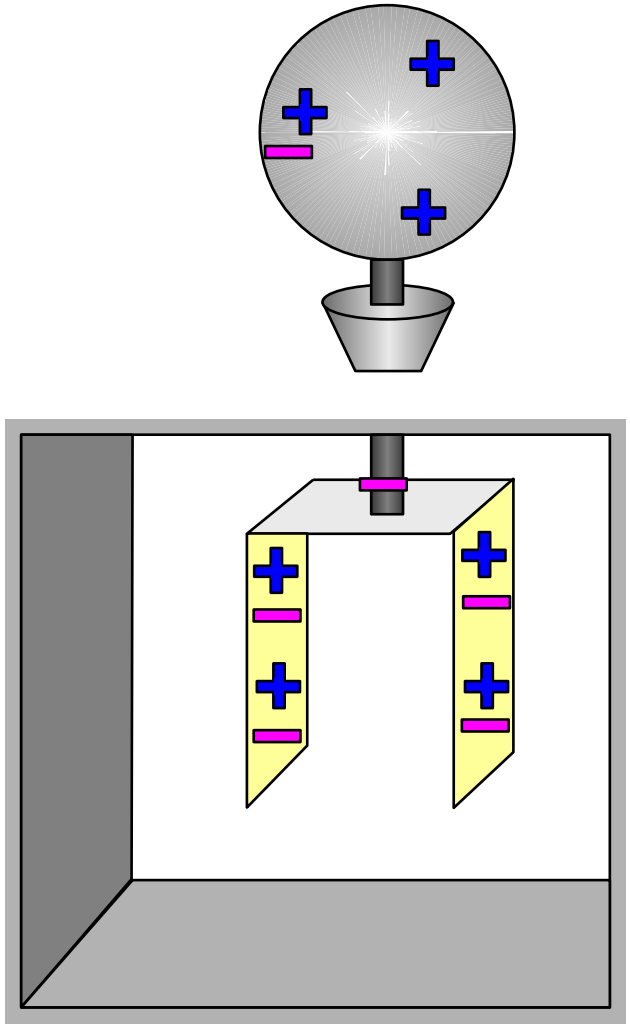
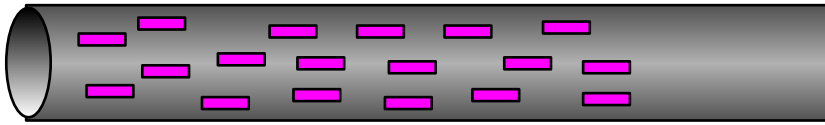


Rubber rod



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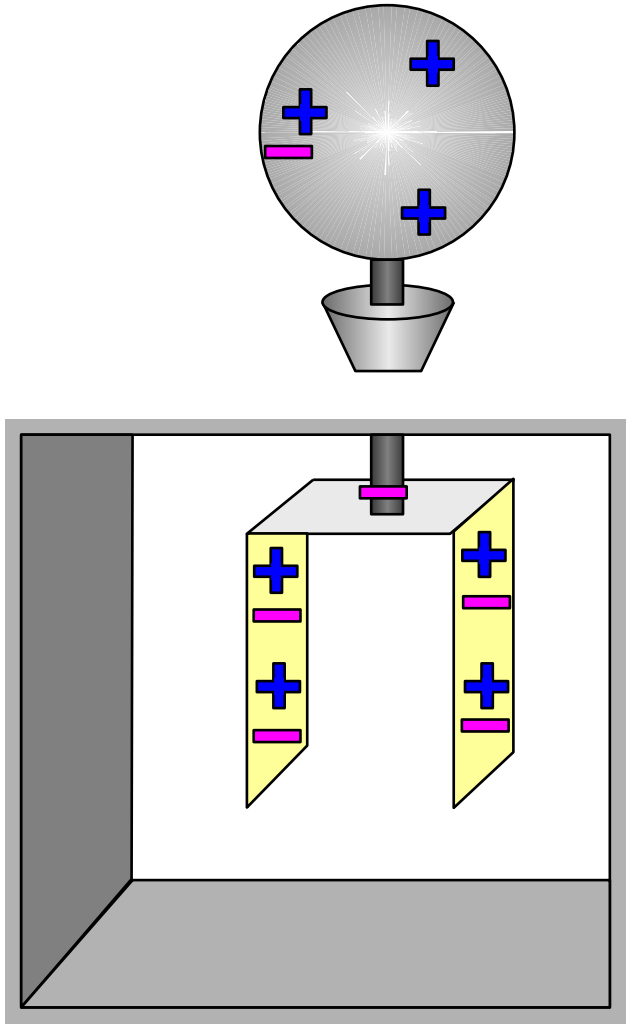

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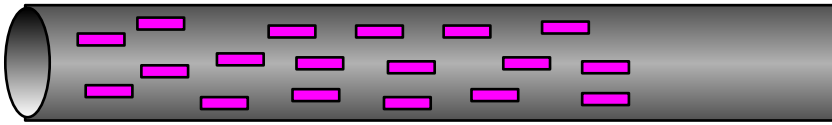

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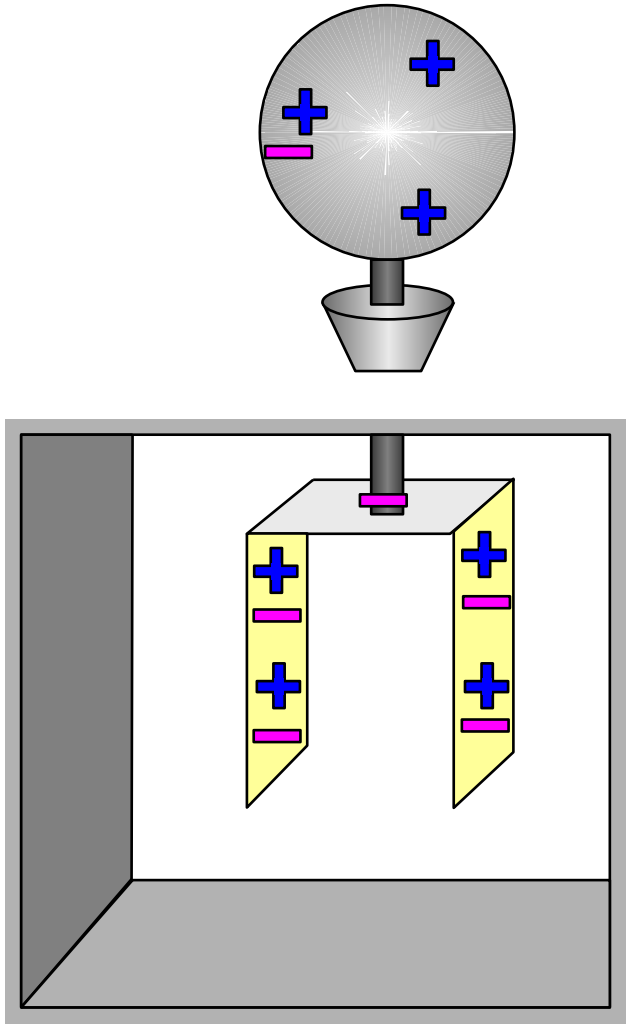

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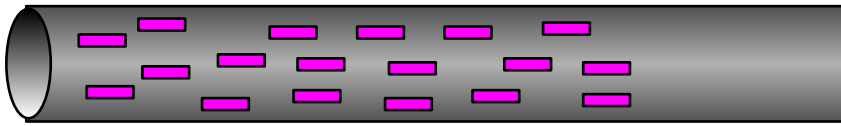

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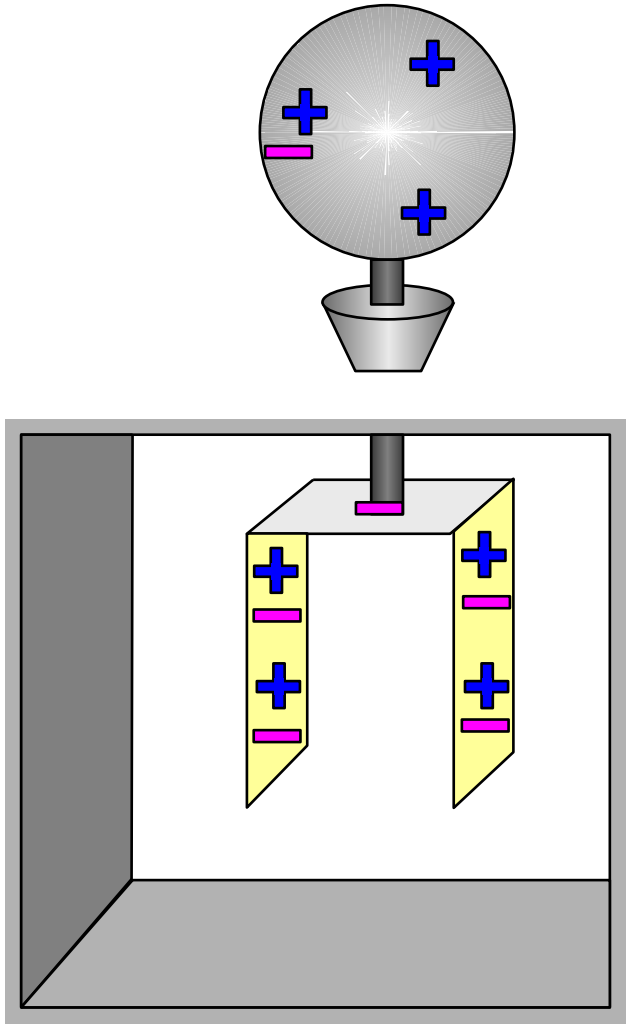

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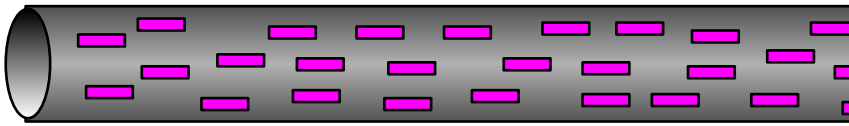

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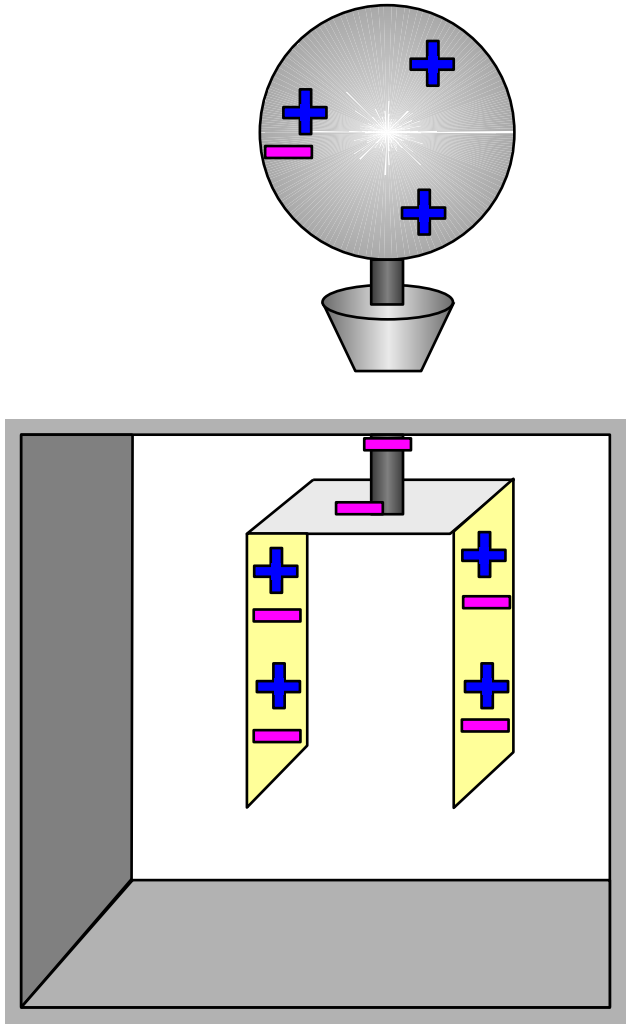

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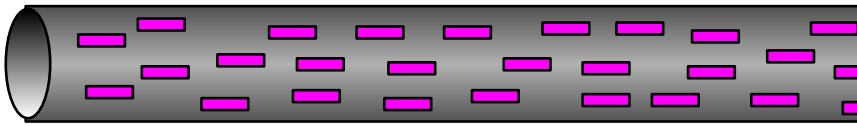

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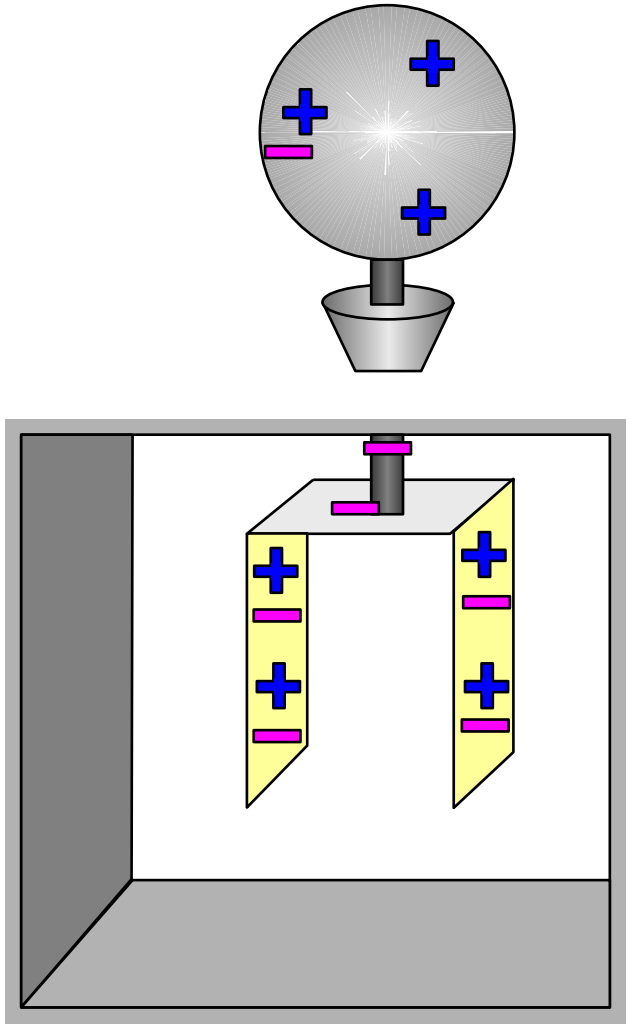

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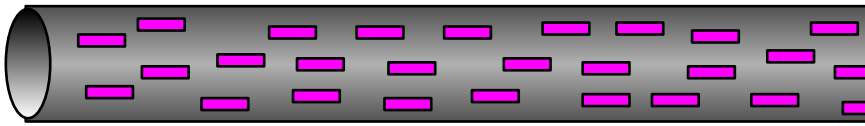

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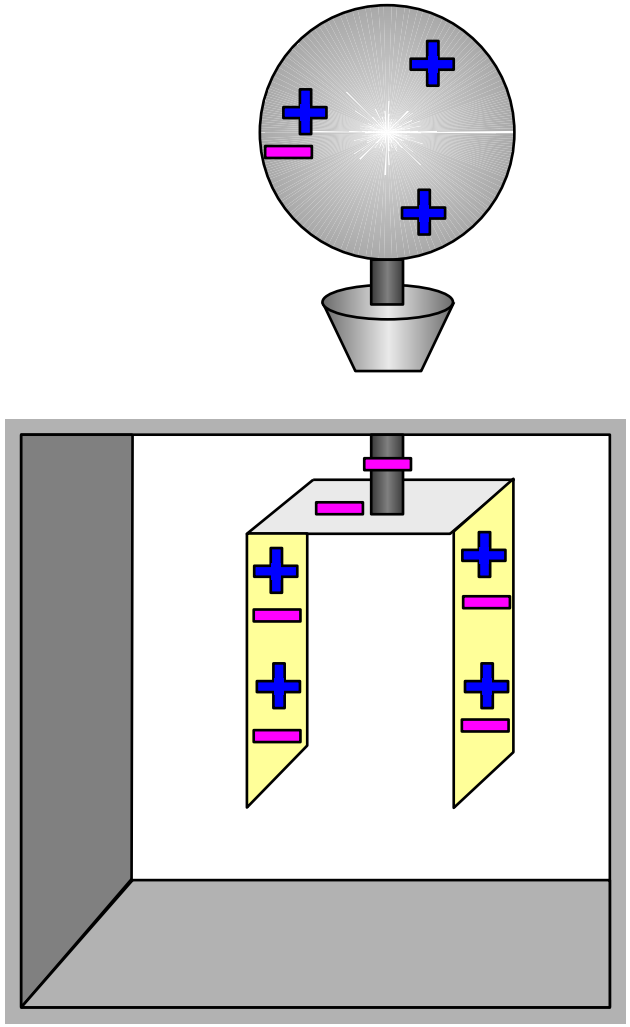

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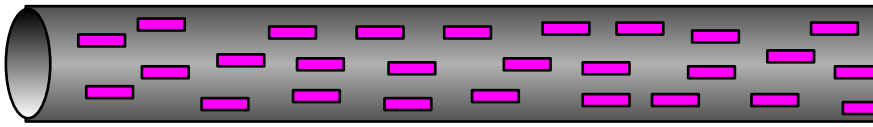

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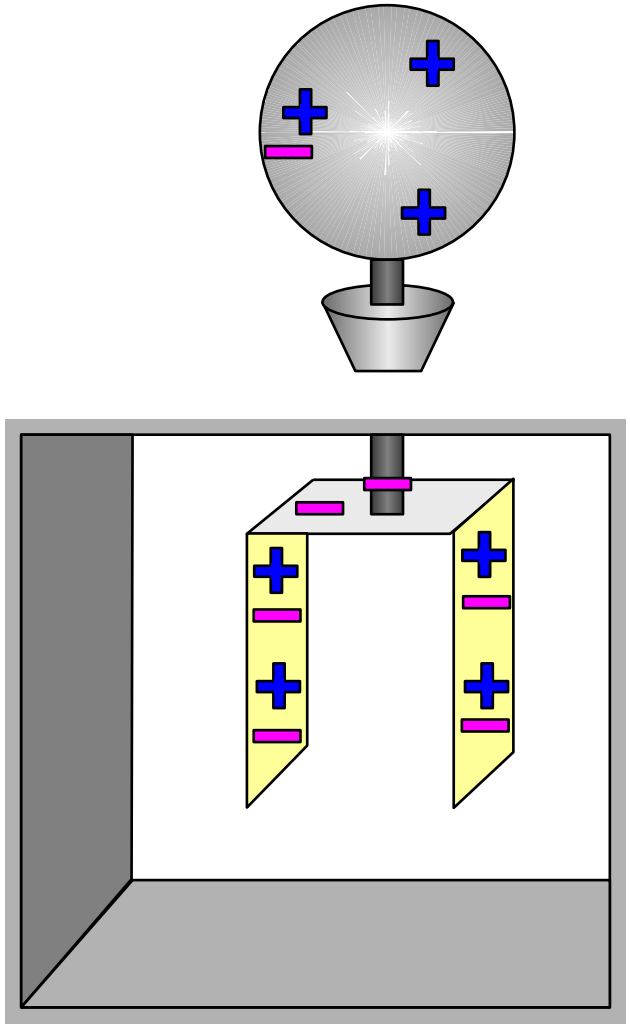

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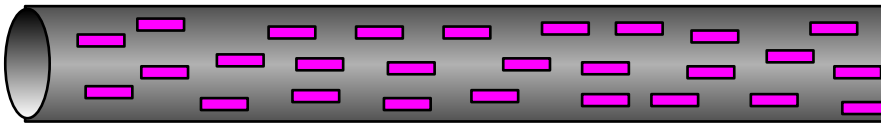

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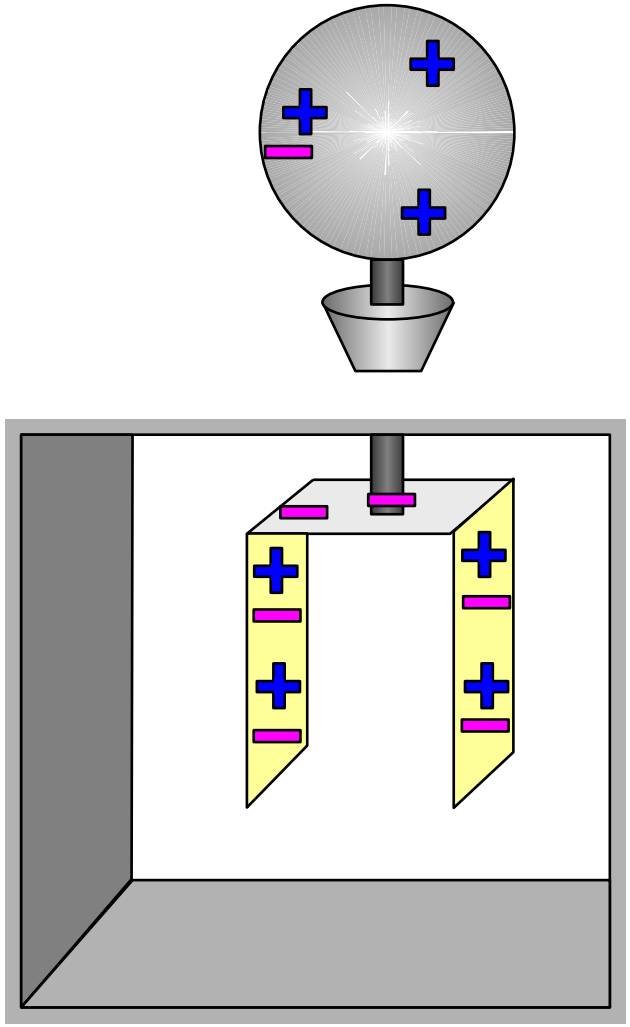

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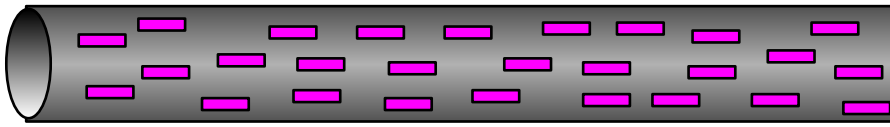

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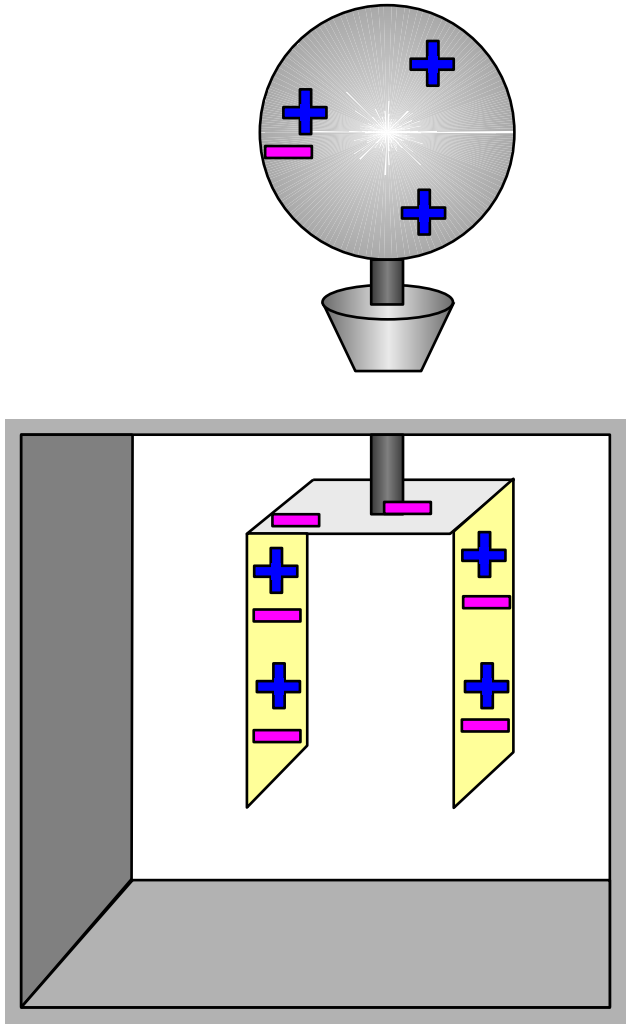
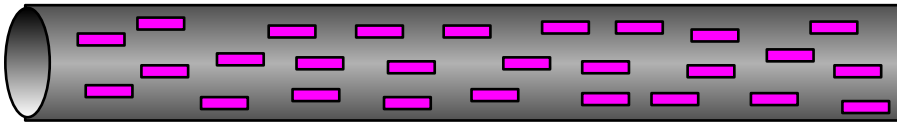


Created by
Richard J. Terwilliger
April 2001

Rubber rod



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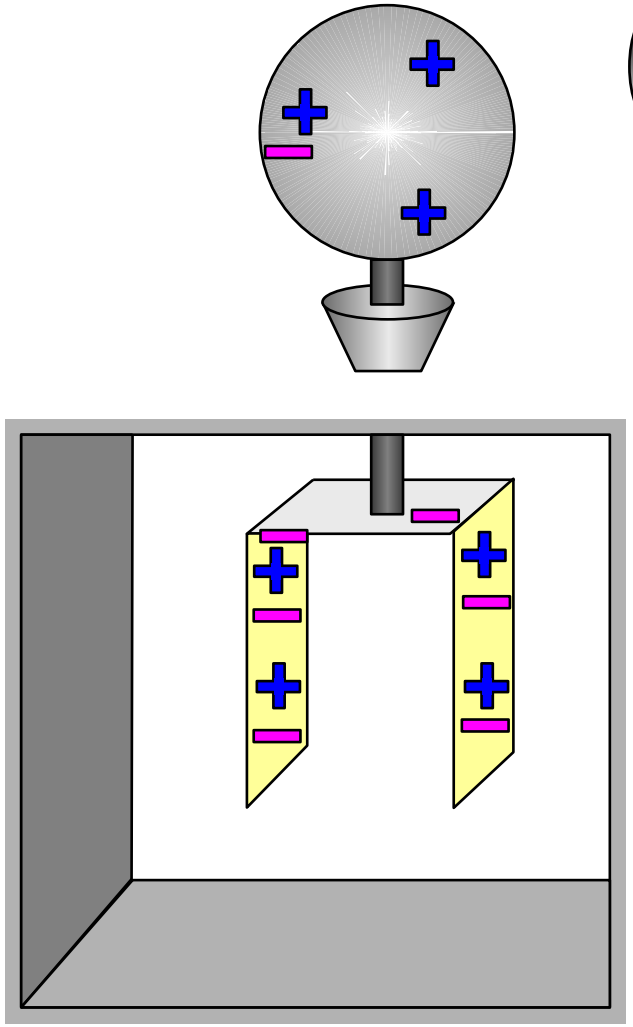

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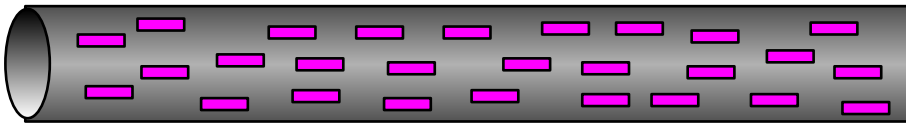

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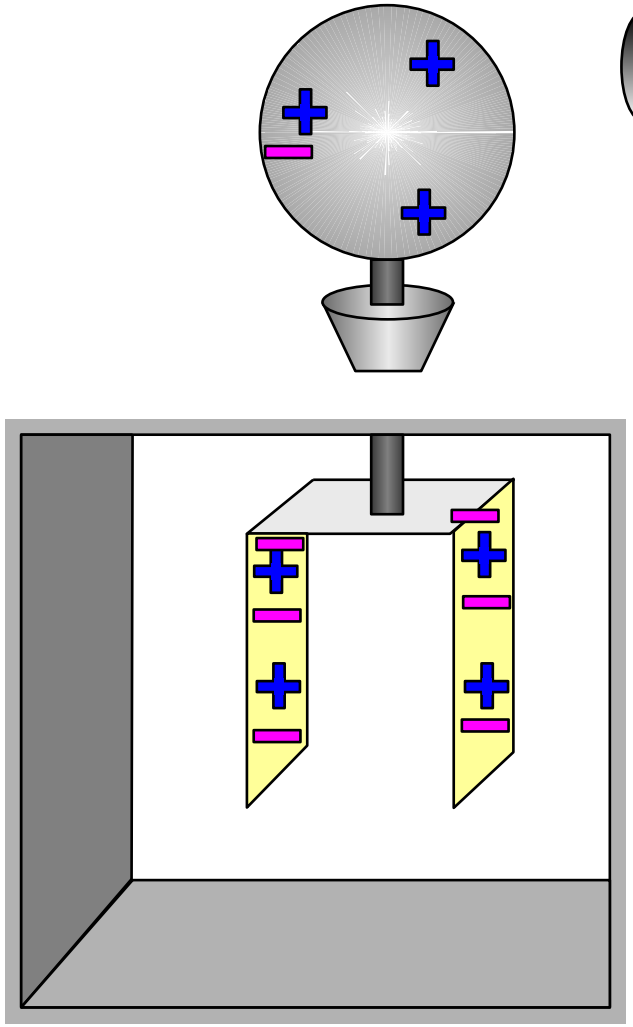

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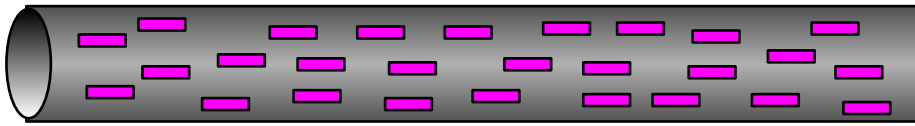

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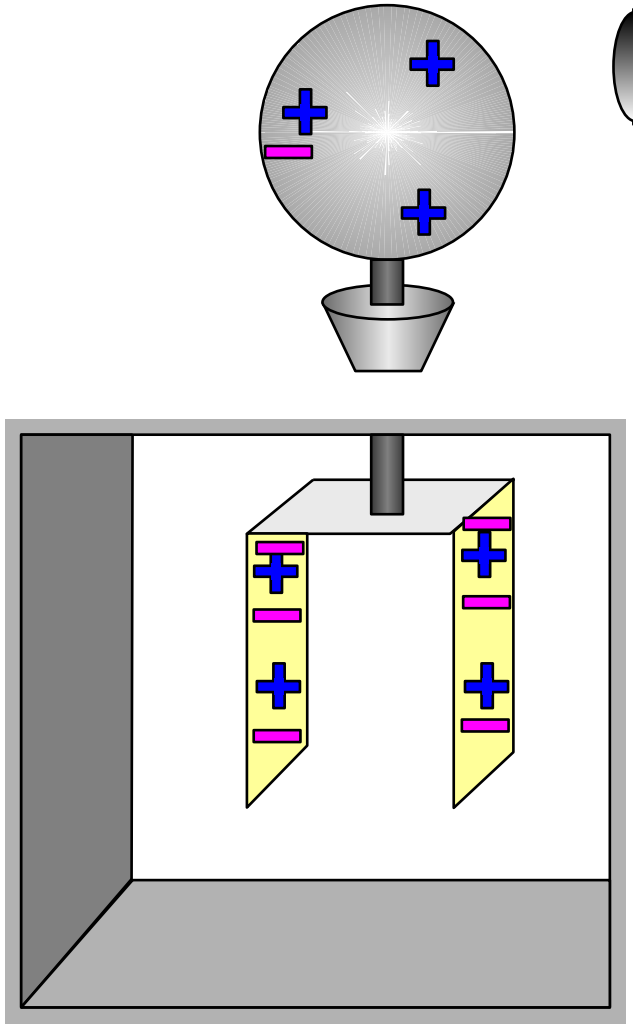

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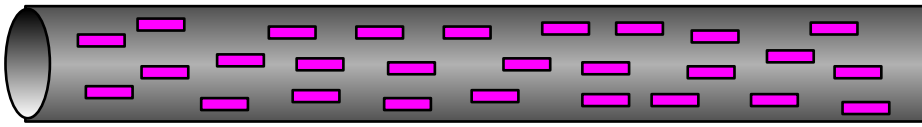

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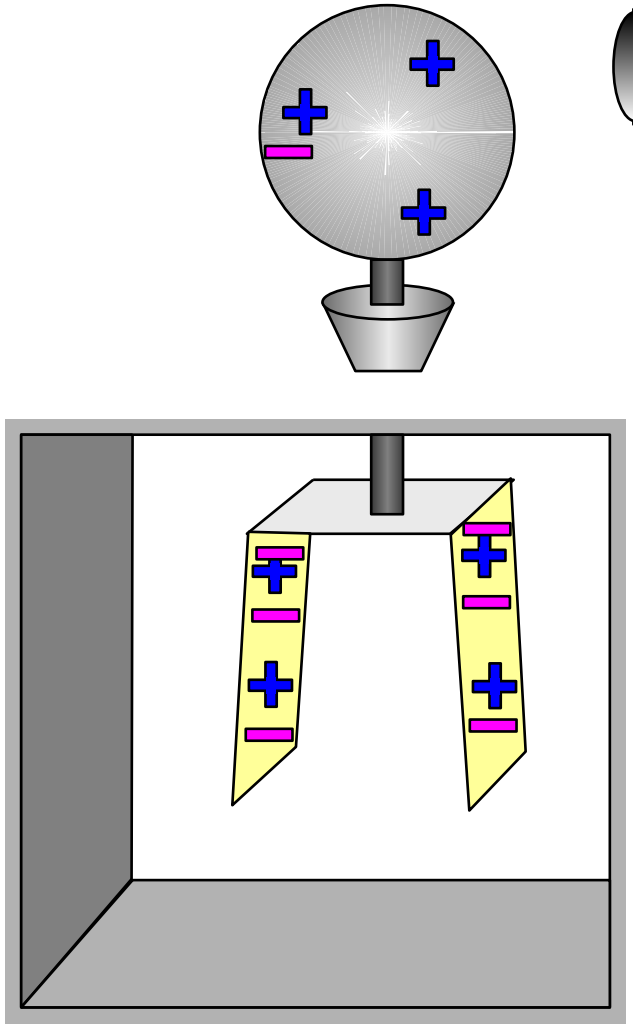

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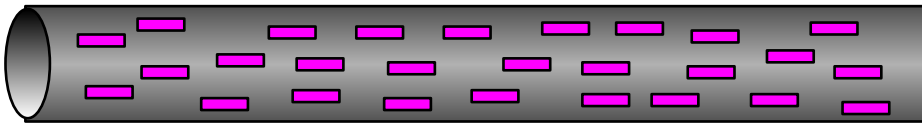

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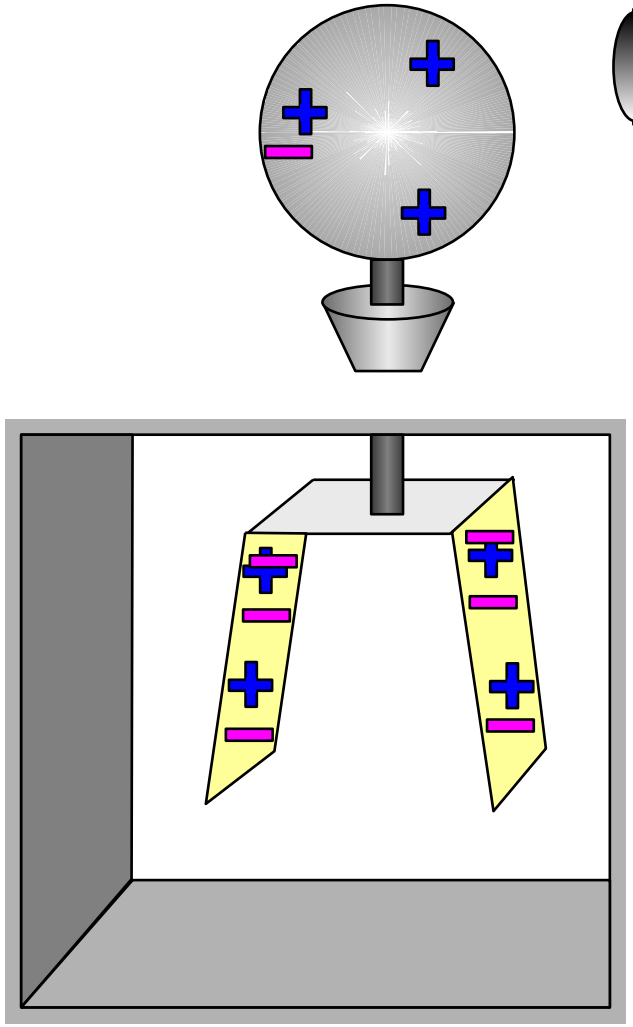

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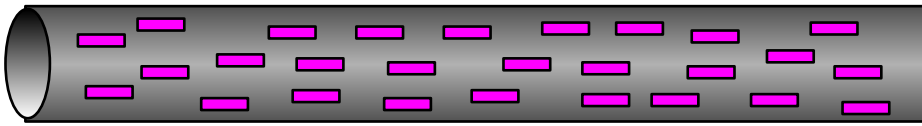

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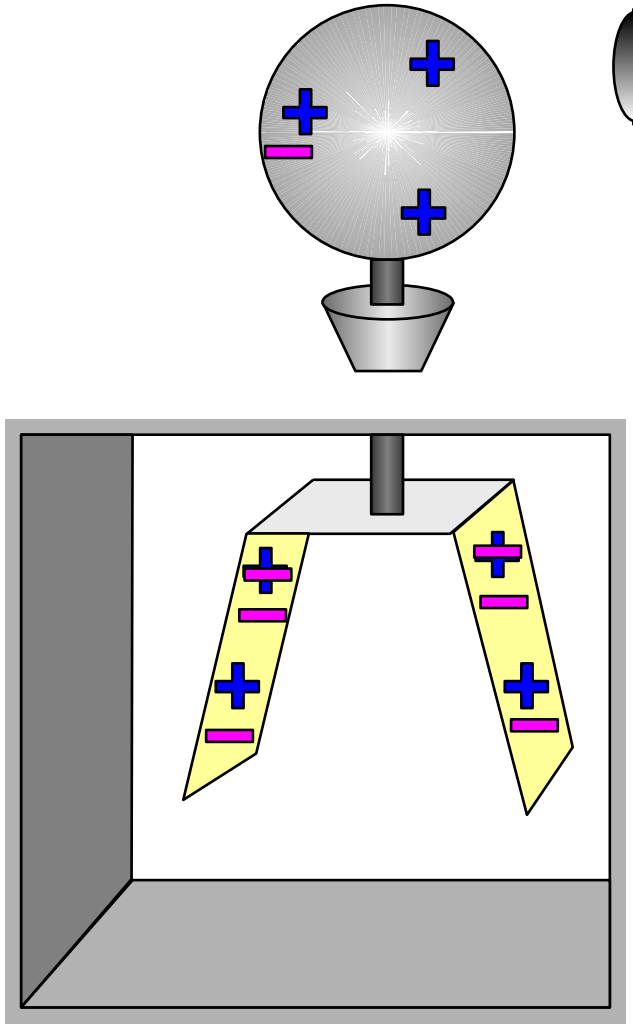

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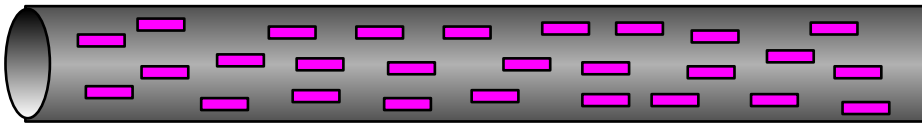

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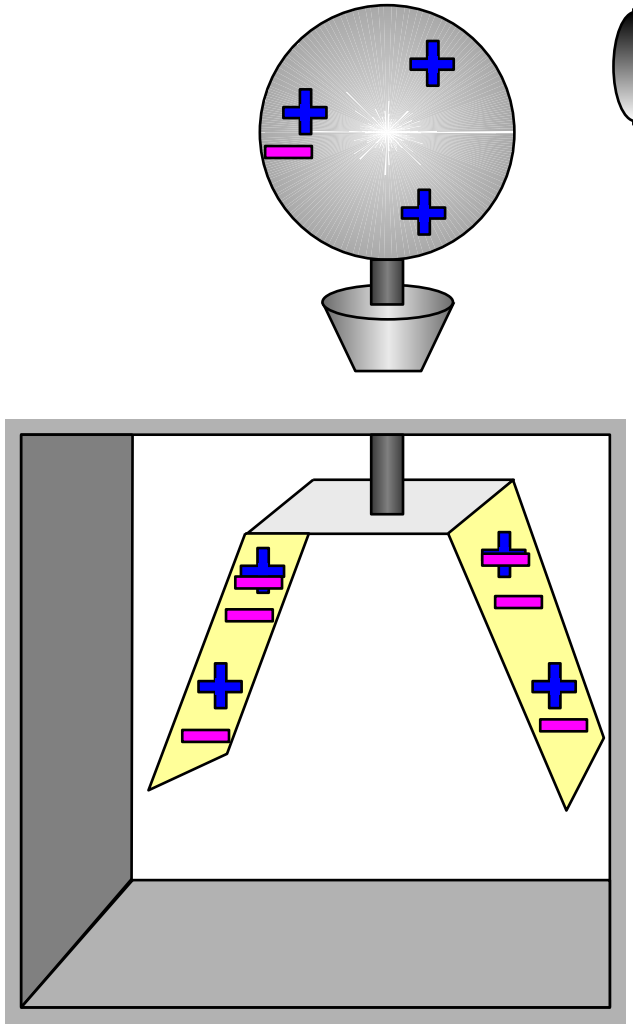

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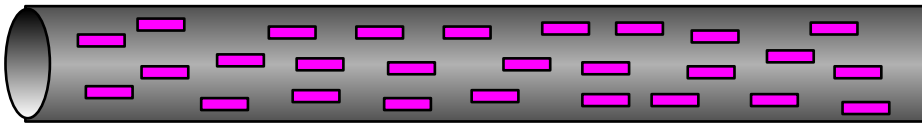

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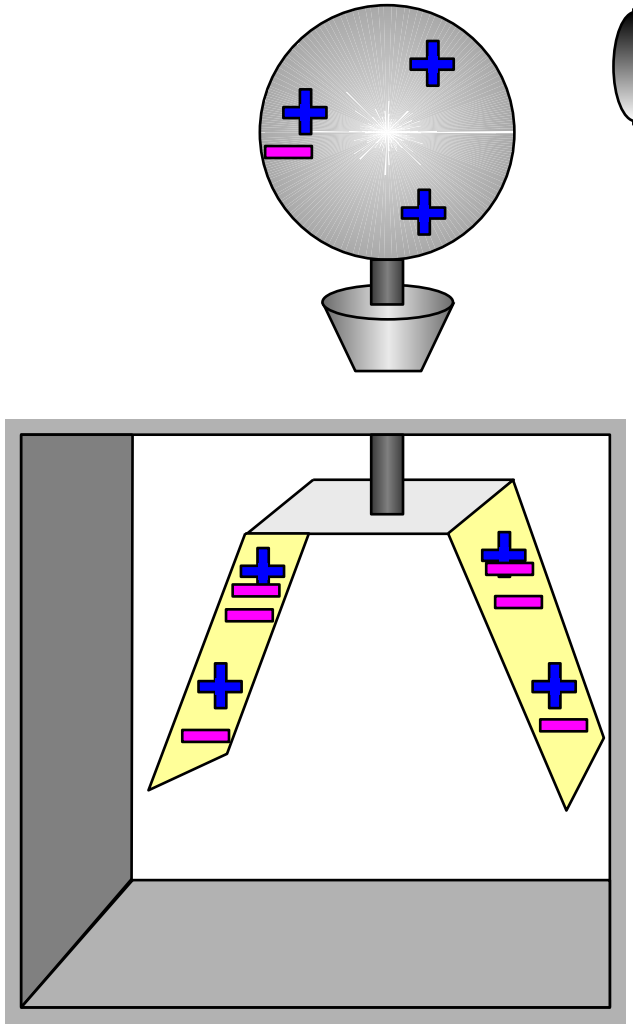

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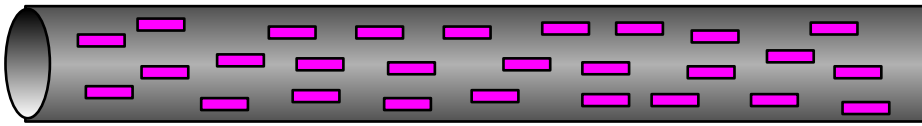

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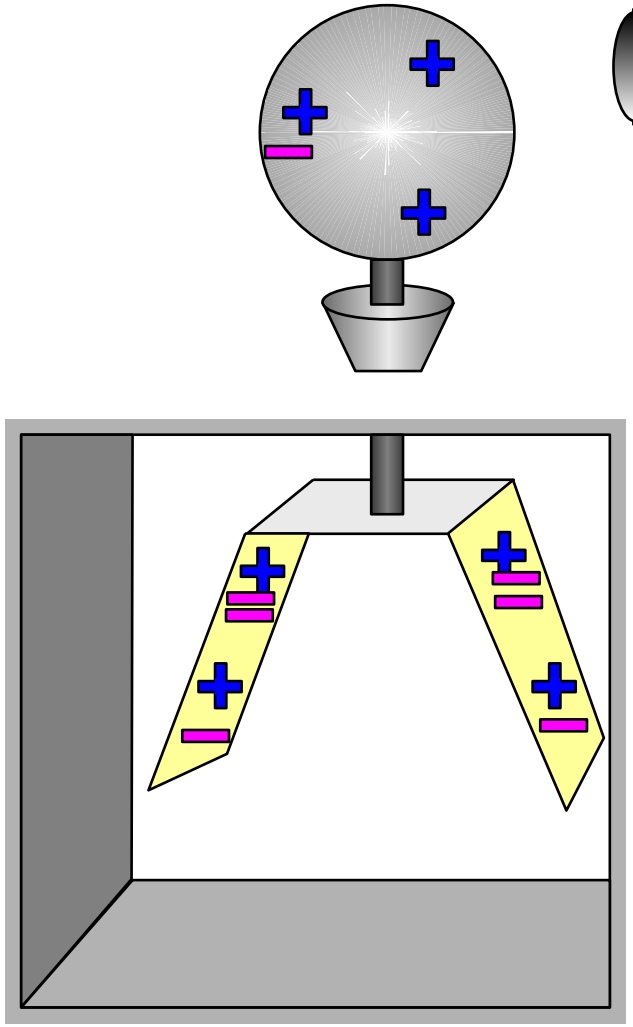

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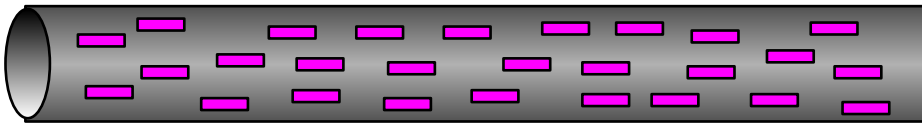

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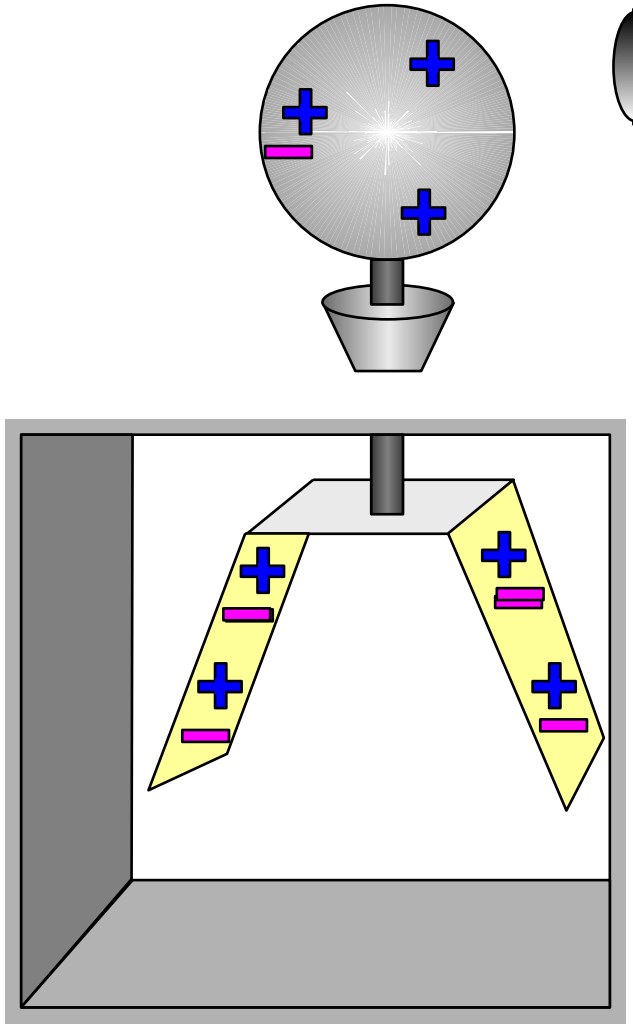

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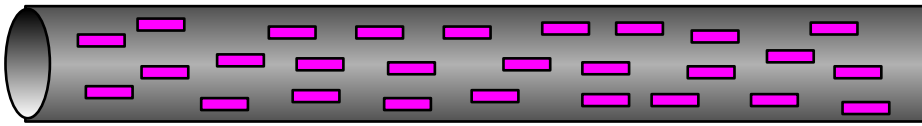

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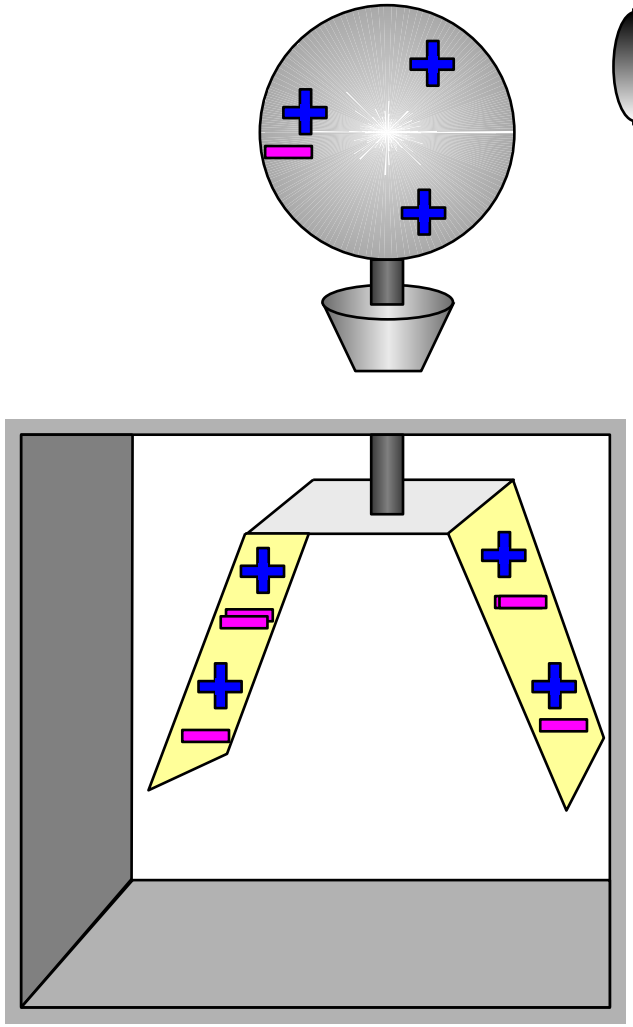

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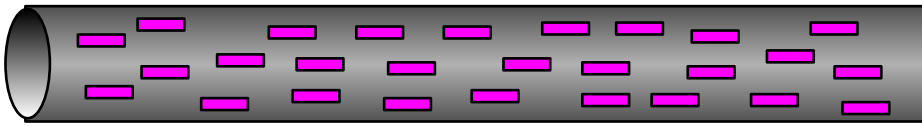

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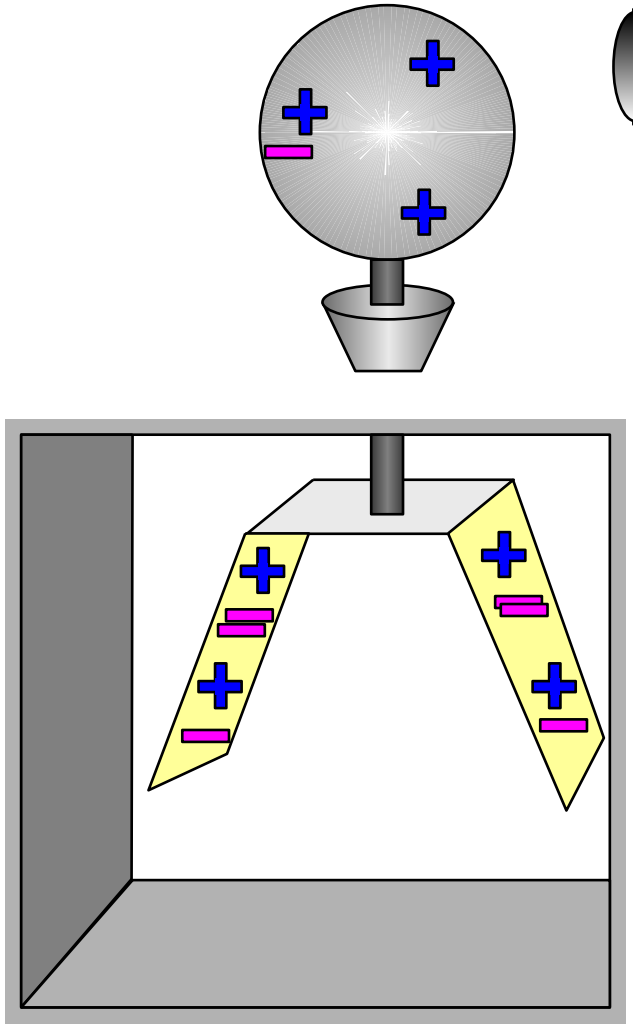

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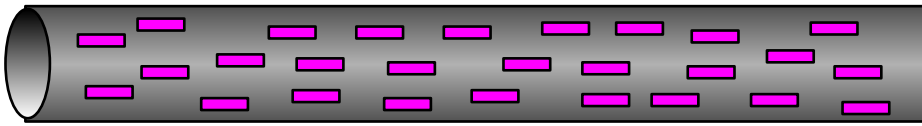

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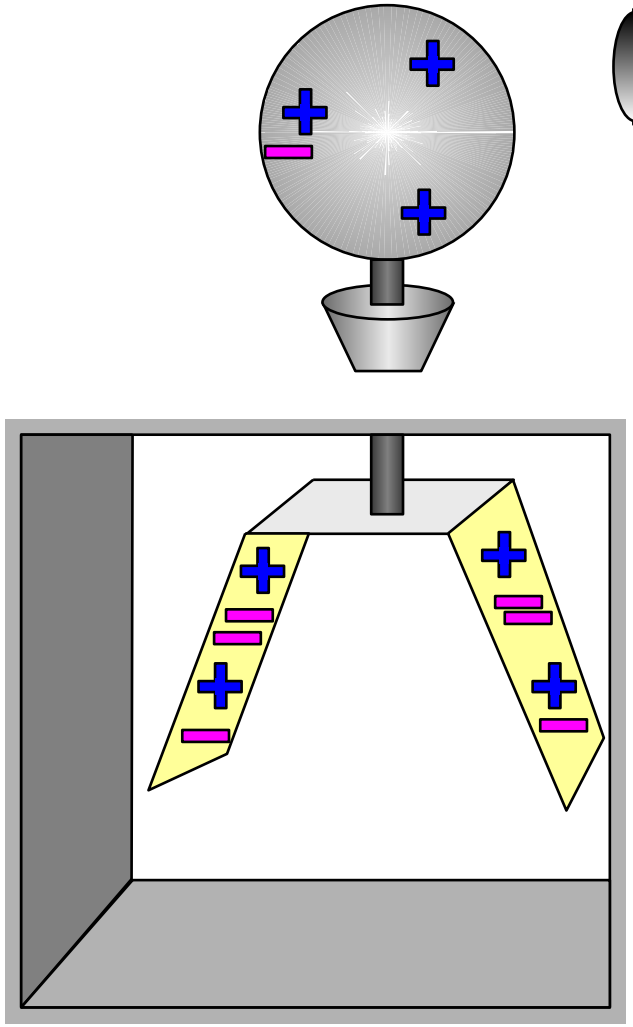

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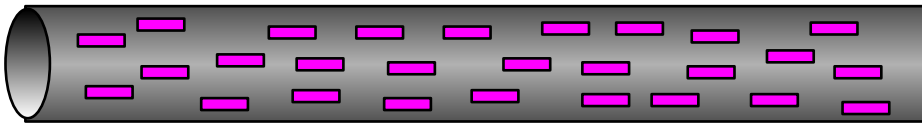

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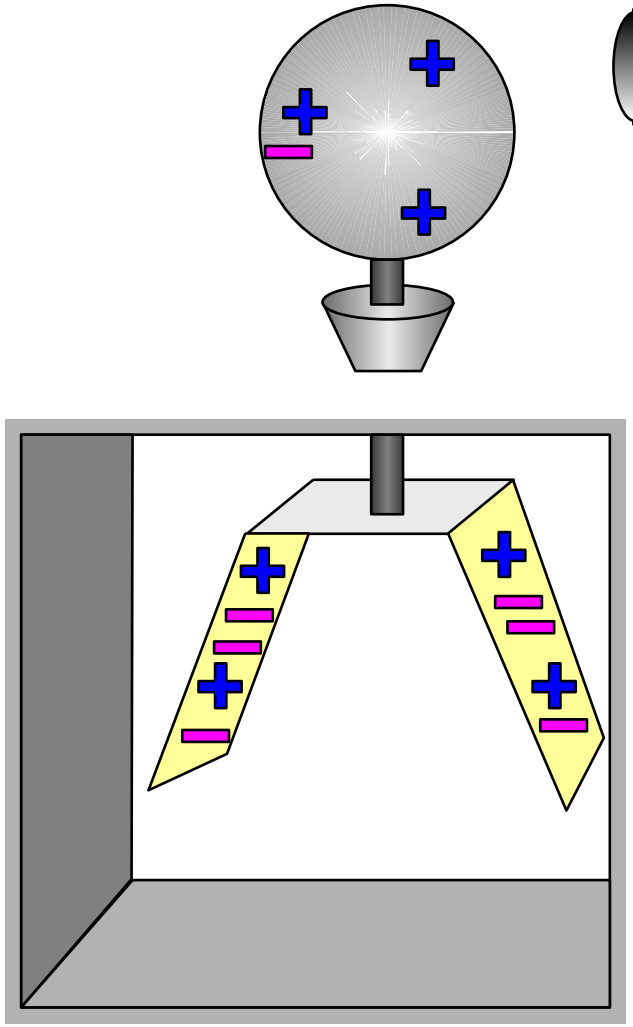

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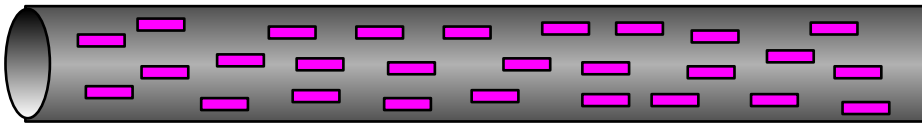

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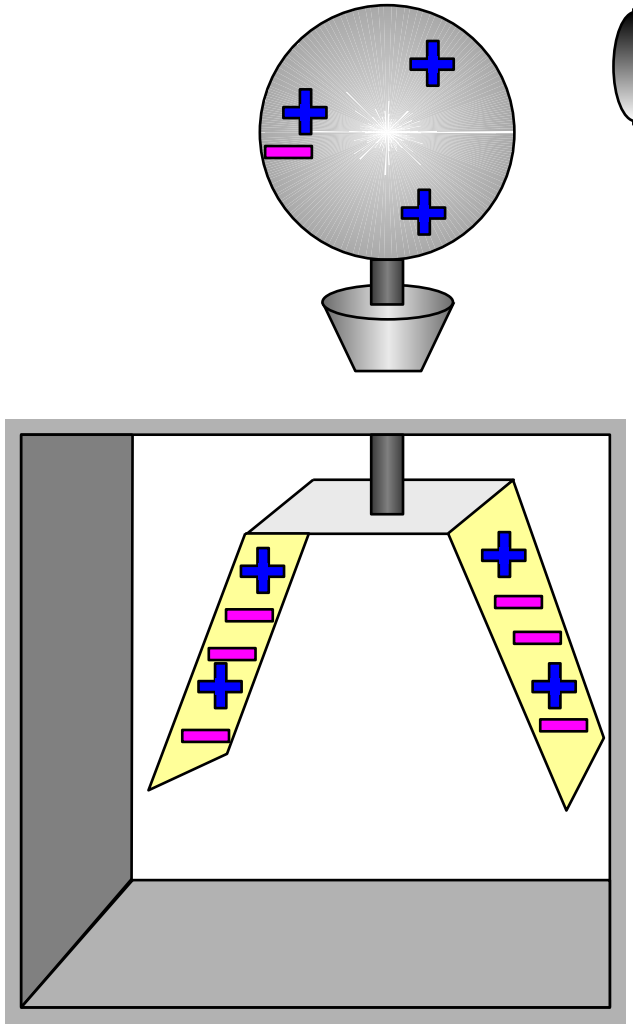

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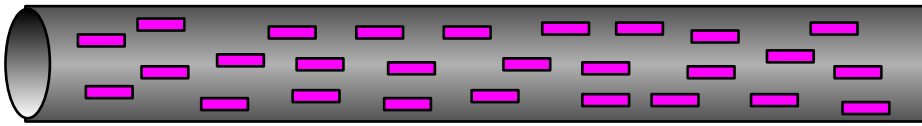

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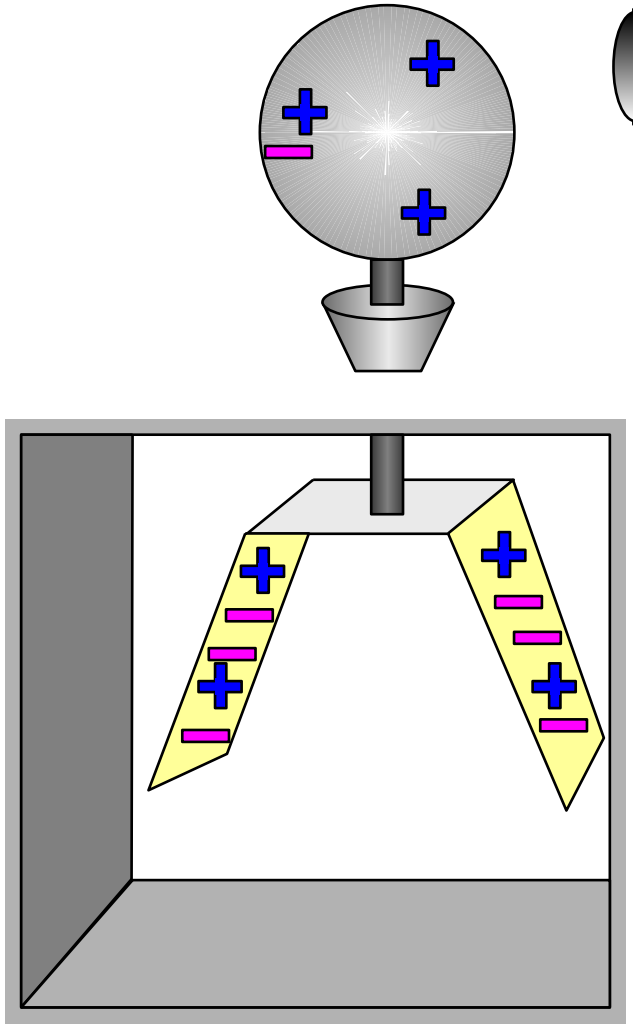

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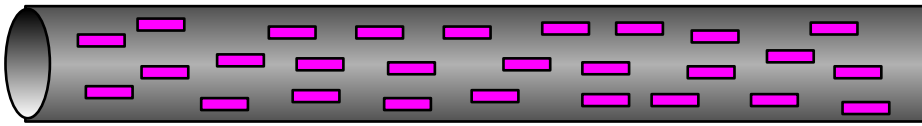
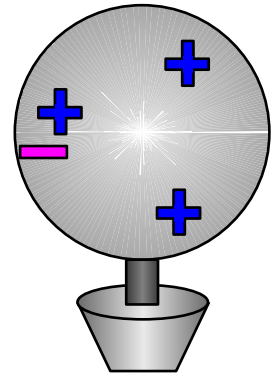


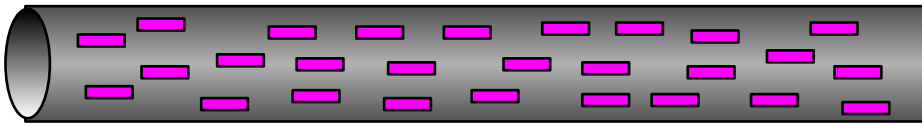
As the negatively charged rod approaches the knob of the electroscope, the electrons in the knob are repelled and move down into the leaves.

REPLAY

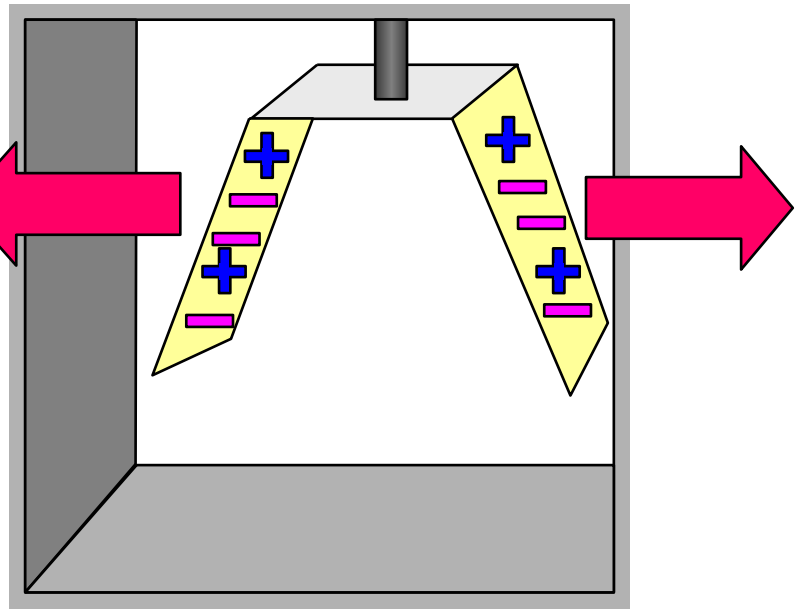
Rubber rod

The knob of the electroscope lost electrons.





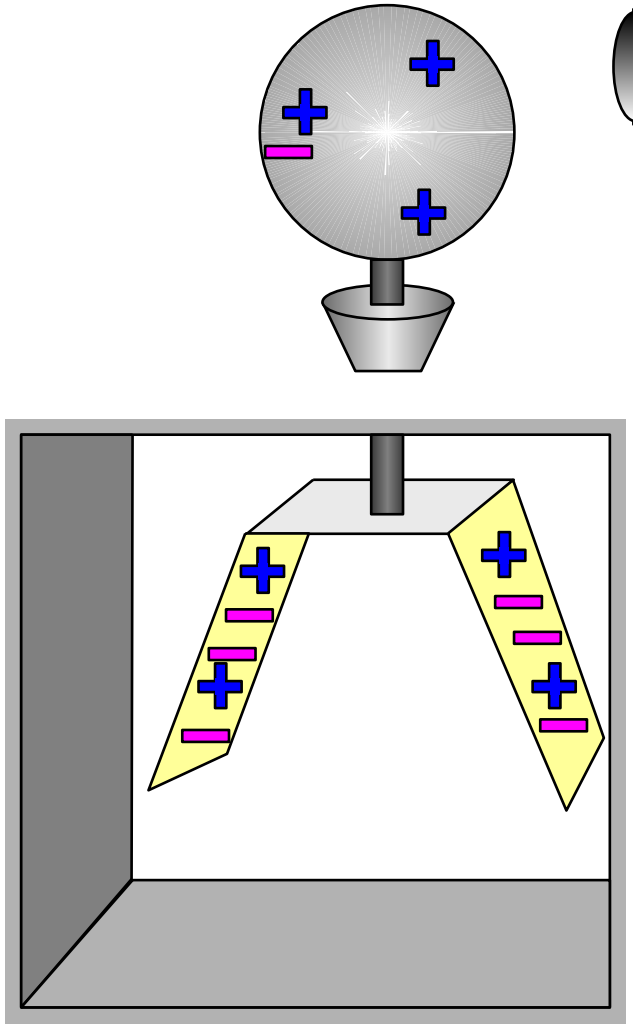
Therefore the knob is now net positive and the leaves are net negative



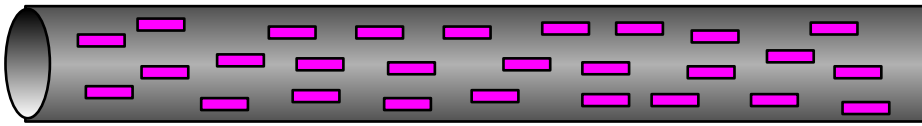
The leaves gained the electrons.

The leaves repel each other and spread apart

The electroscope hasn't lost or gained electrons so it is still neutral.



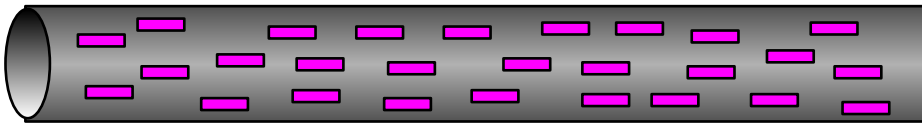
Rubber rod

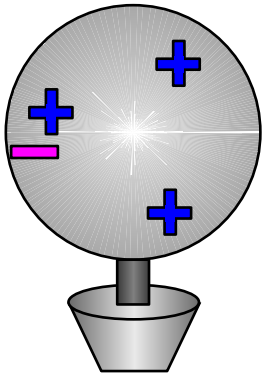


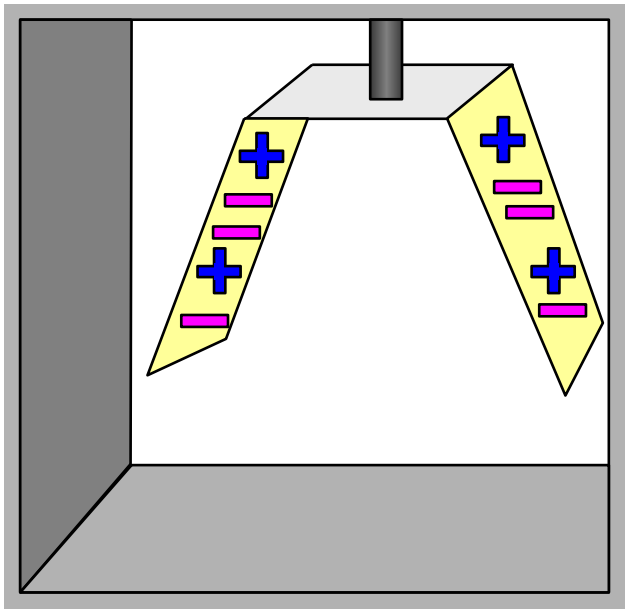
What would happen if the rod is taken away?

What would happen if the rod is taken away?

Rubber rod







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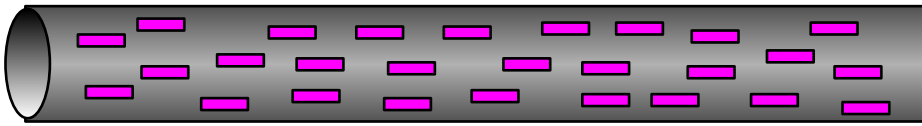

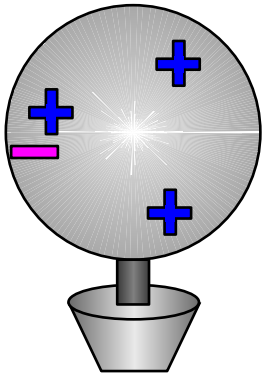

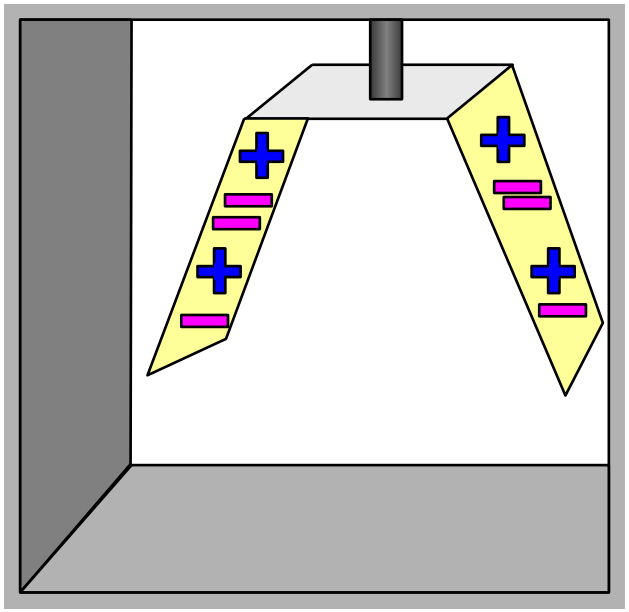

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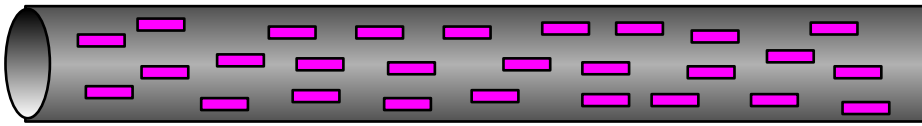

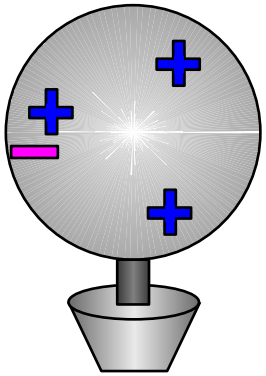

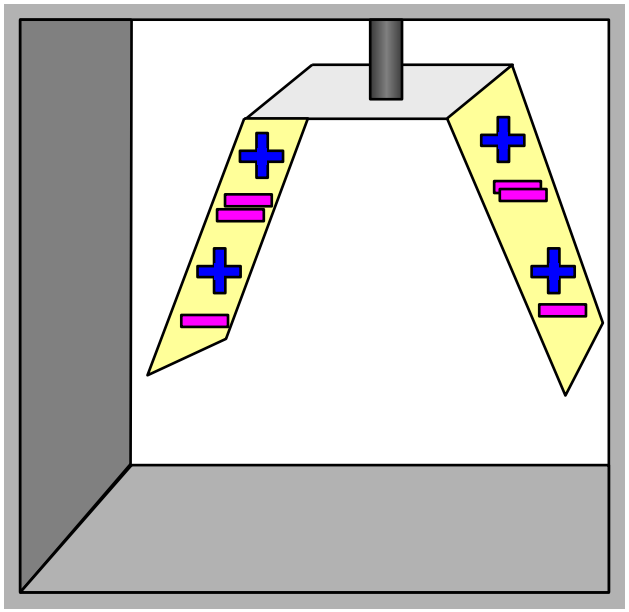

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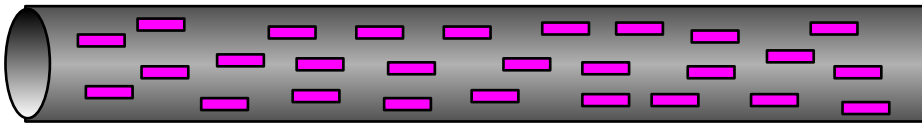

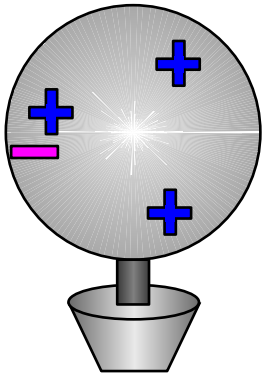

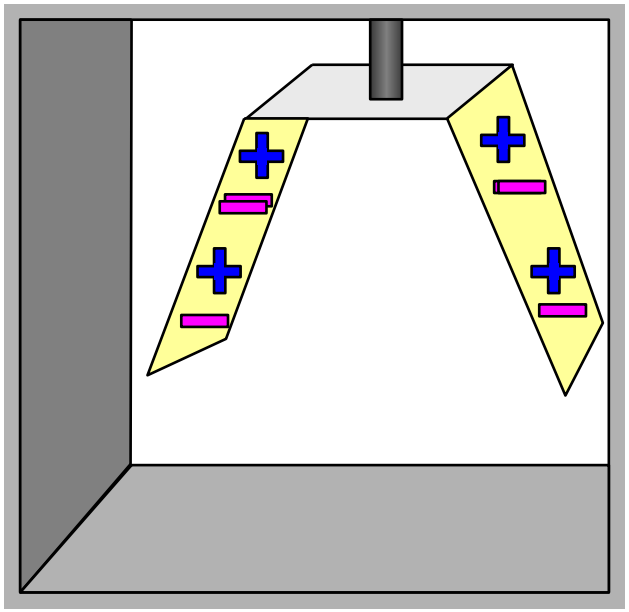

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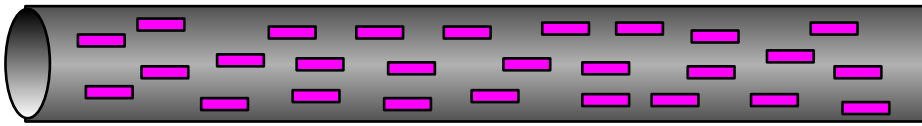

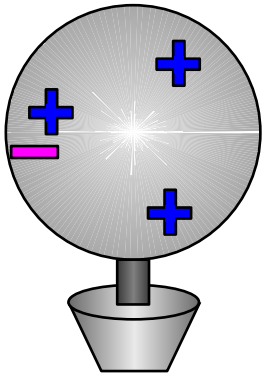

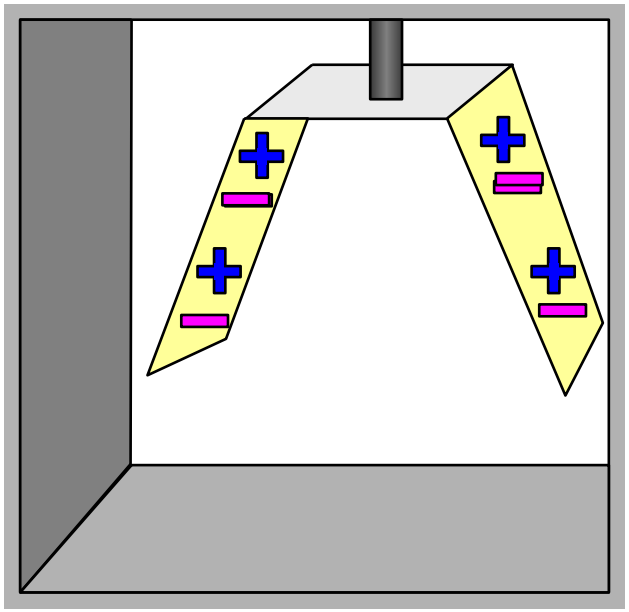

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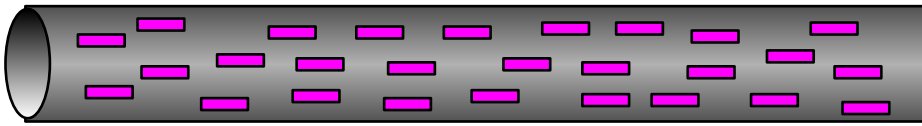

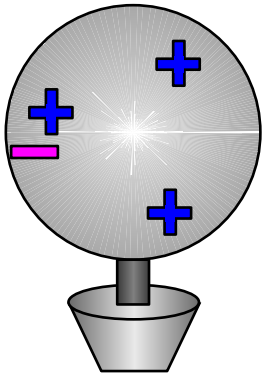

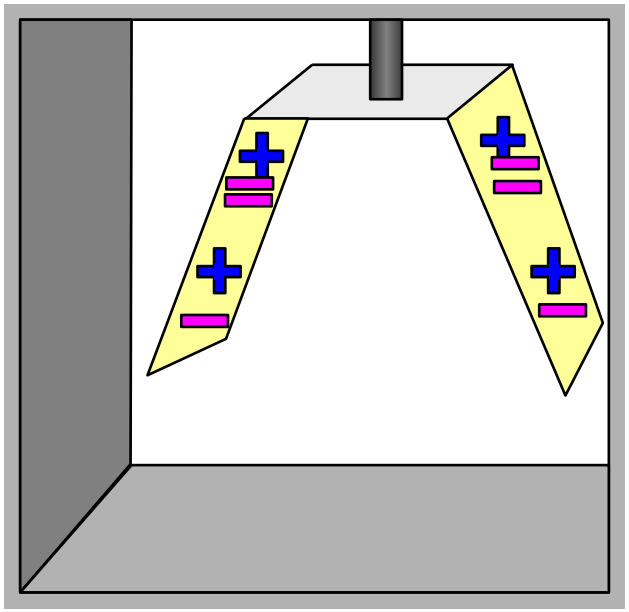

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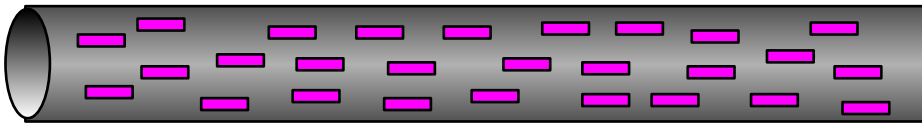

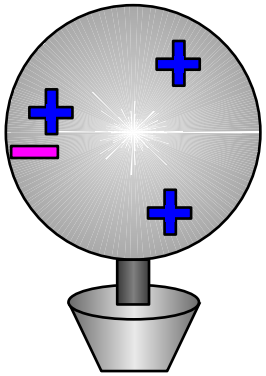

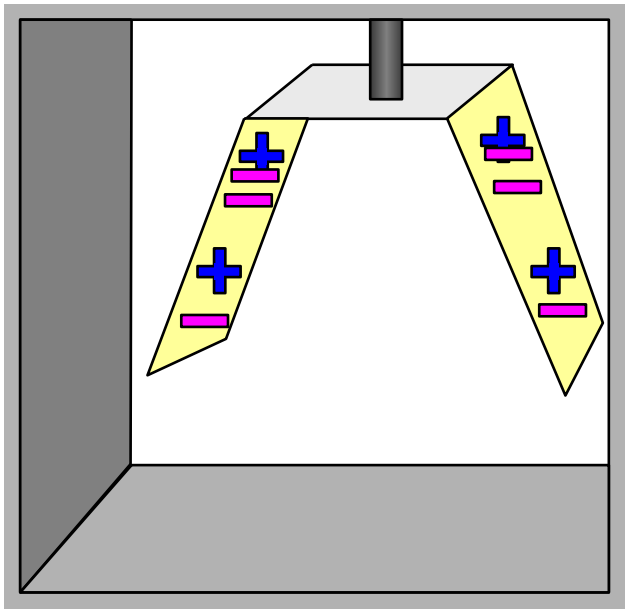

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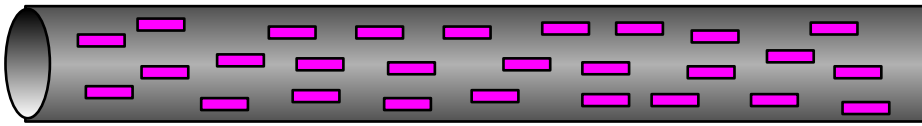

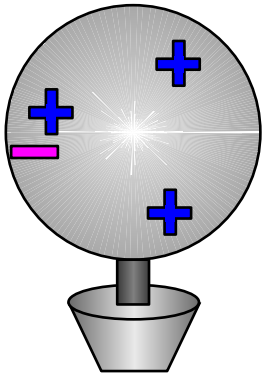

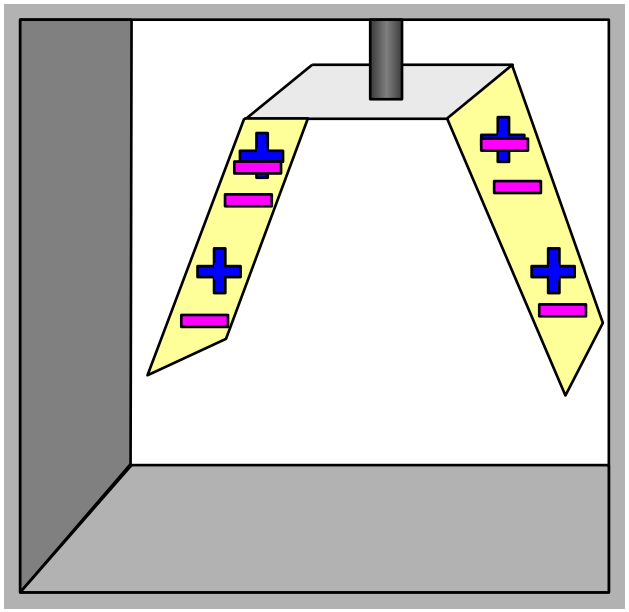

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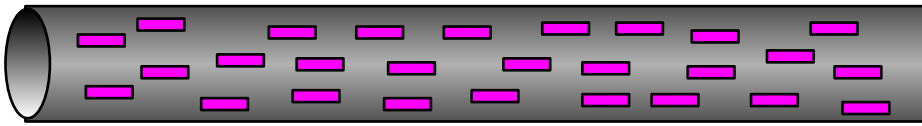

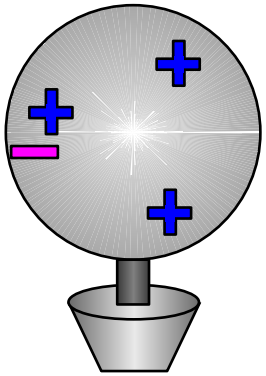

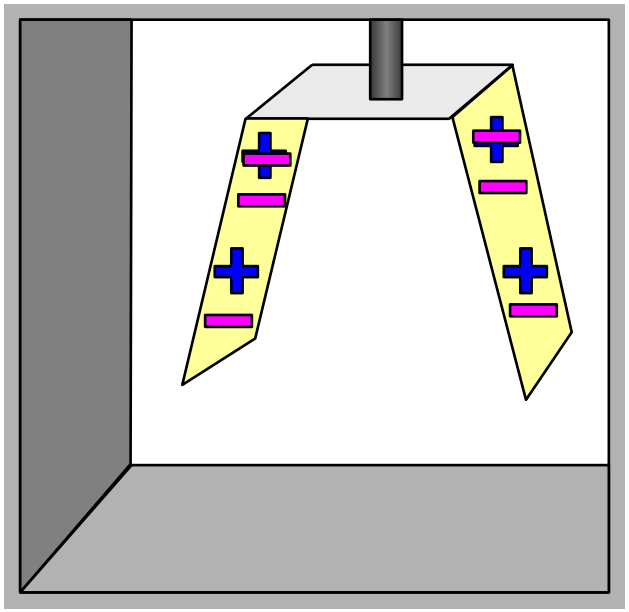

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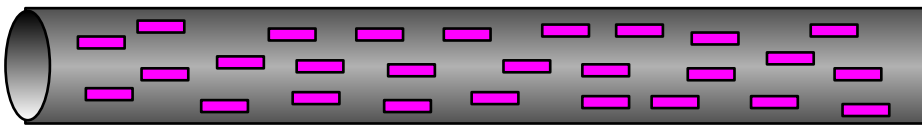

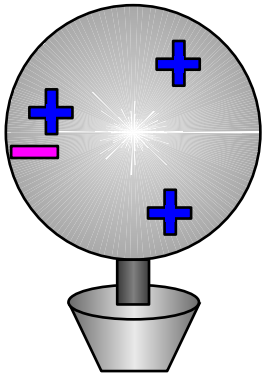

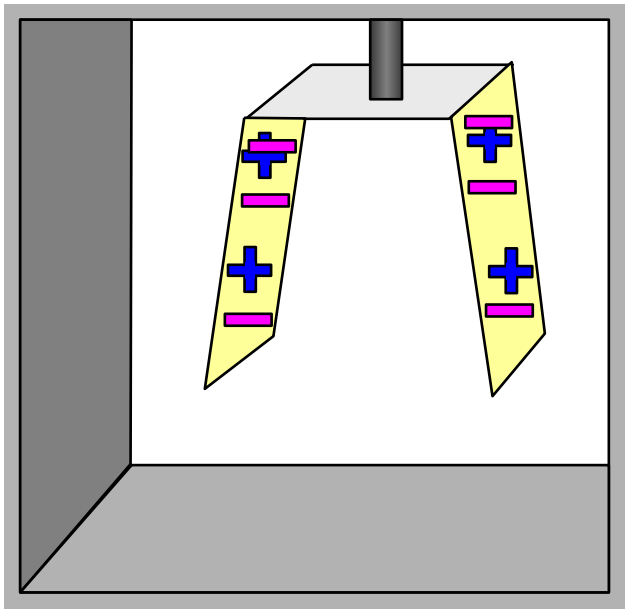

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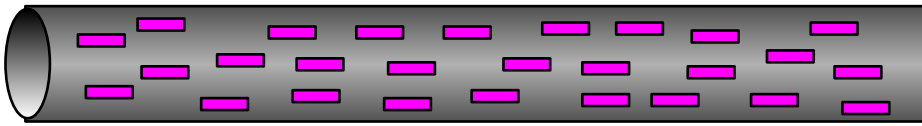

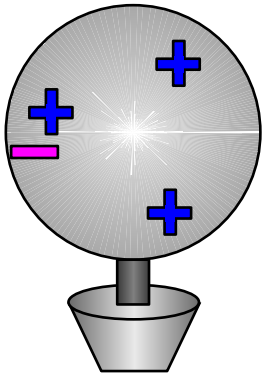

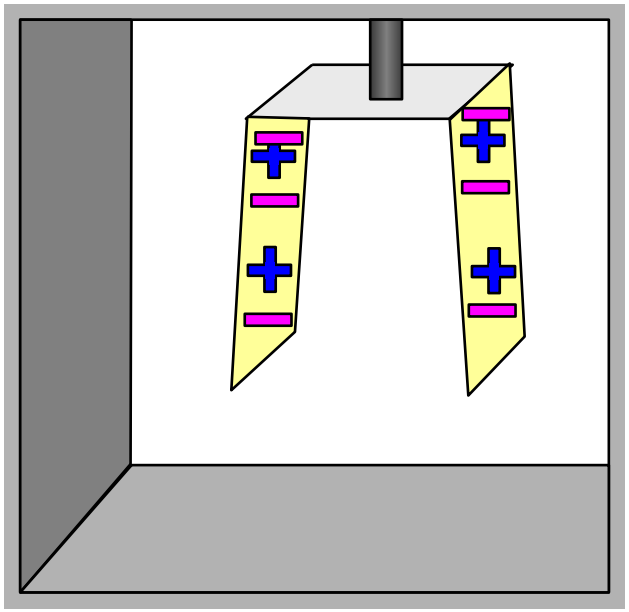

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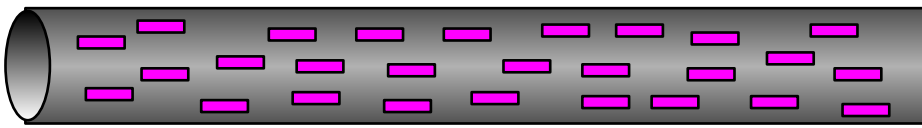

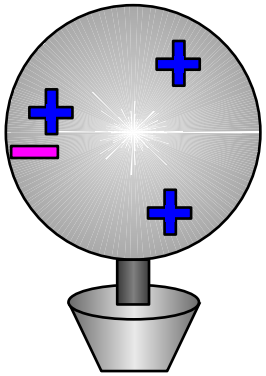

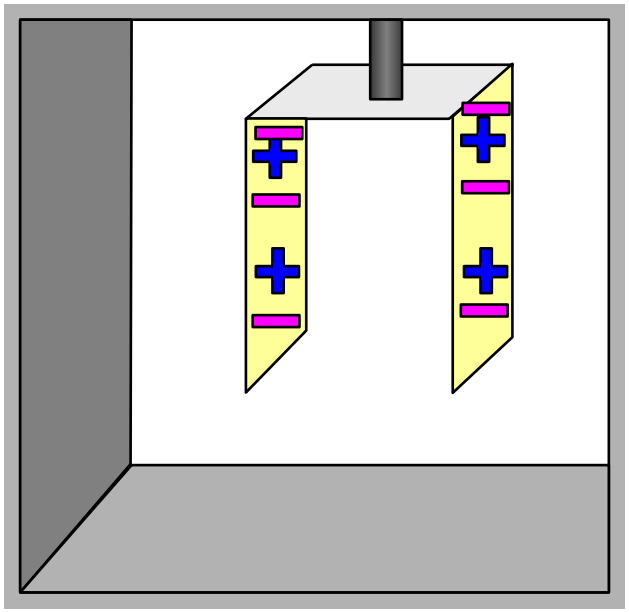

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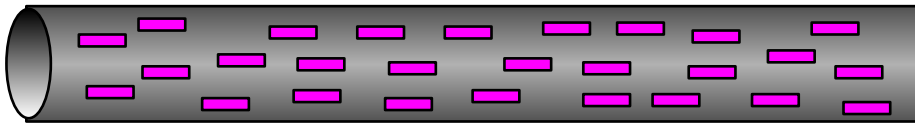

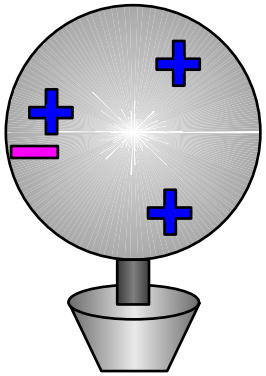

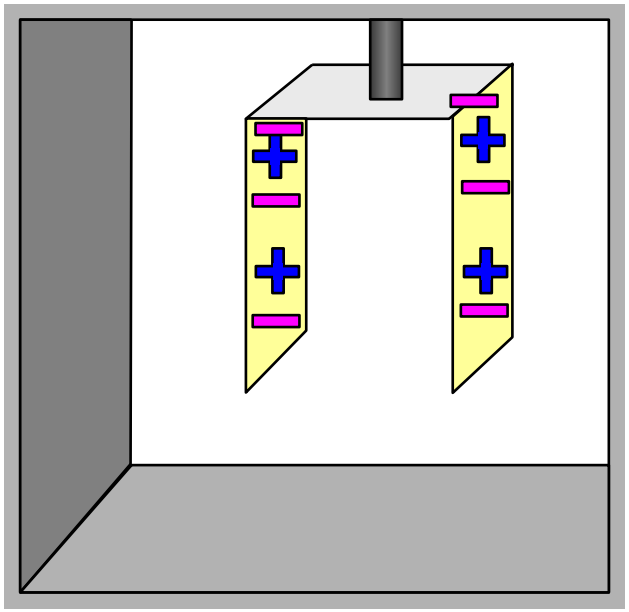

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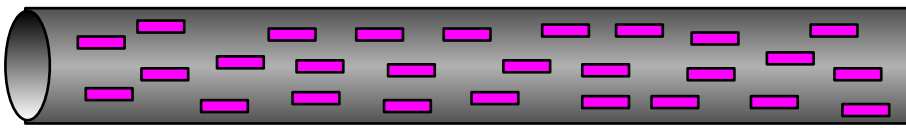

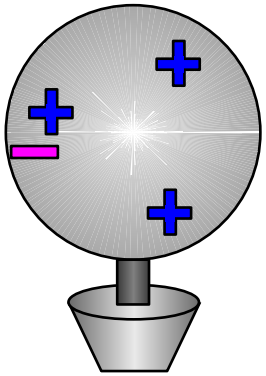

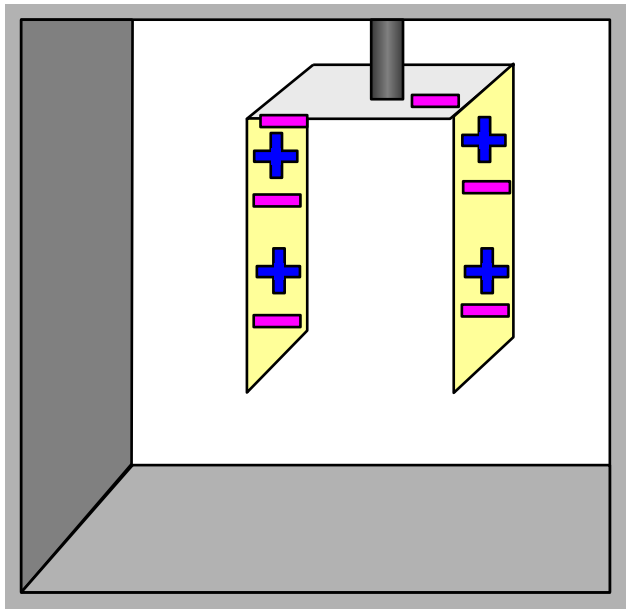

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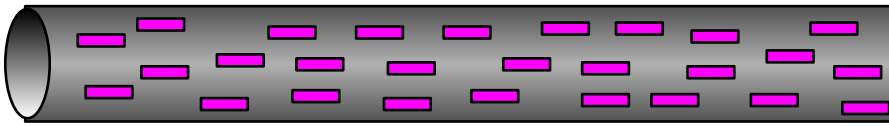

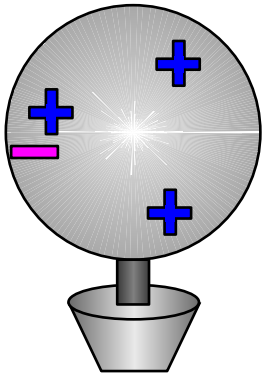

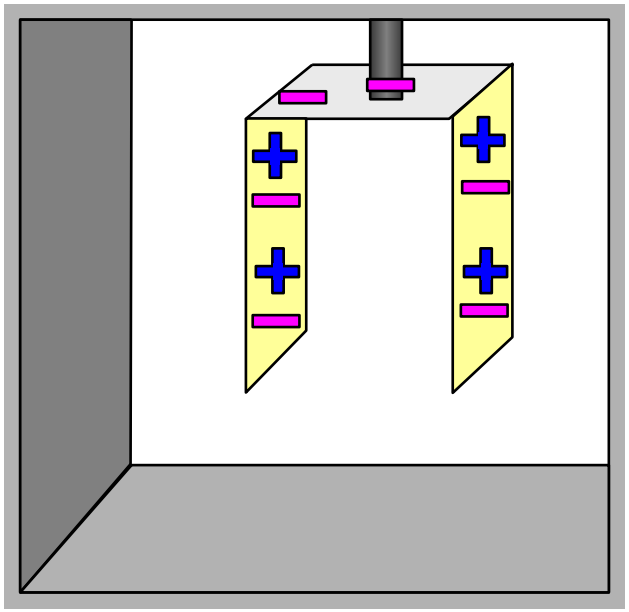

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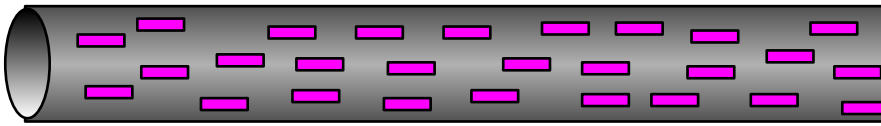

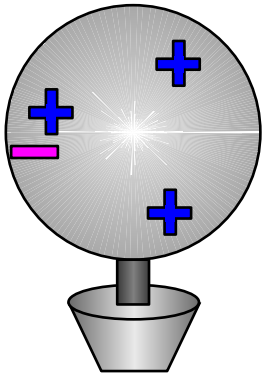

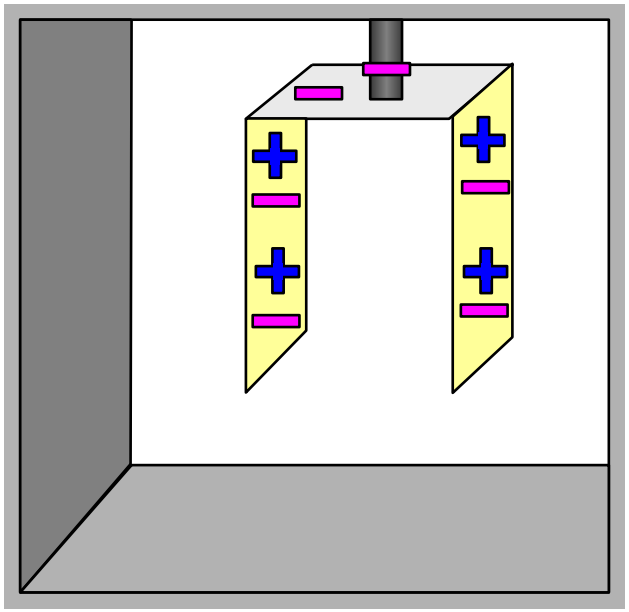

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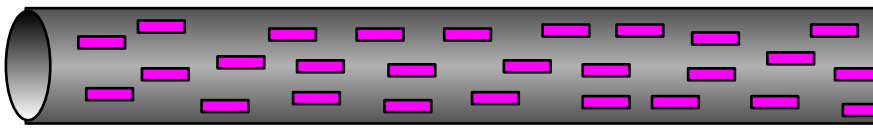

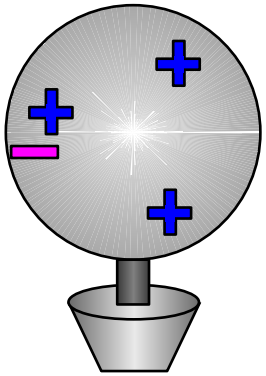

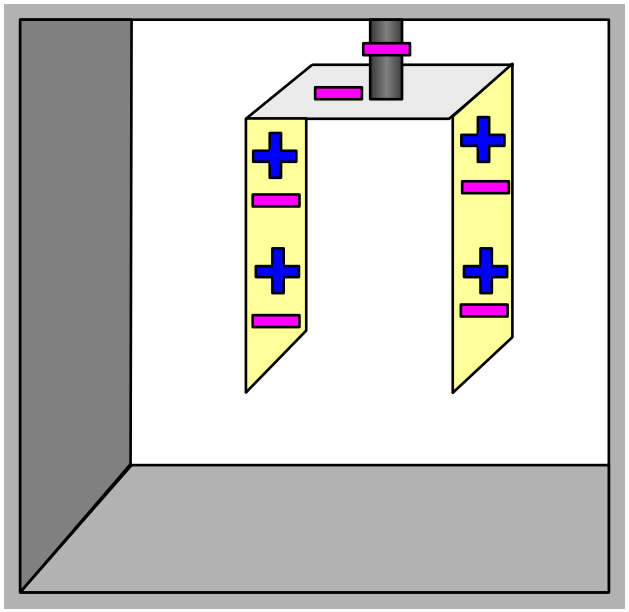

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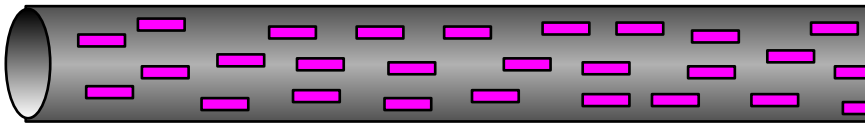

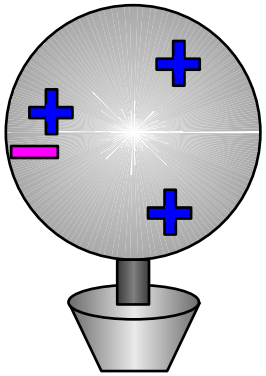

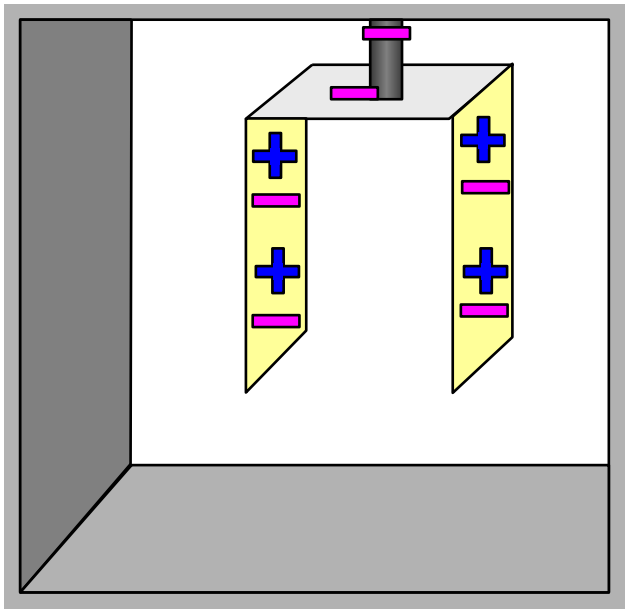

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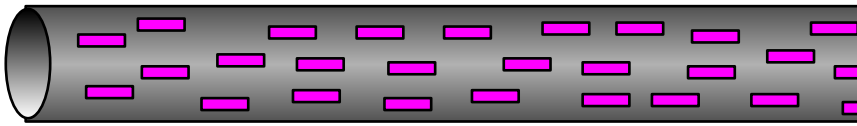

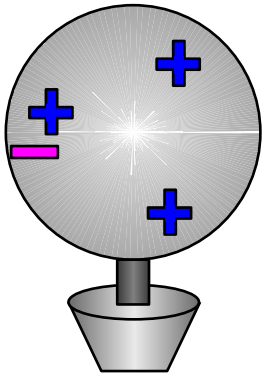

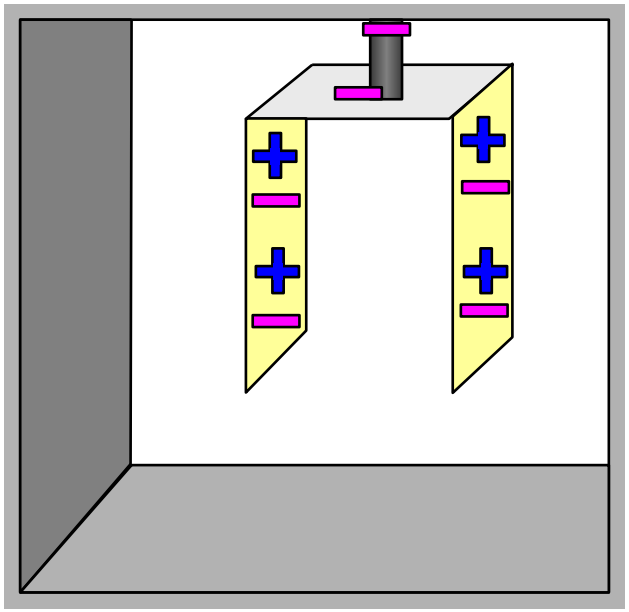

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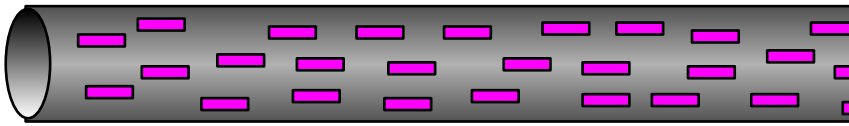

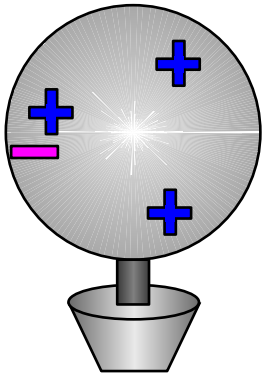

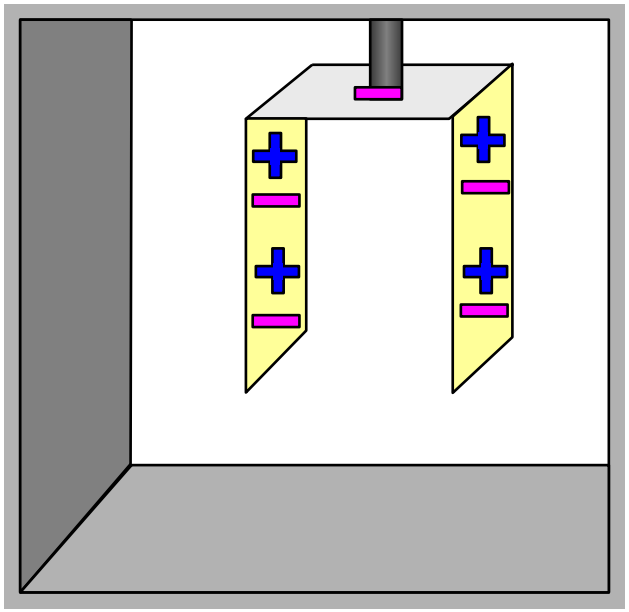

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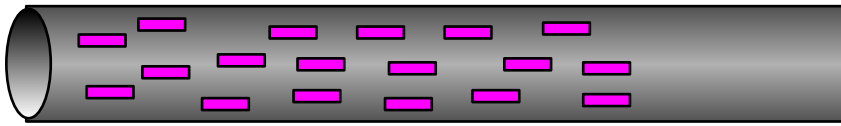

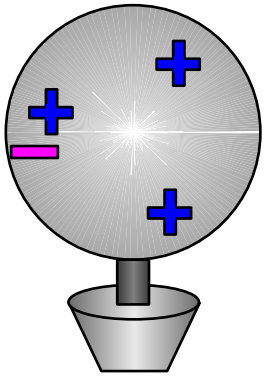

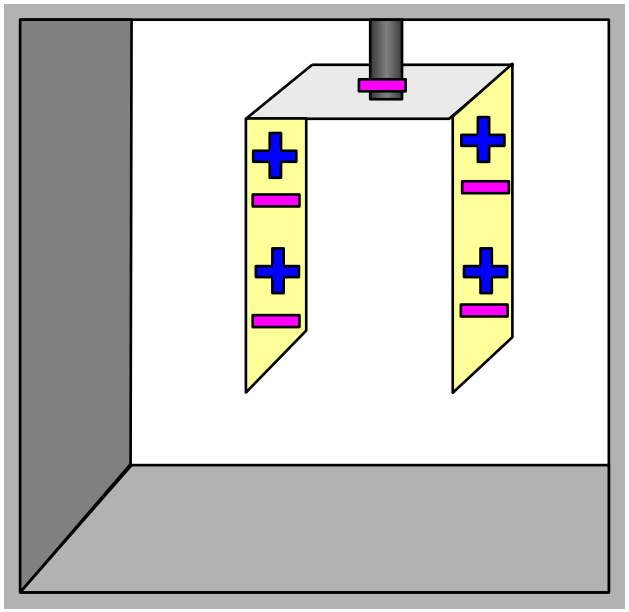

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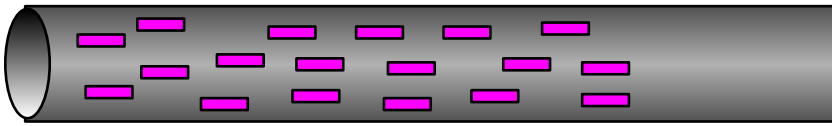

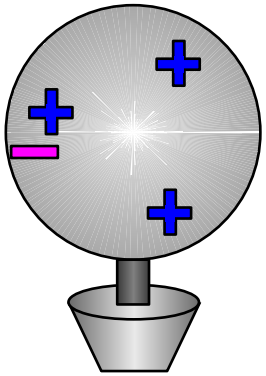

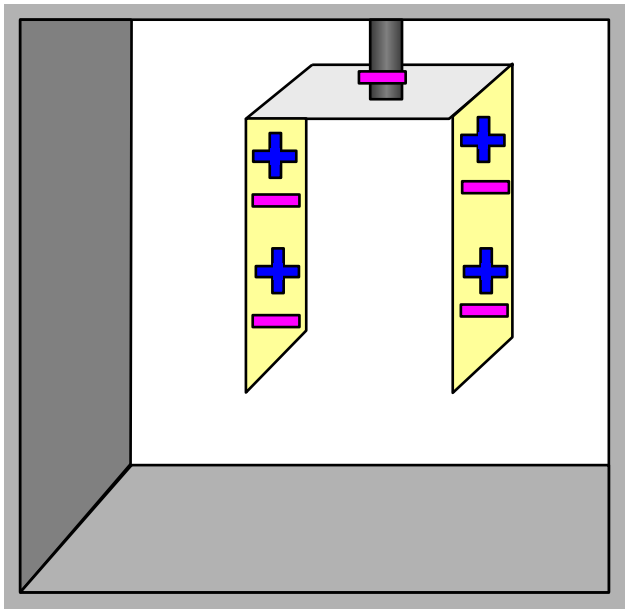

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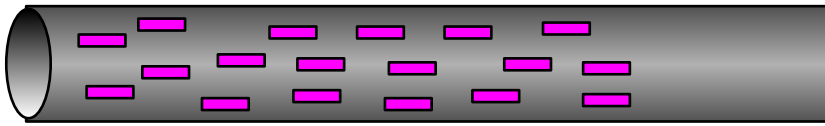

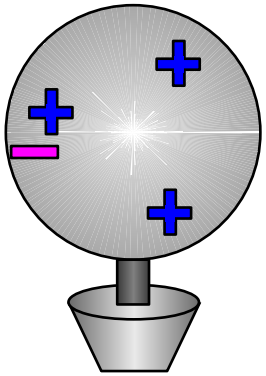

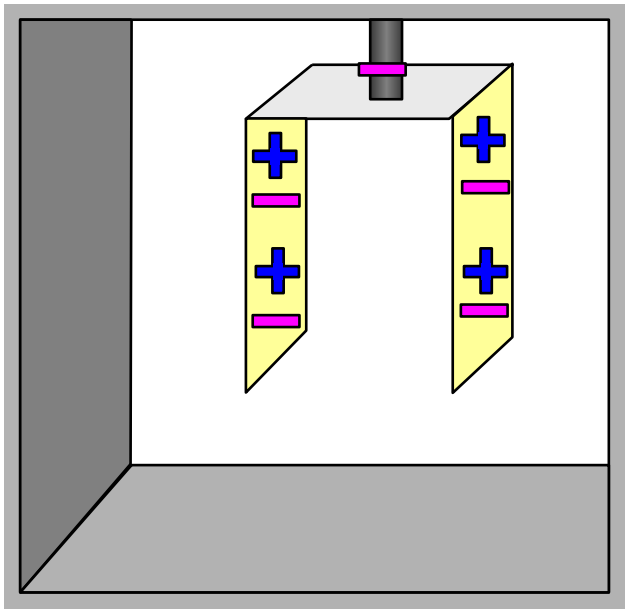

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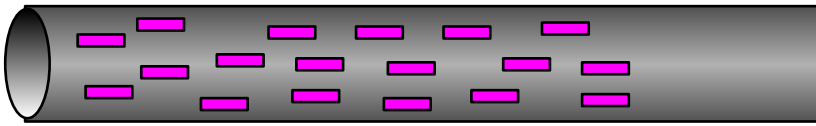

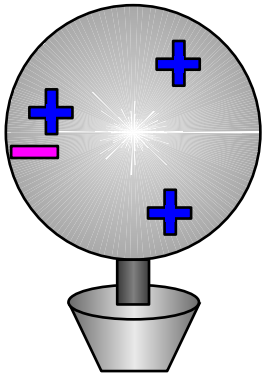

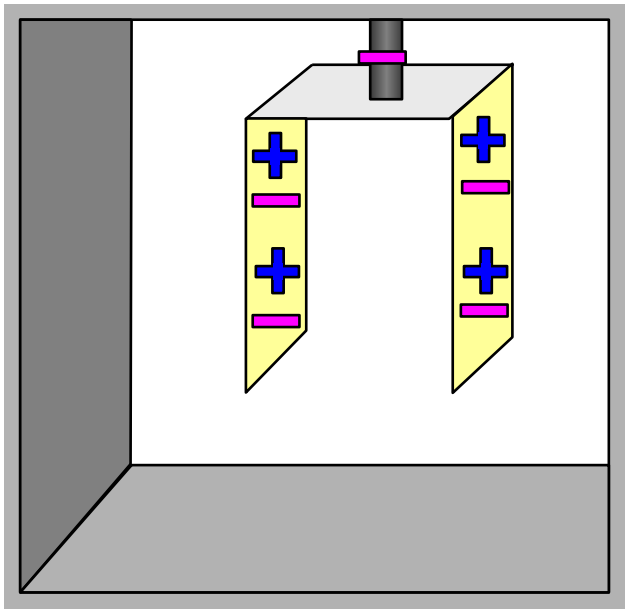

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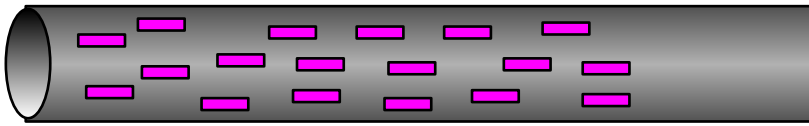

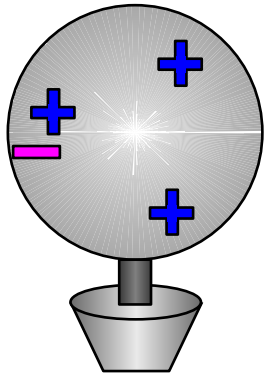

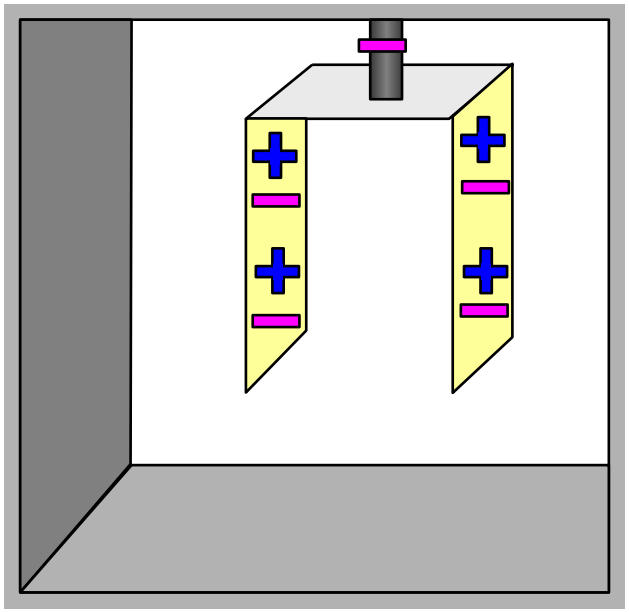

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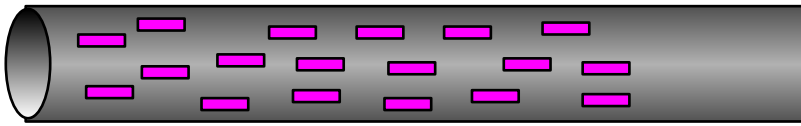

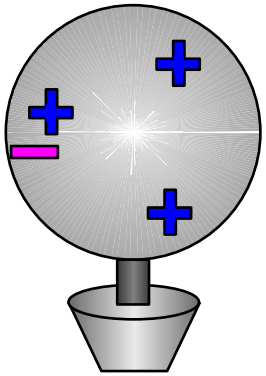

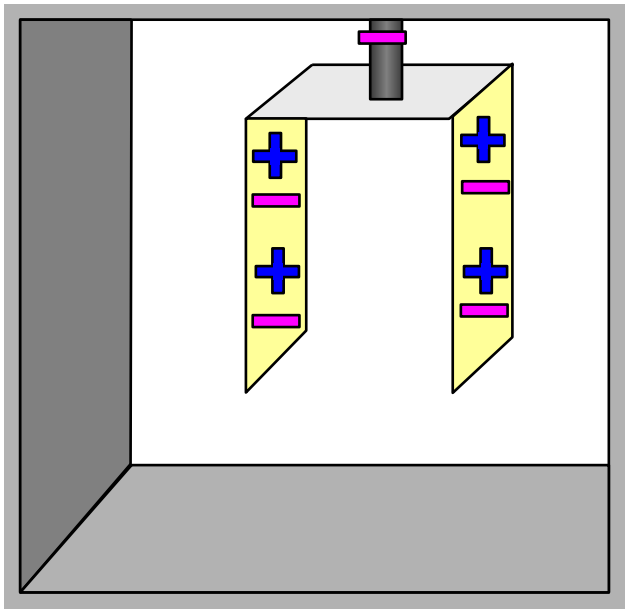

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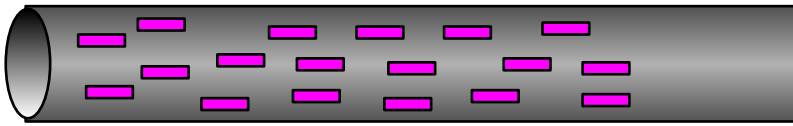

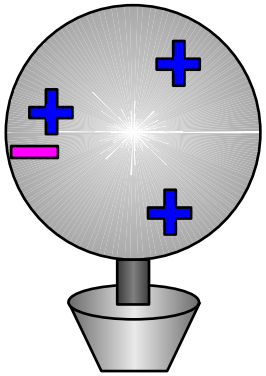

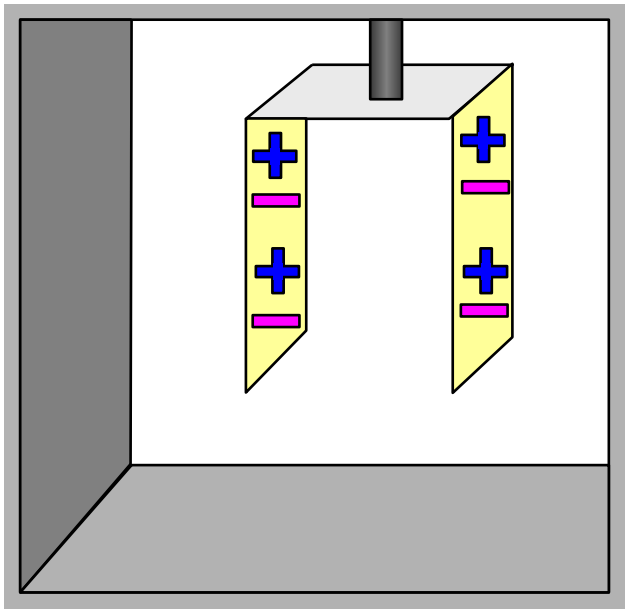

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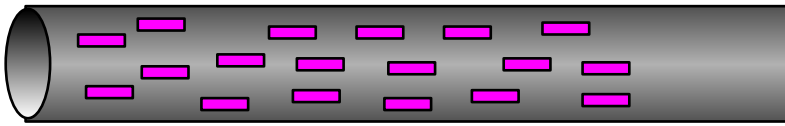

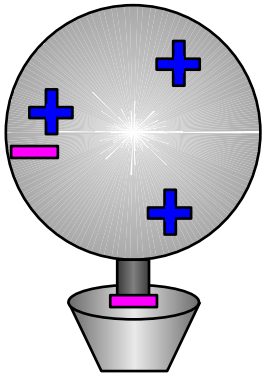

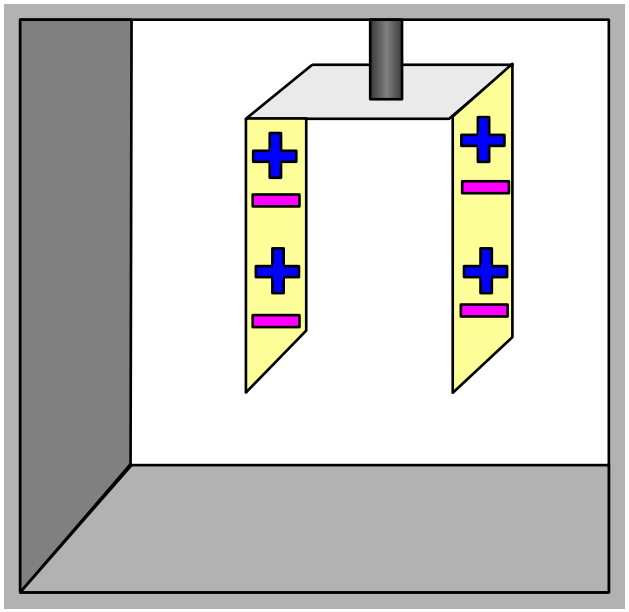

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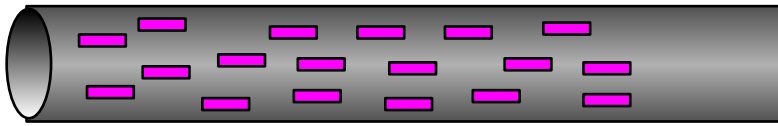

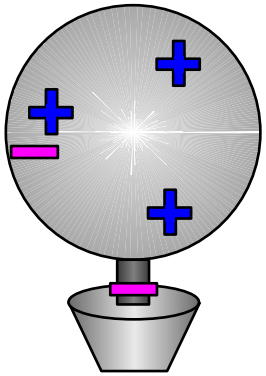

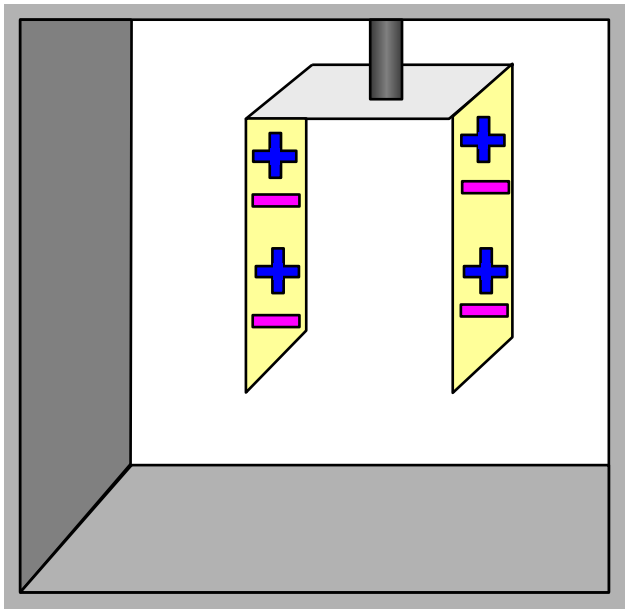

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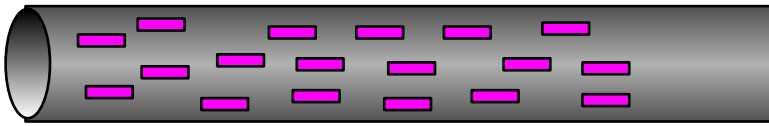

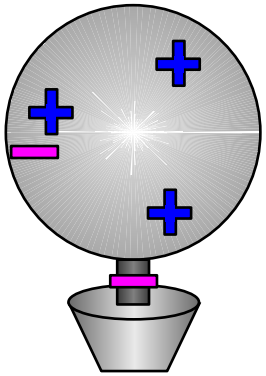

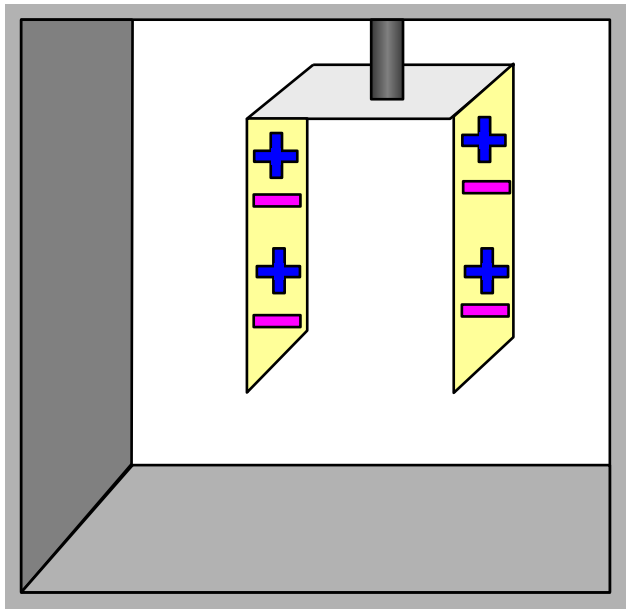

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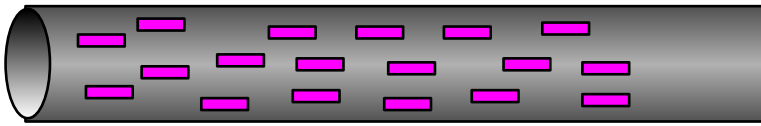

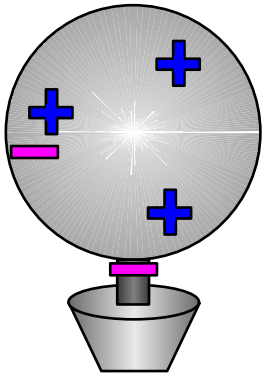

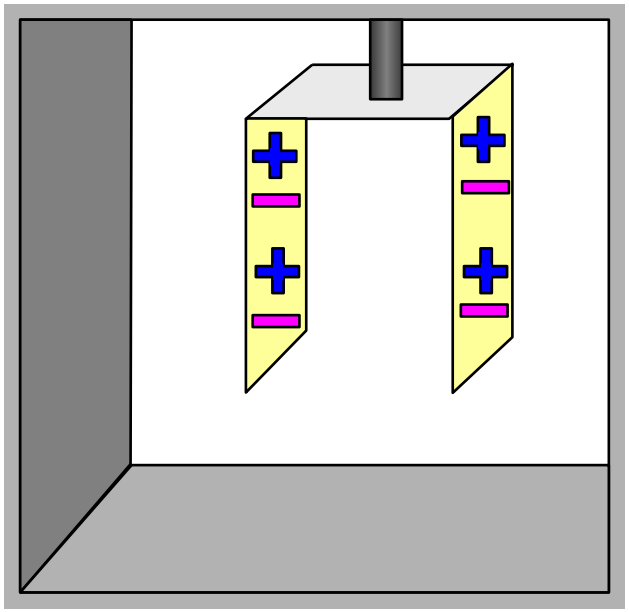

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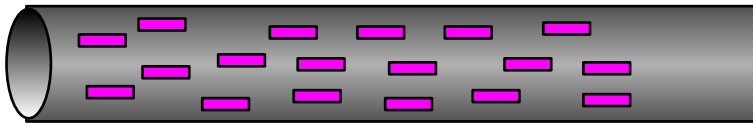

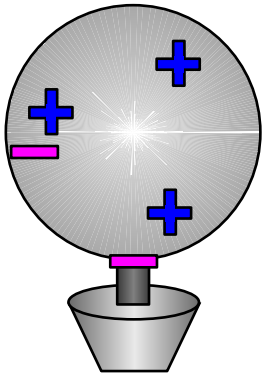

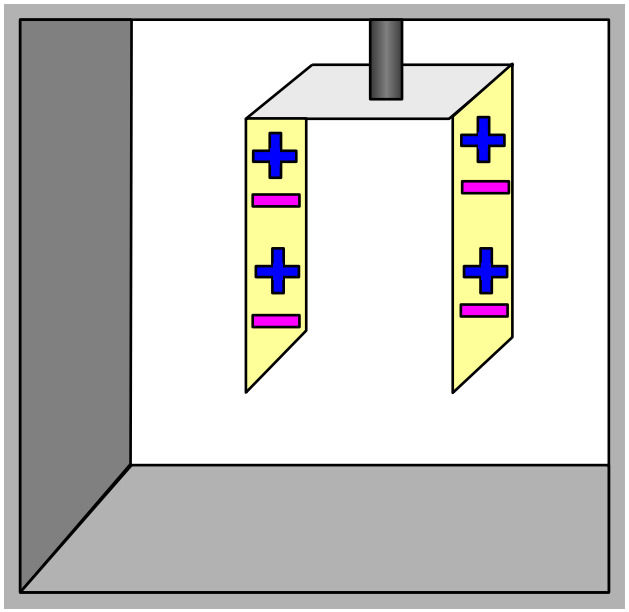

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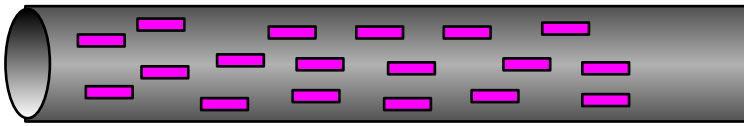

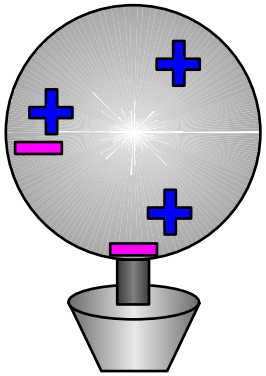

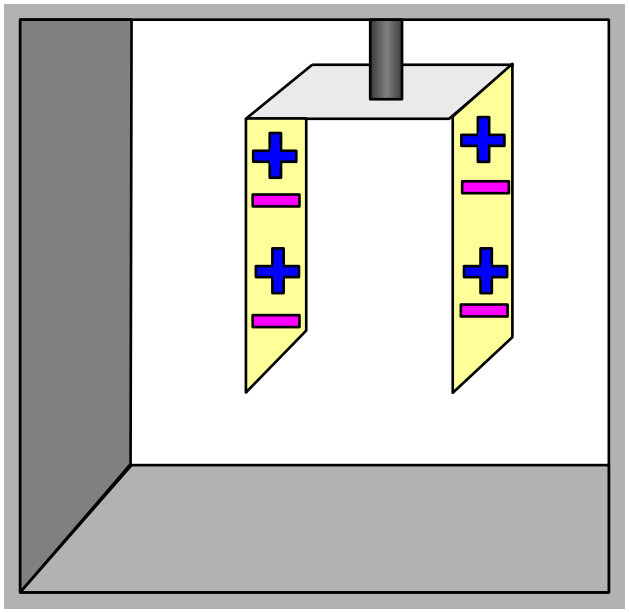

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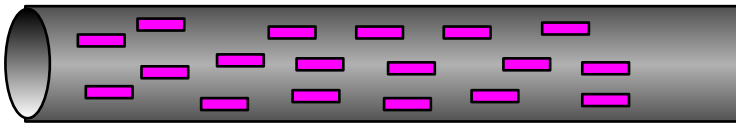

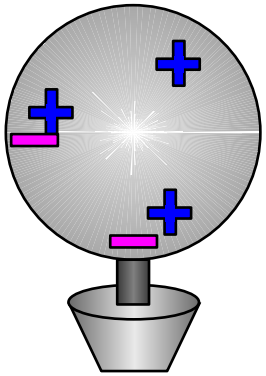

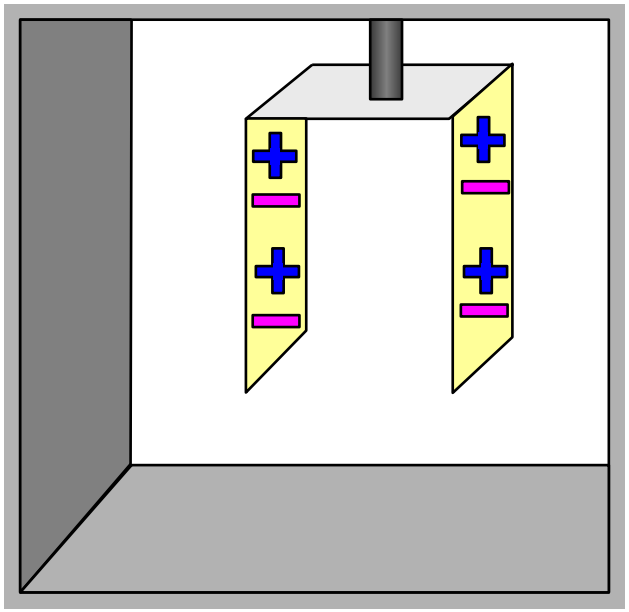

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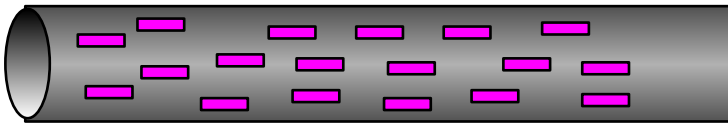

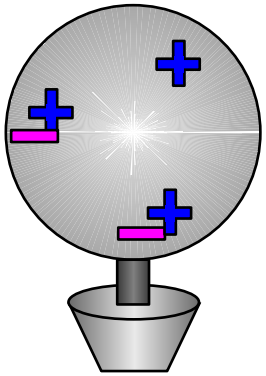

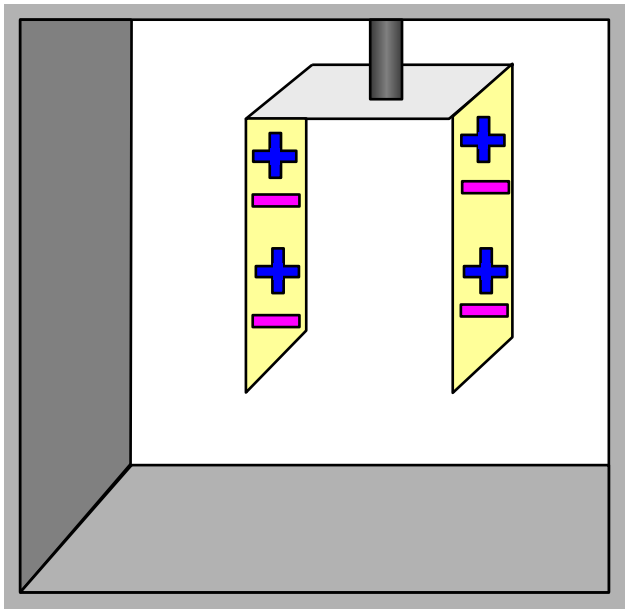

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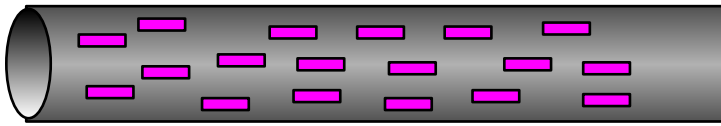

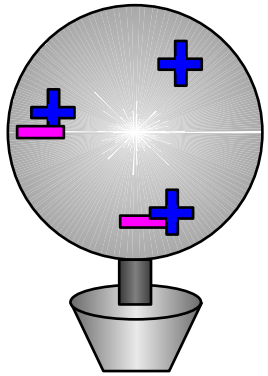

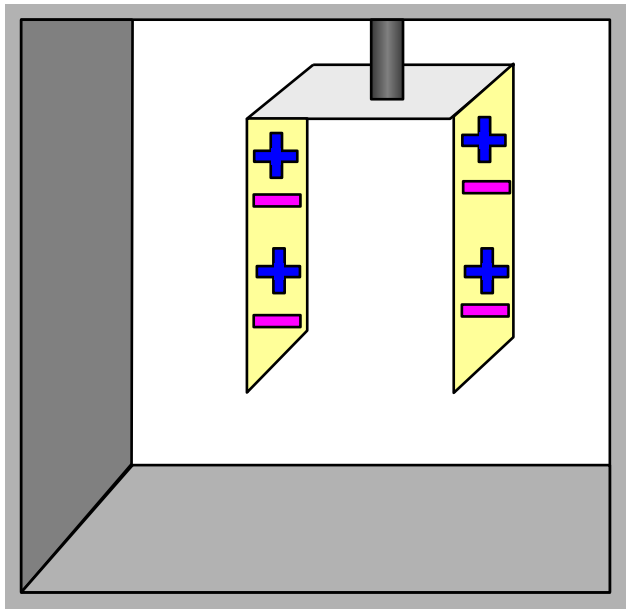

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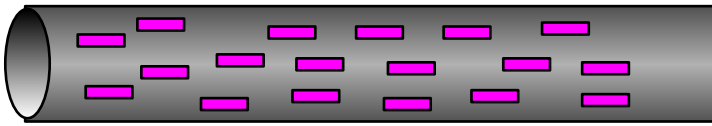

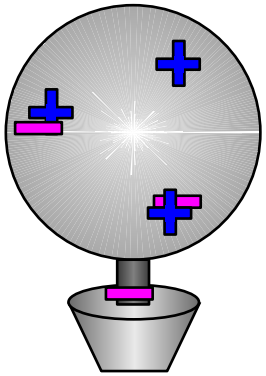

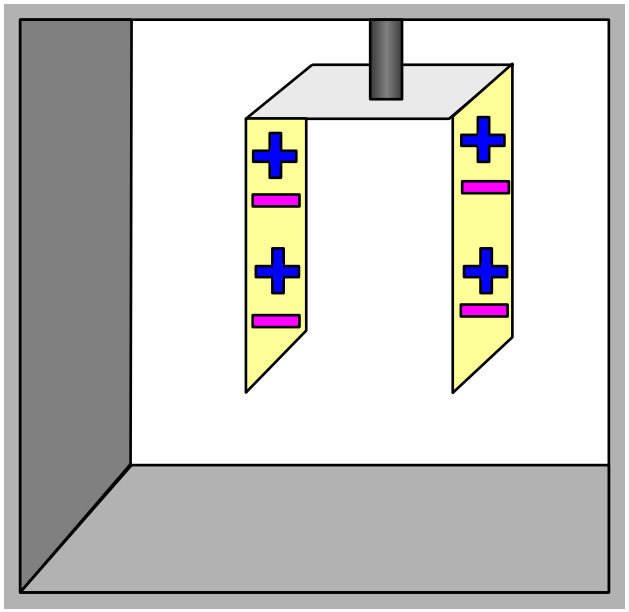

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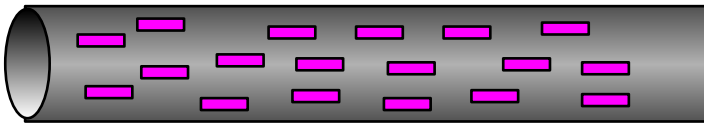

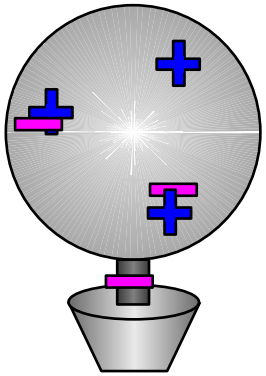

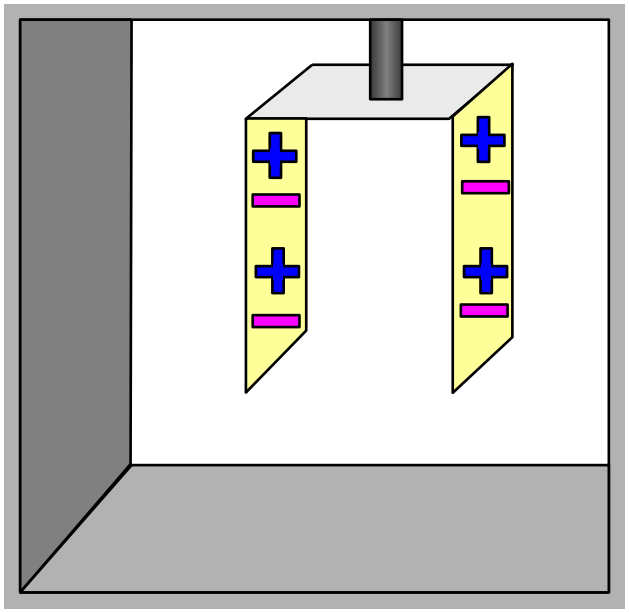

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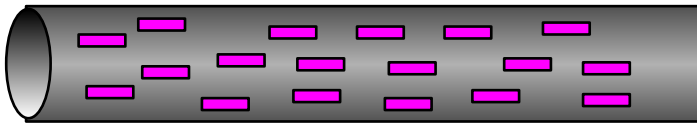

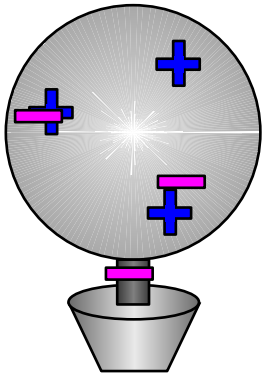

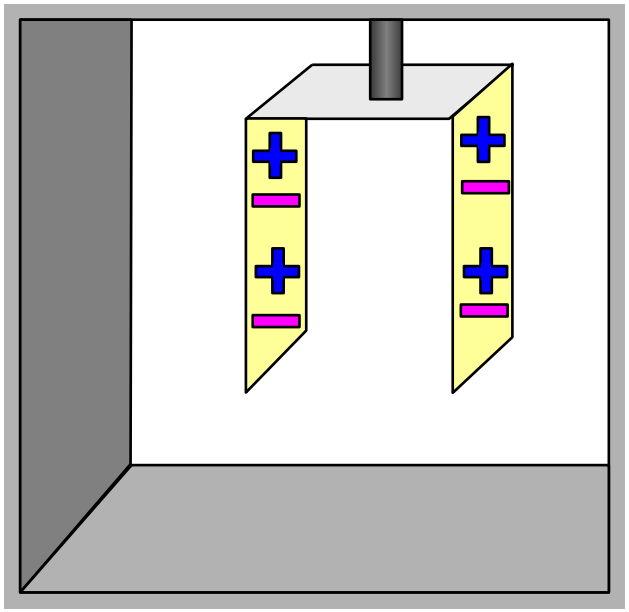

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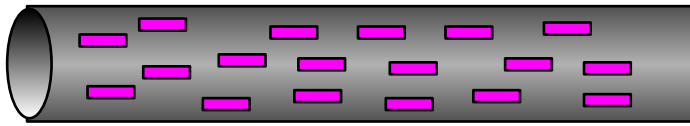

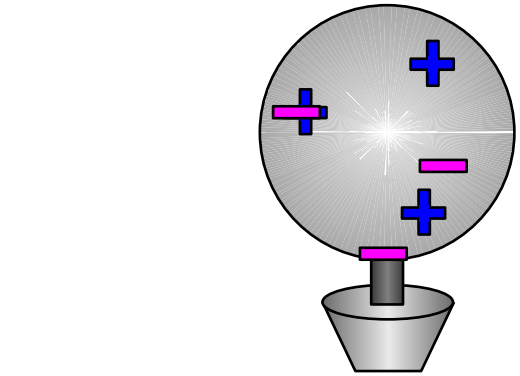

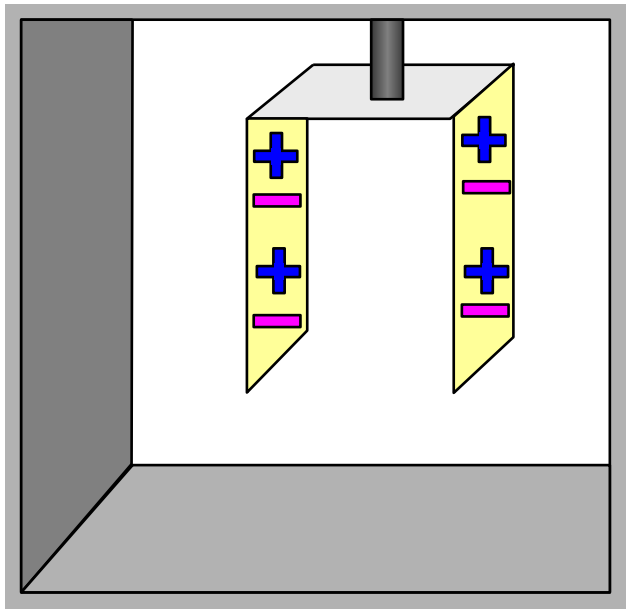

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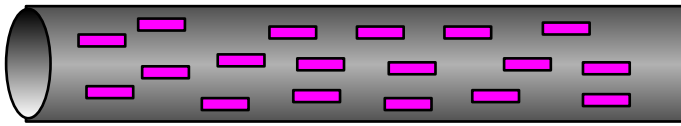
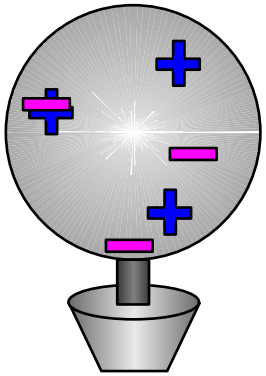
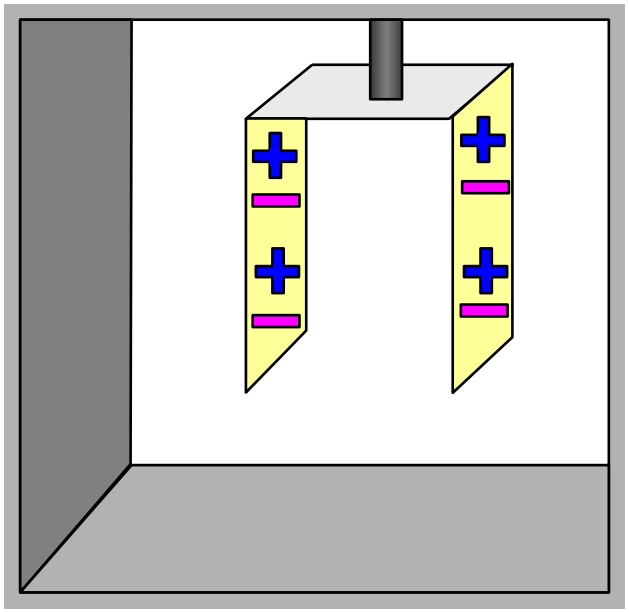
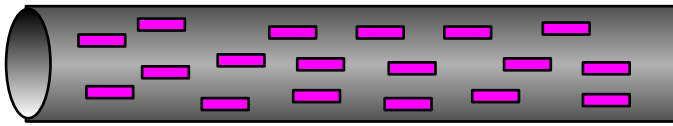
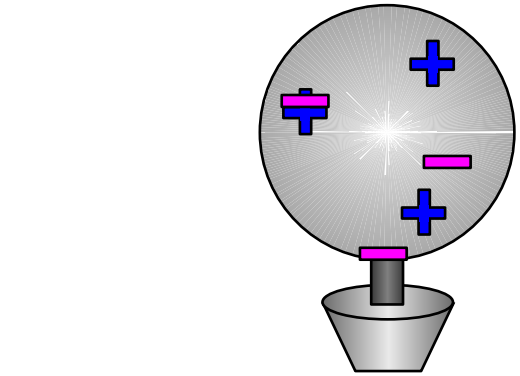


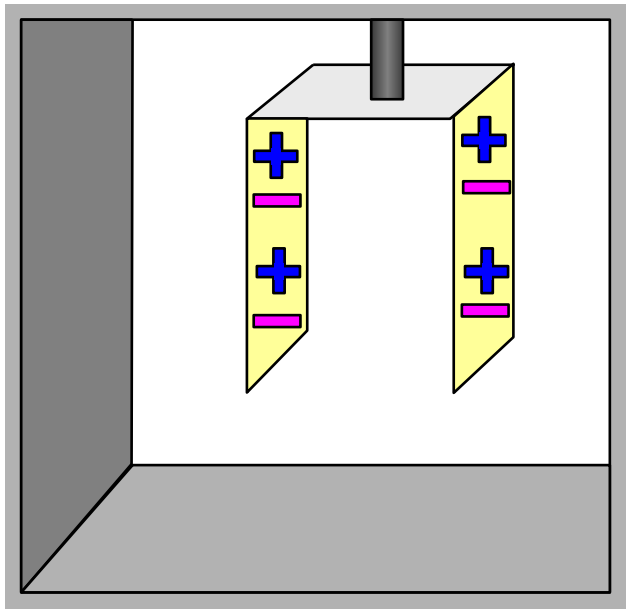




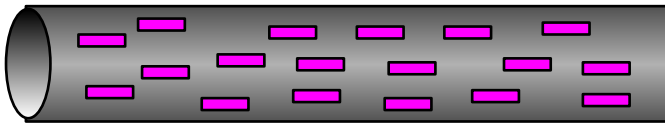
Rubber rod

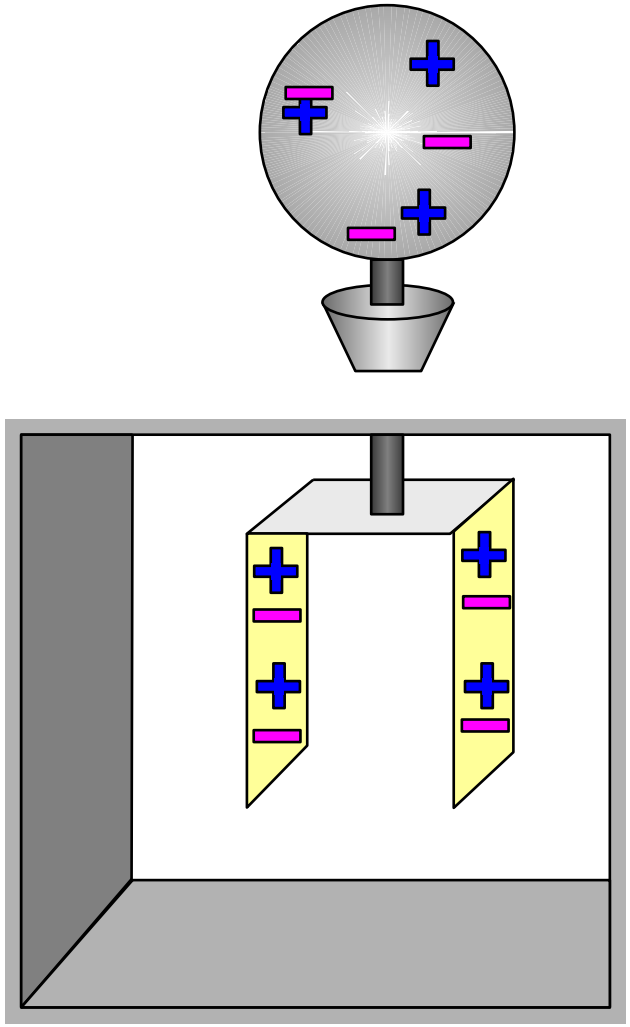




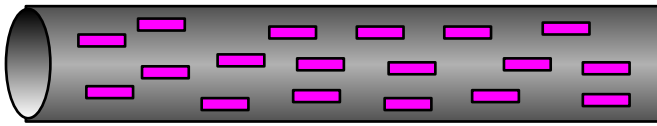


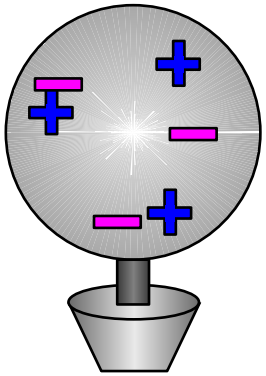
Rubber rod

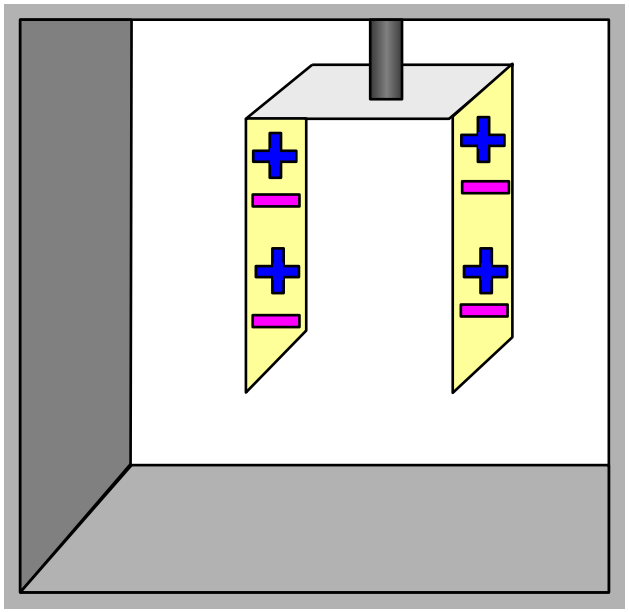




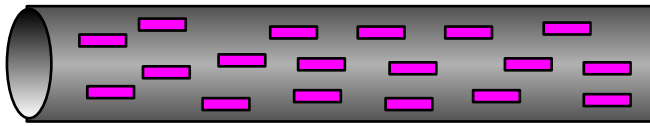
Rubber rod

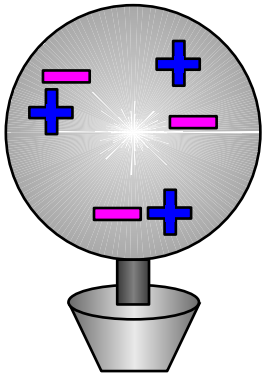


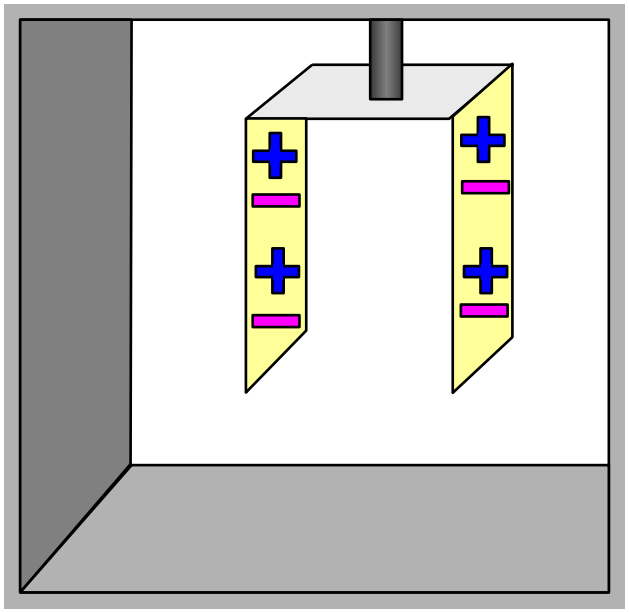




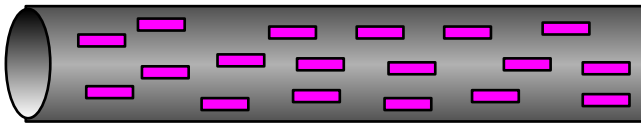
Rubber rod

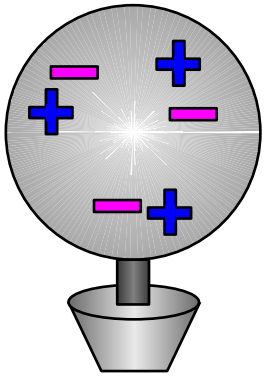


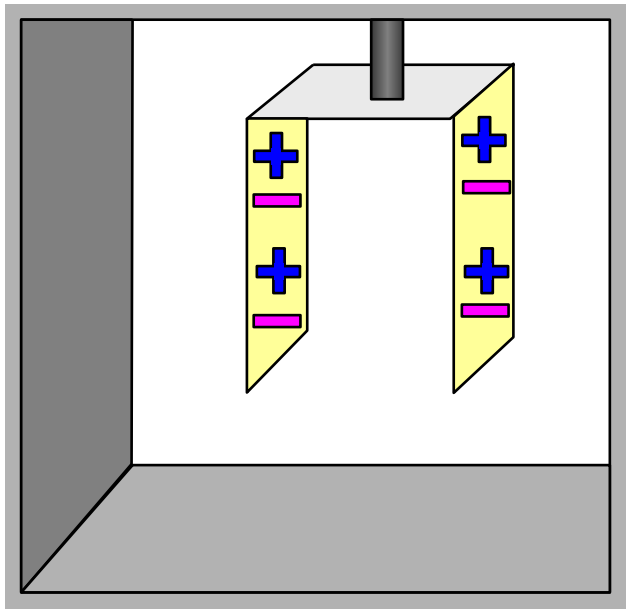




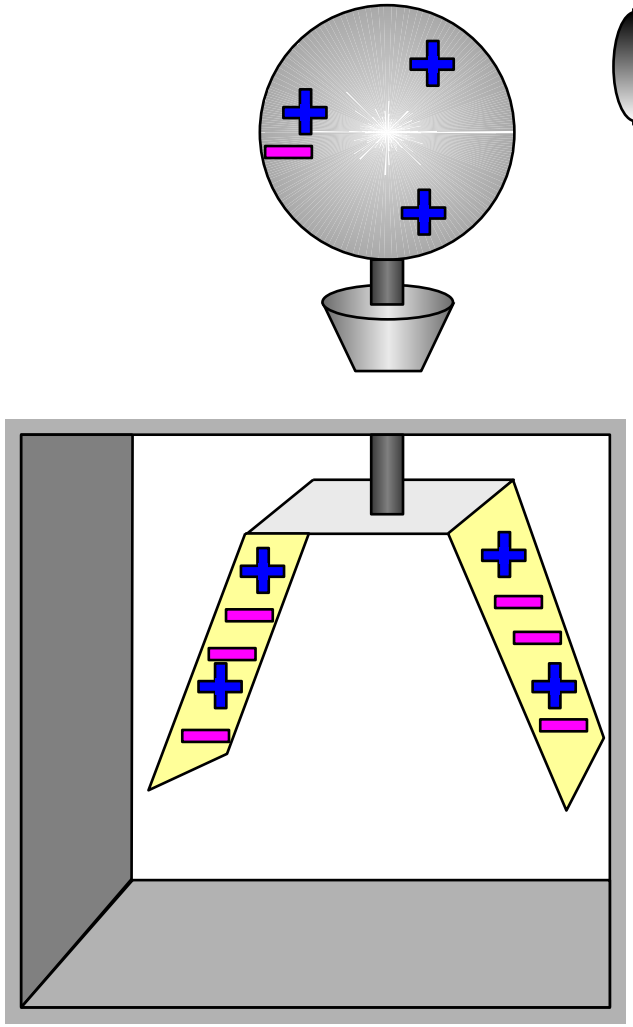
Rubber rod



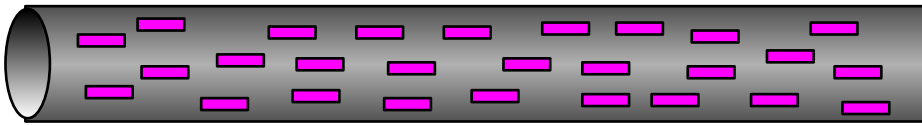




The electroscope hasn't lost or gained electrons so it is still neutral.

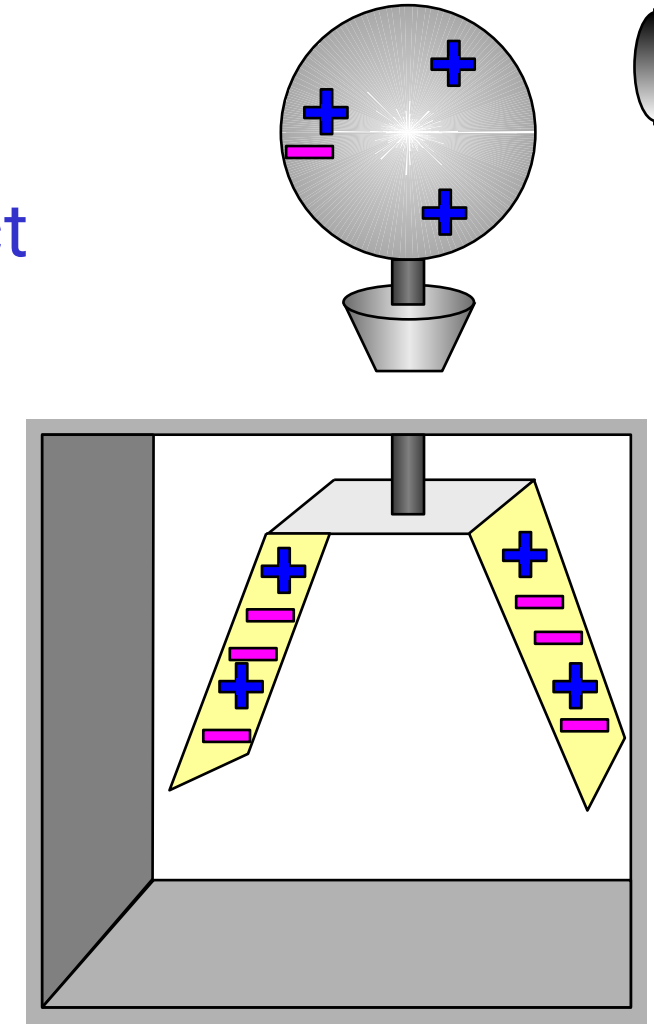


Rubber rod

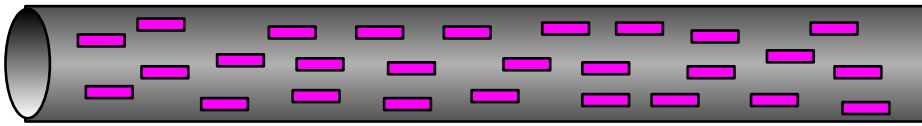


The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



Rubber rod



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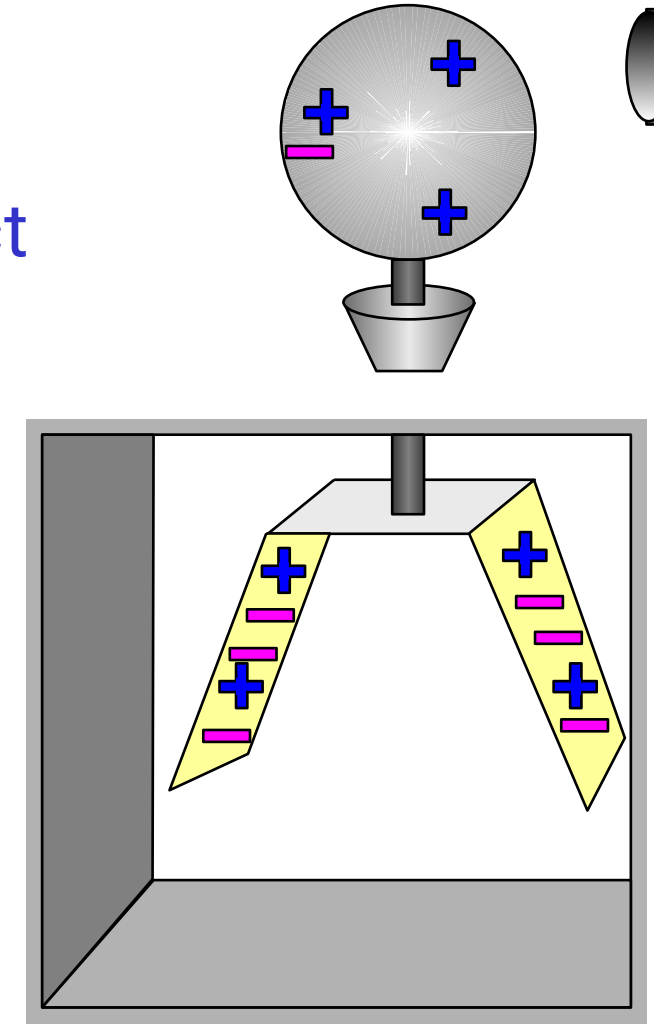
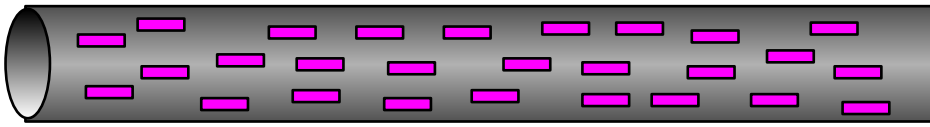
When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.

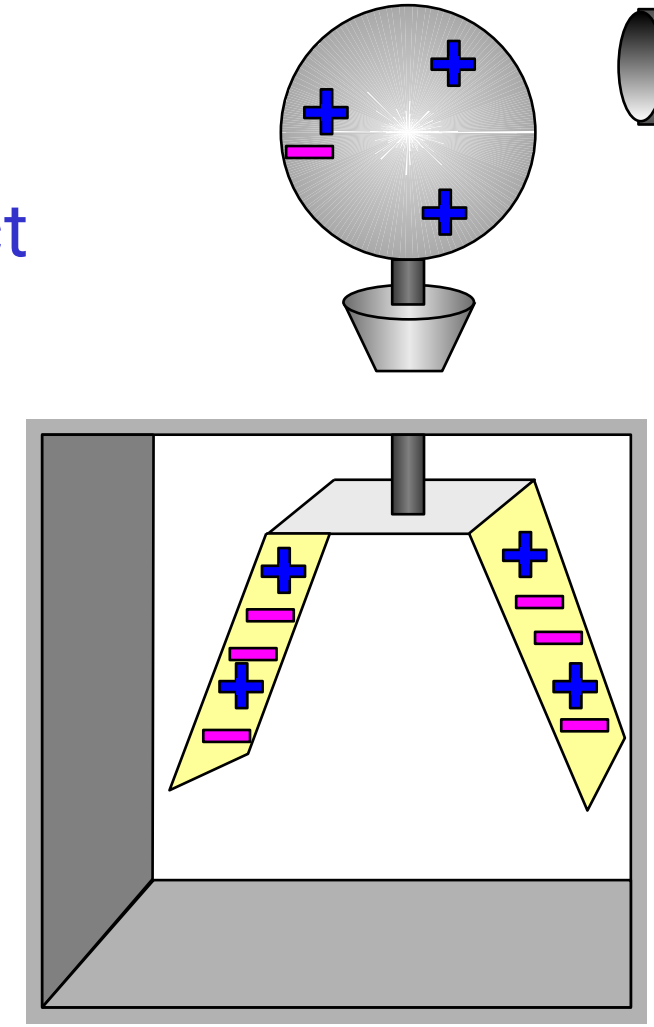


Rubber rod

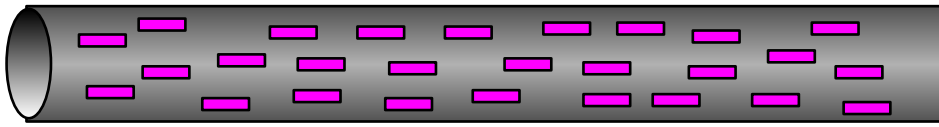


The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.

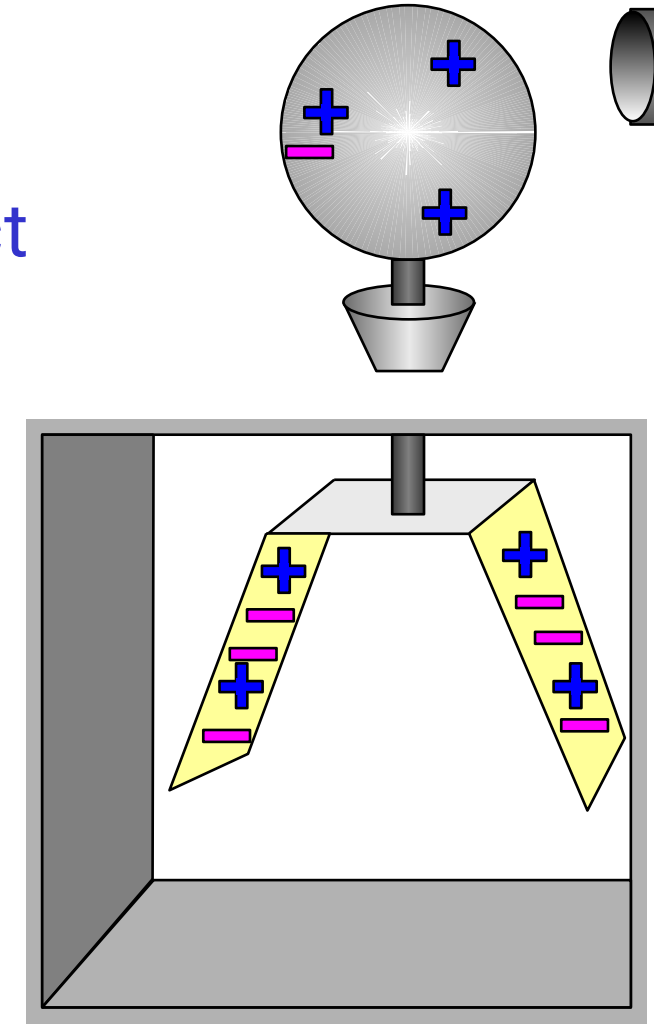


Rubber rod

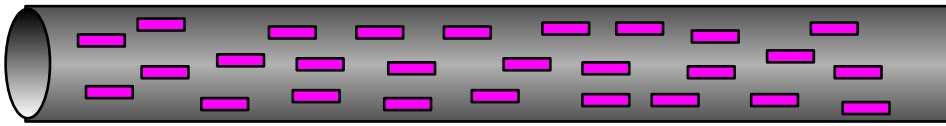


The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.

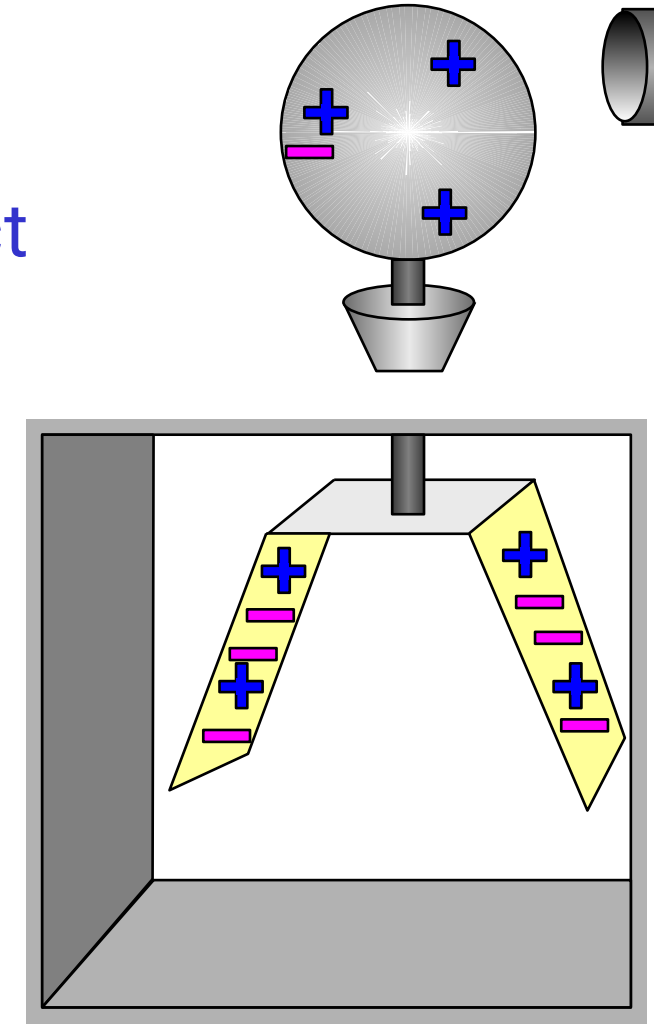


Rubber rod

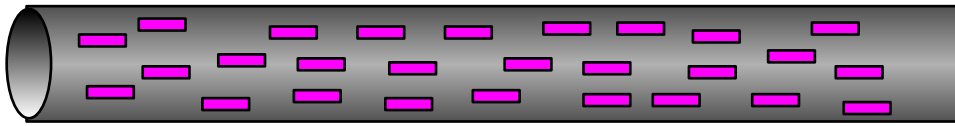


The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.

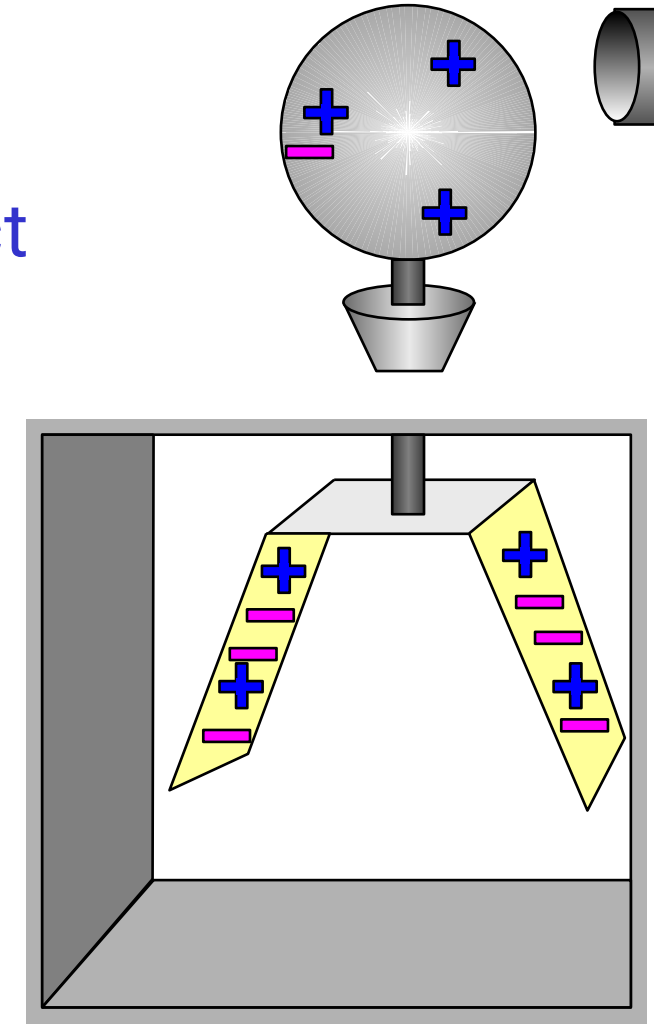


Rubber rod

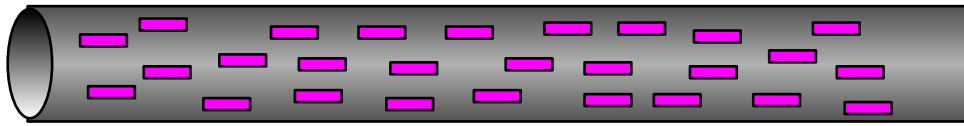


The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.

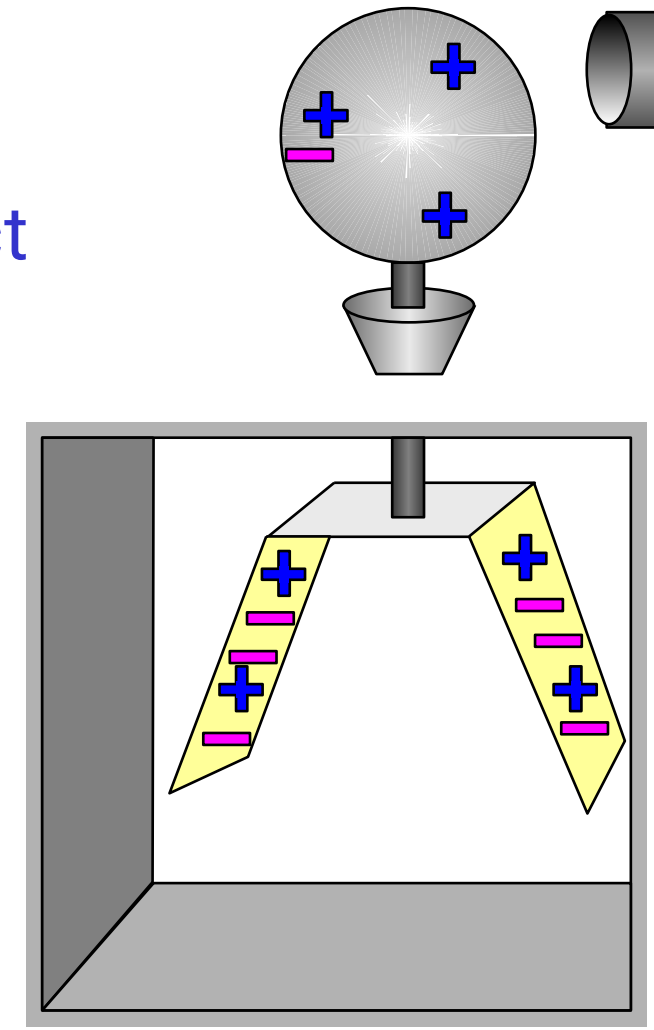


Rubber rod

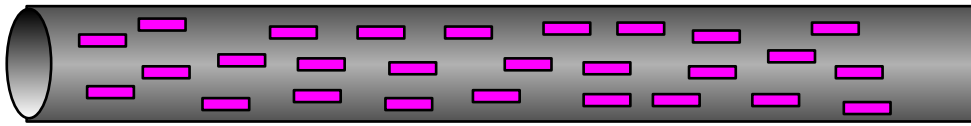


The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



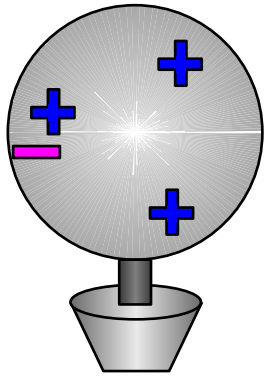
Rubber rod

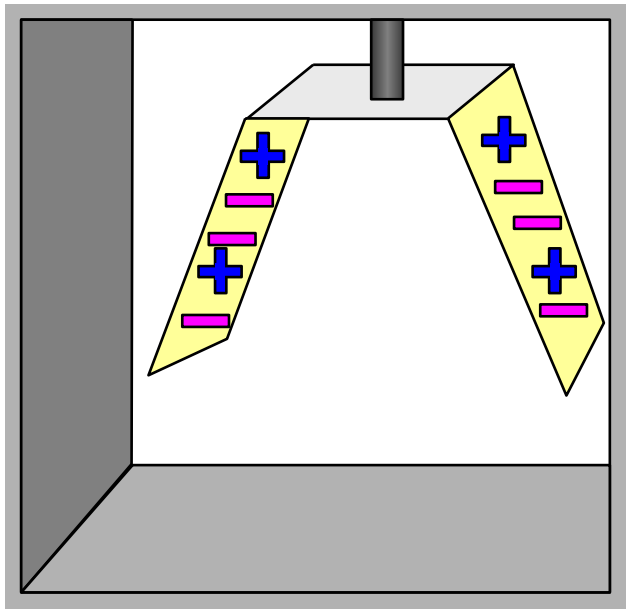


The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.

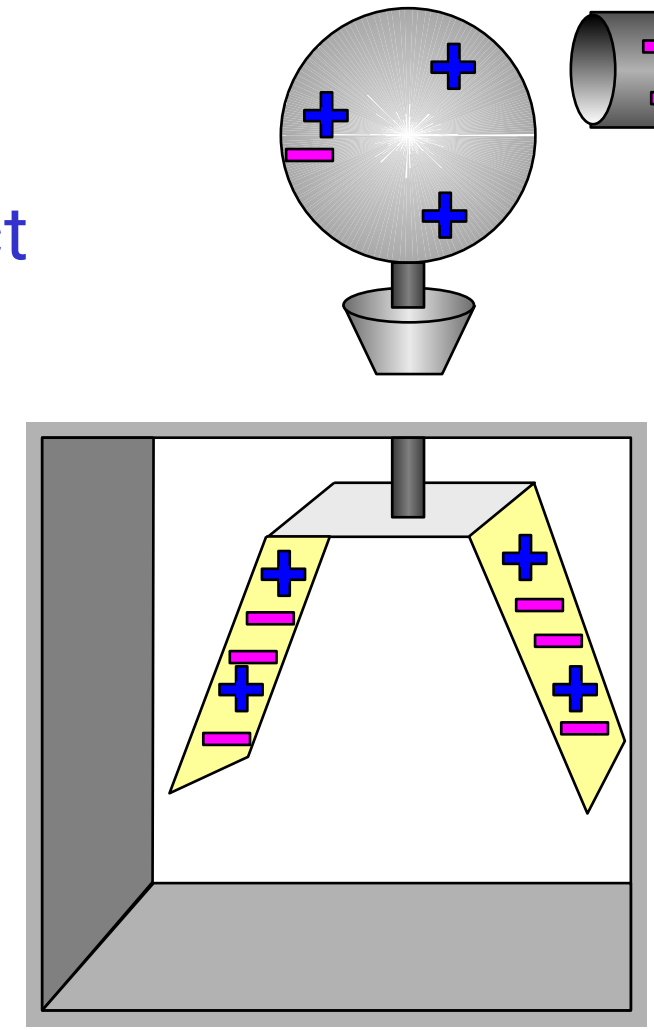
Rubber rod



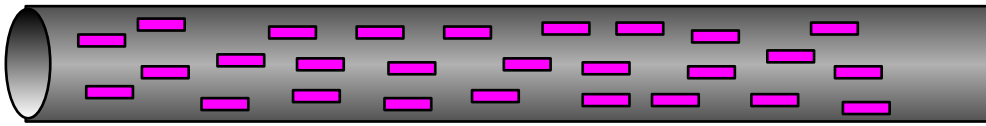


The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.

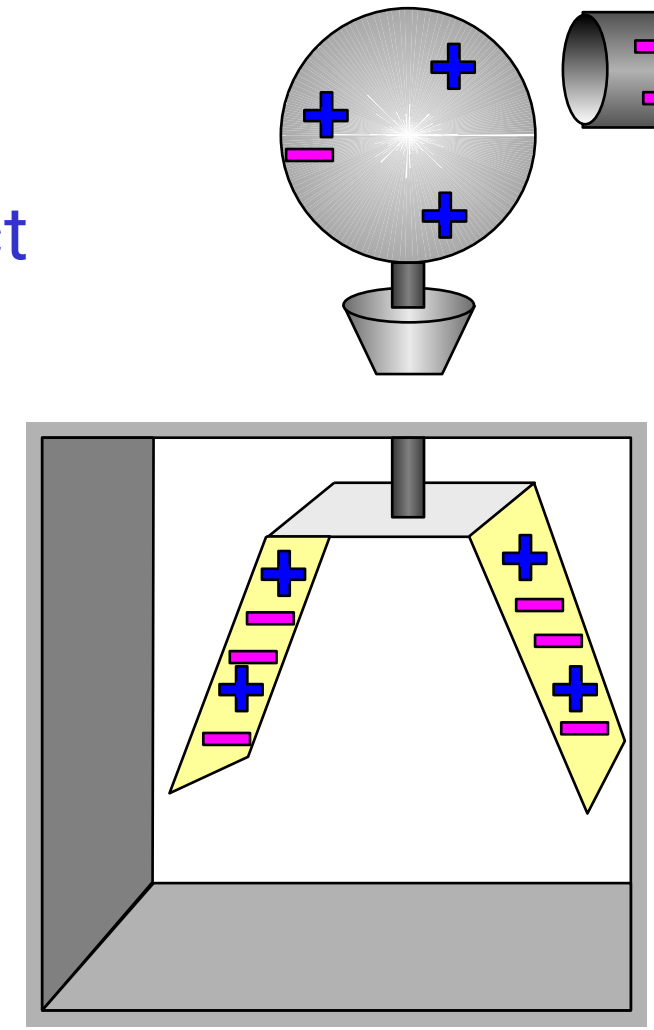


Rubber rod



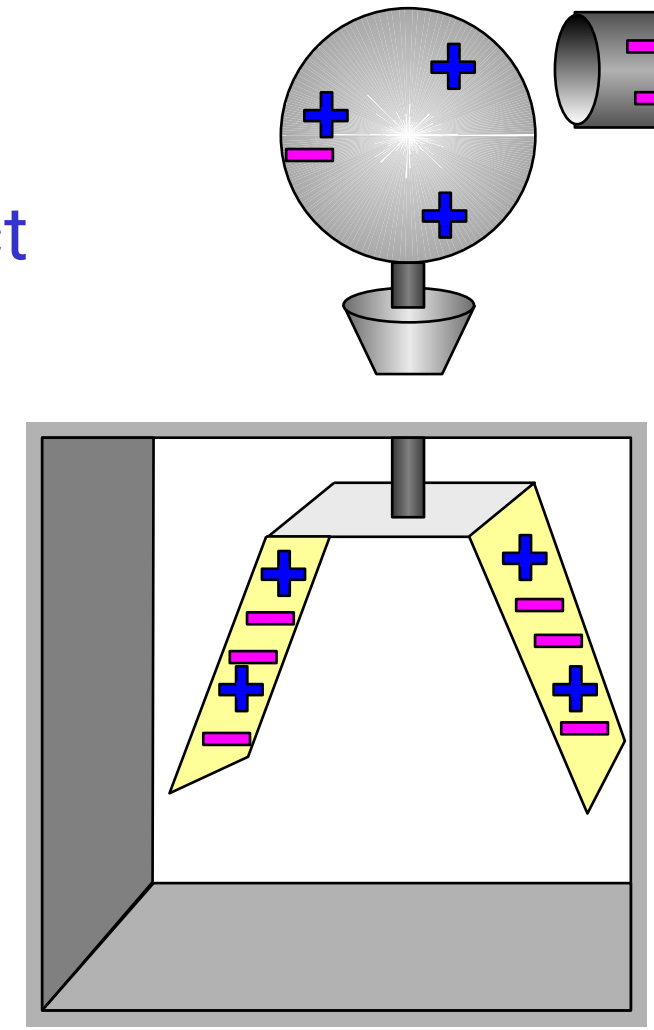
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



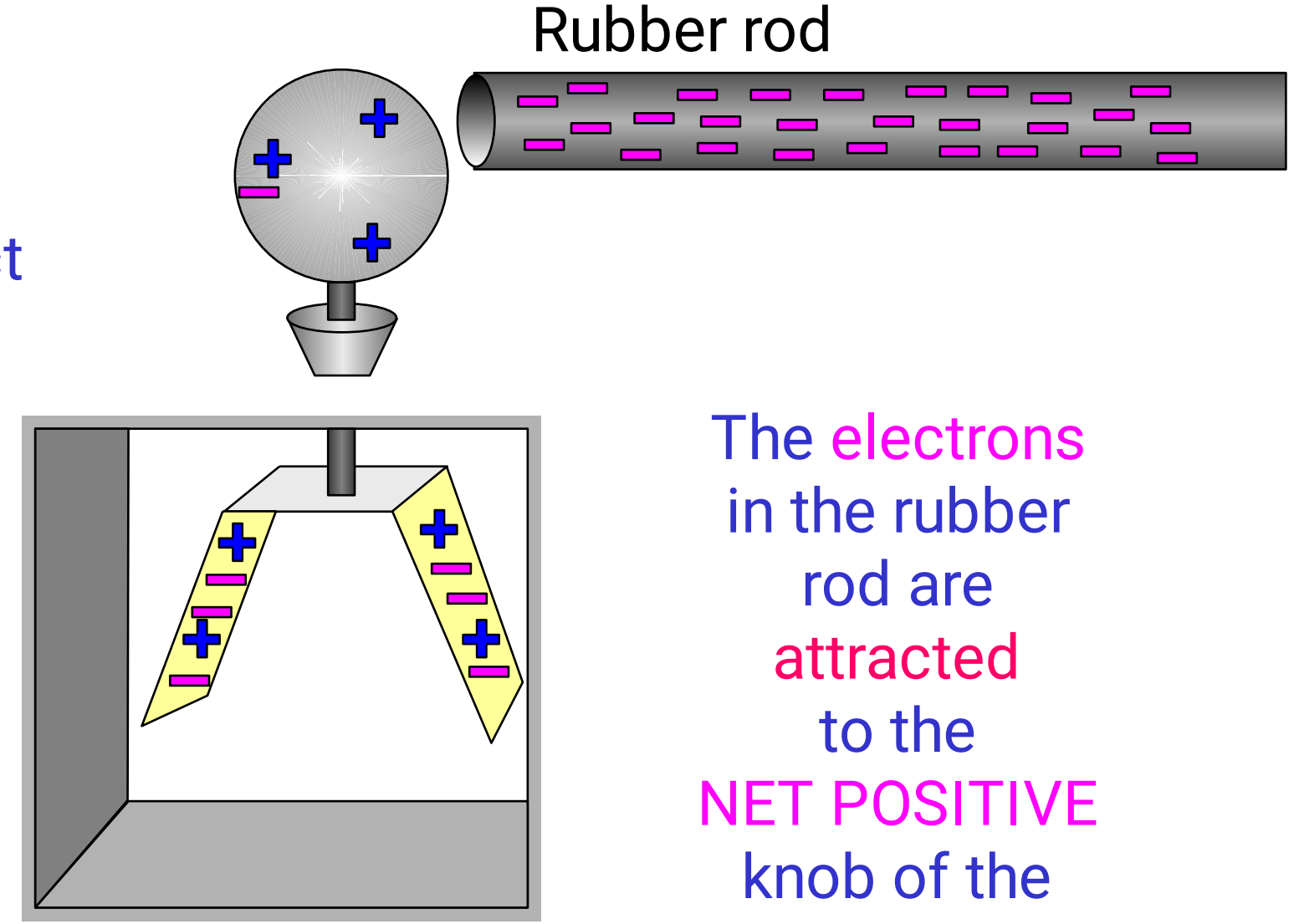
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



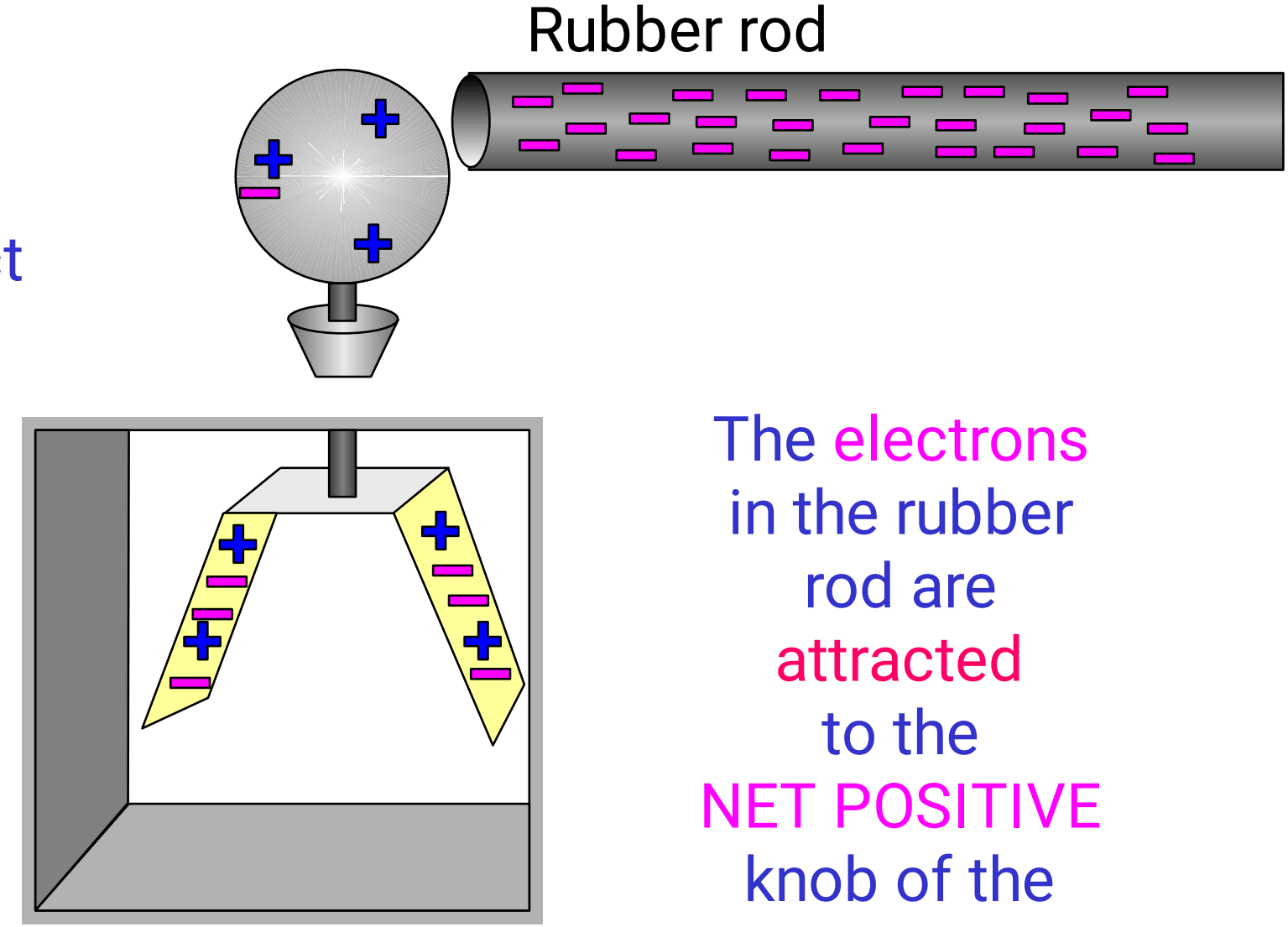
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



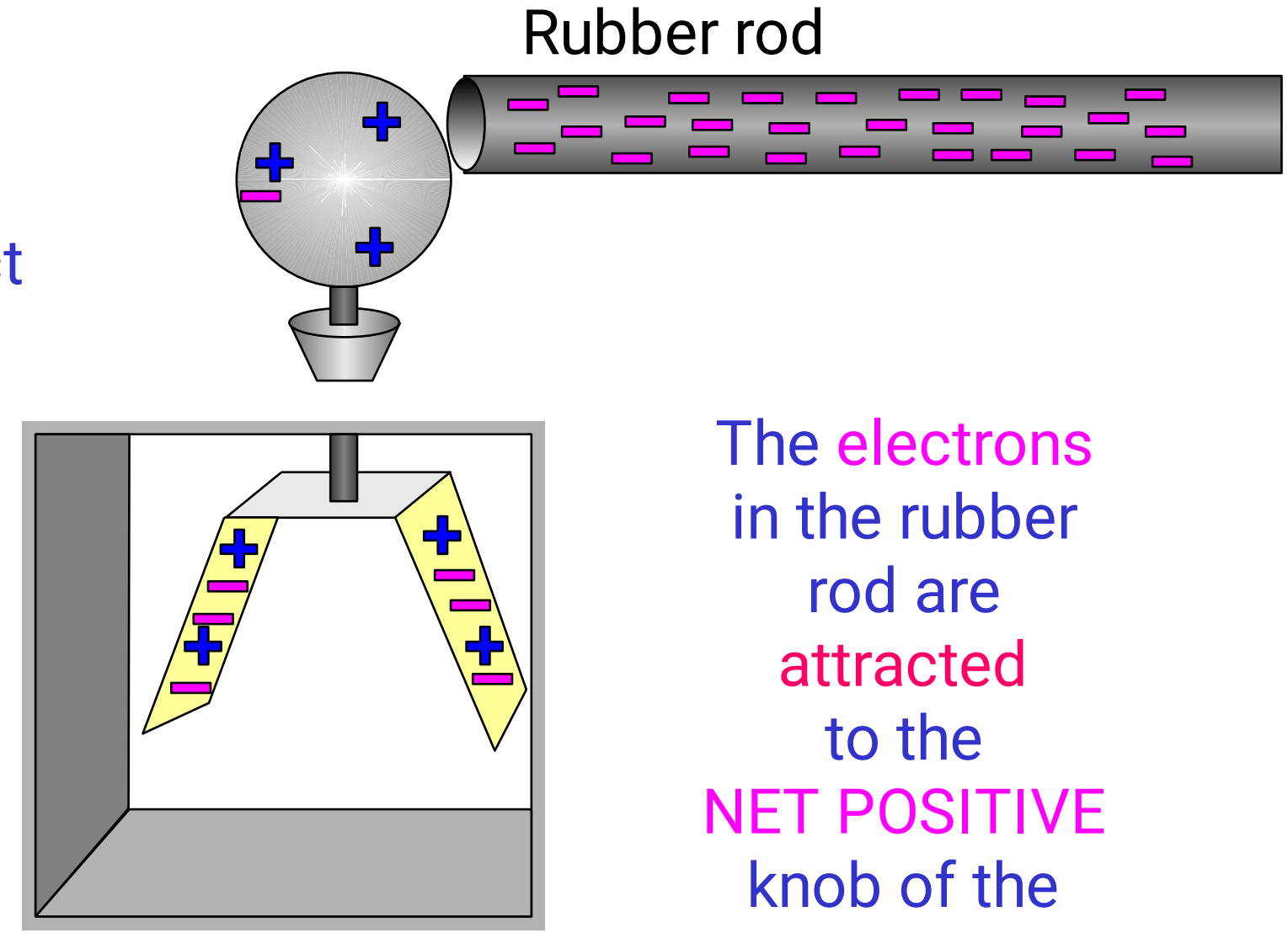
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



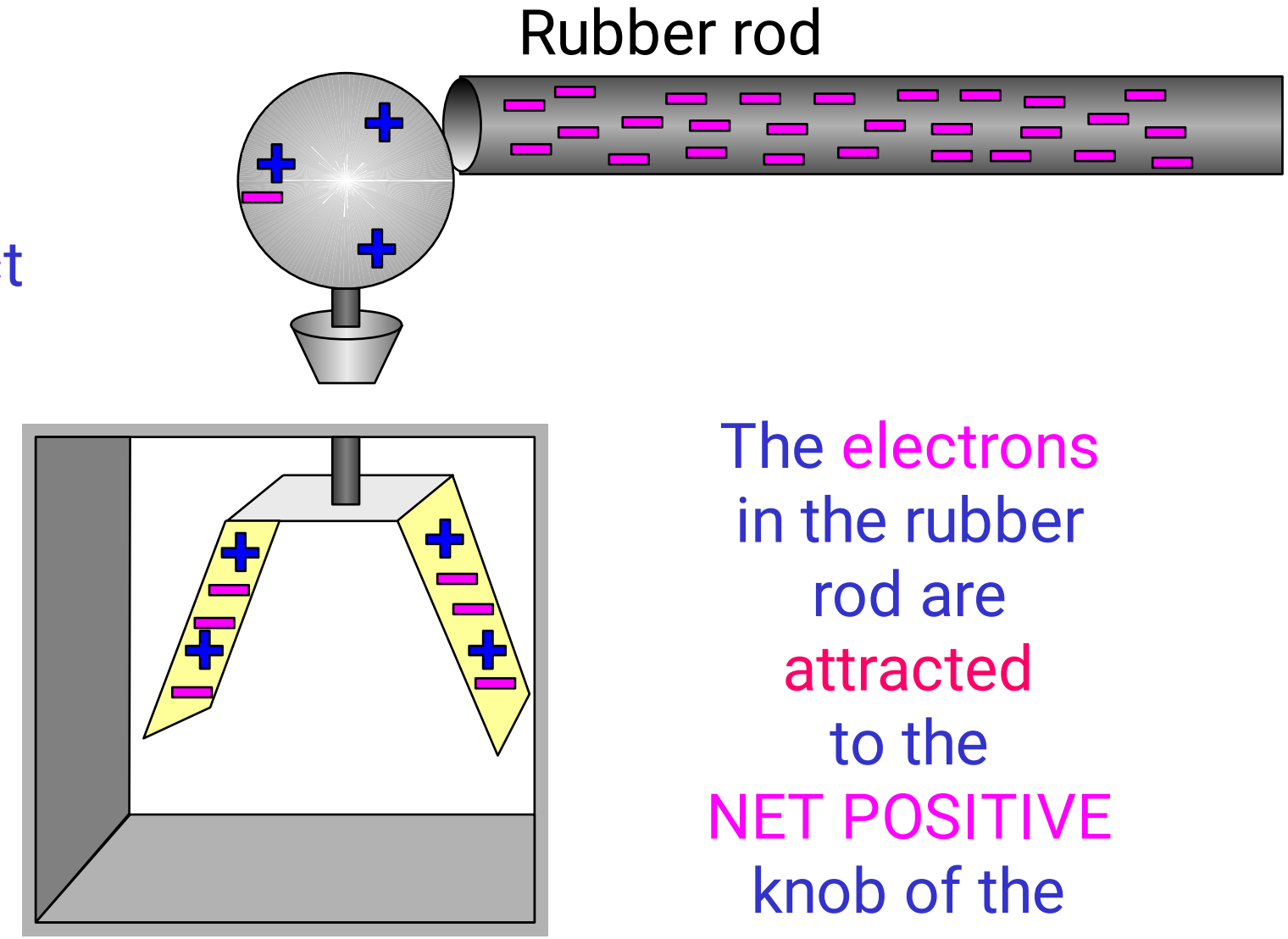
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



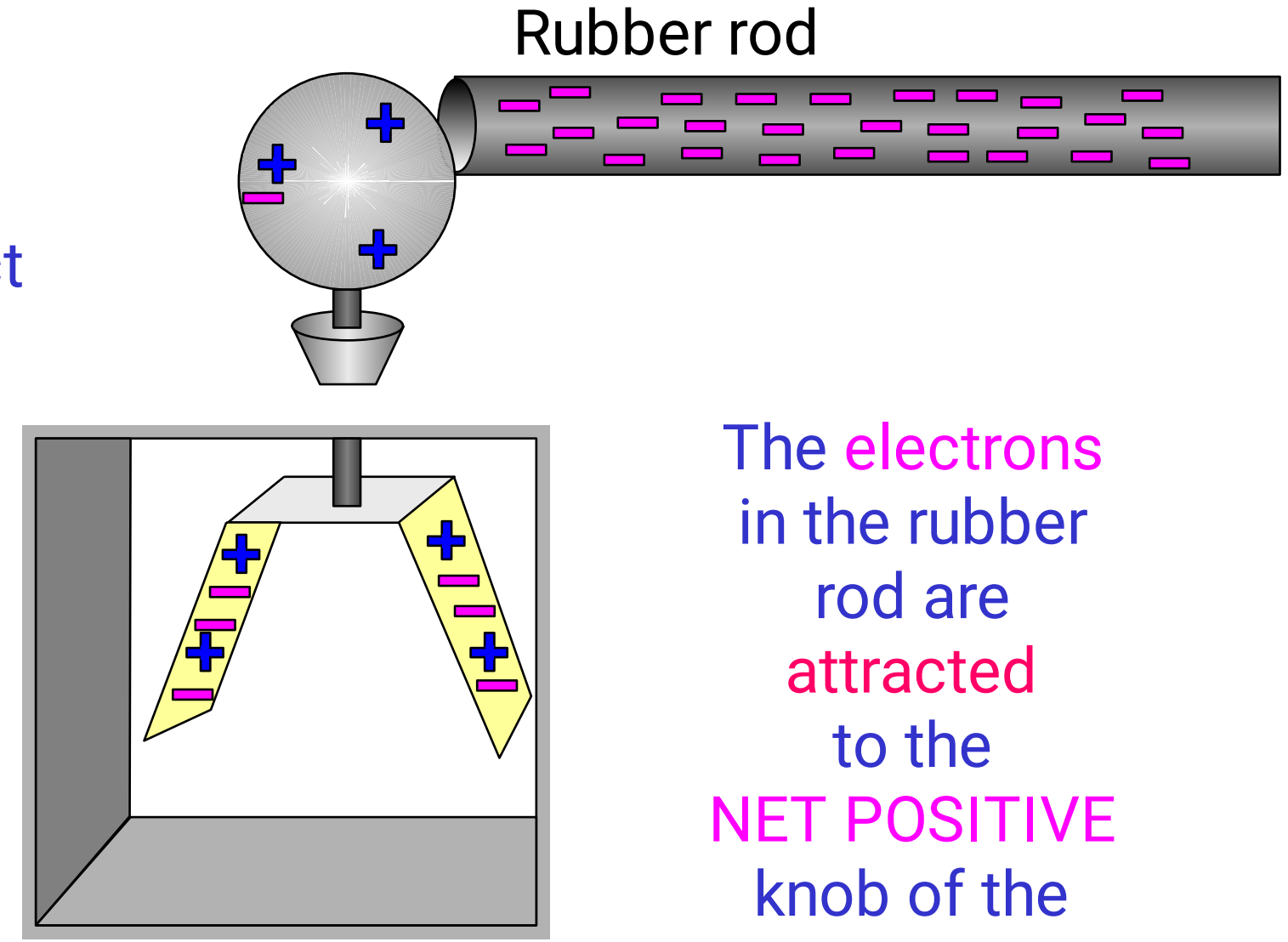
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



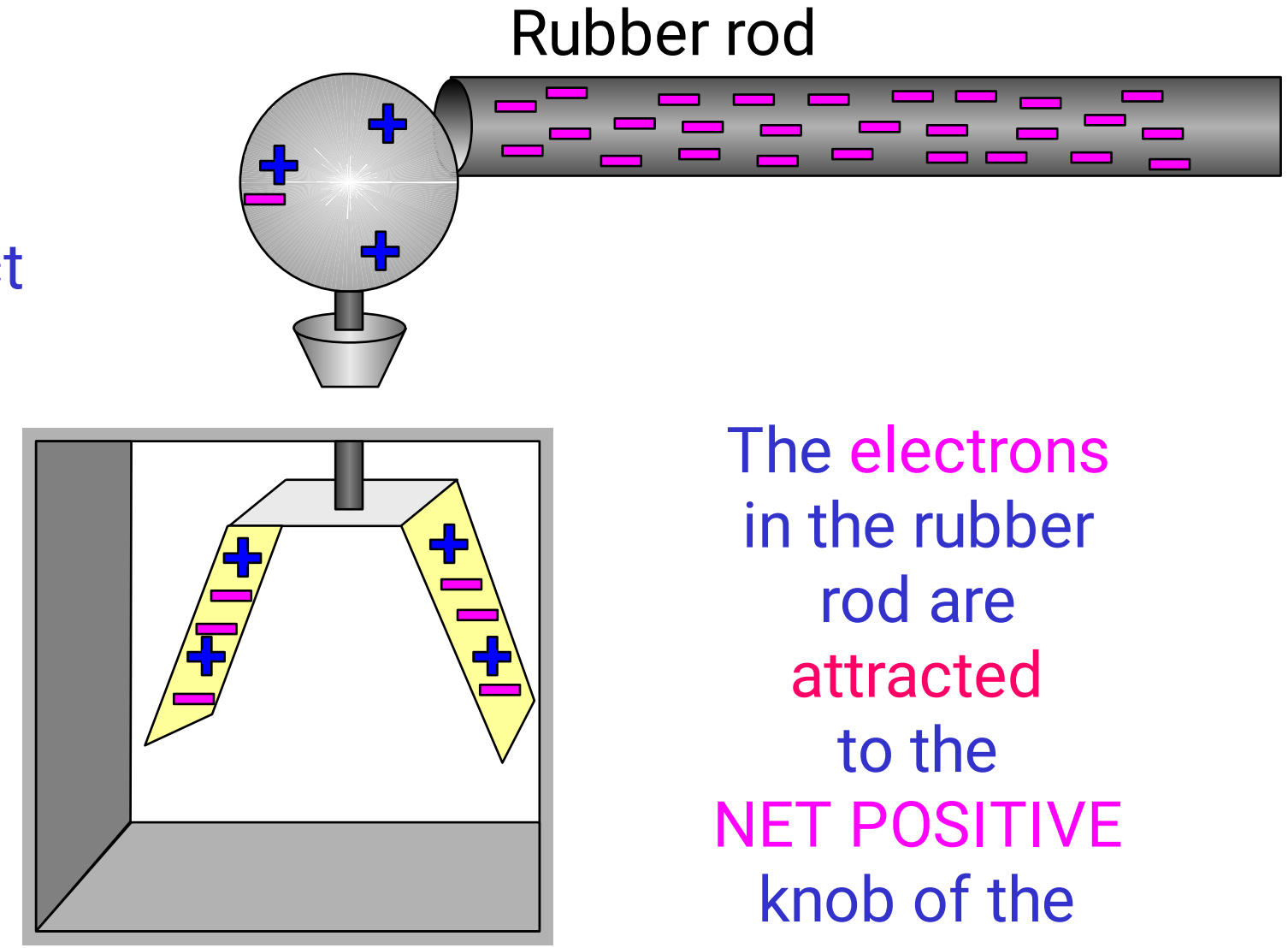
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



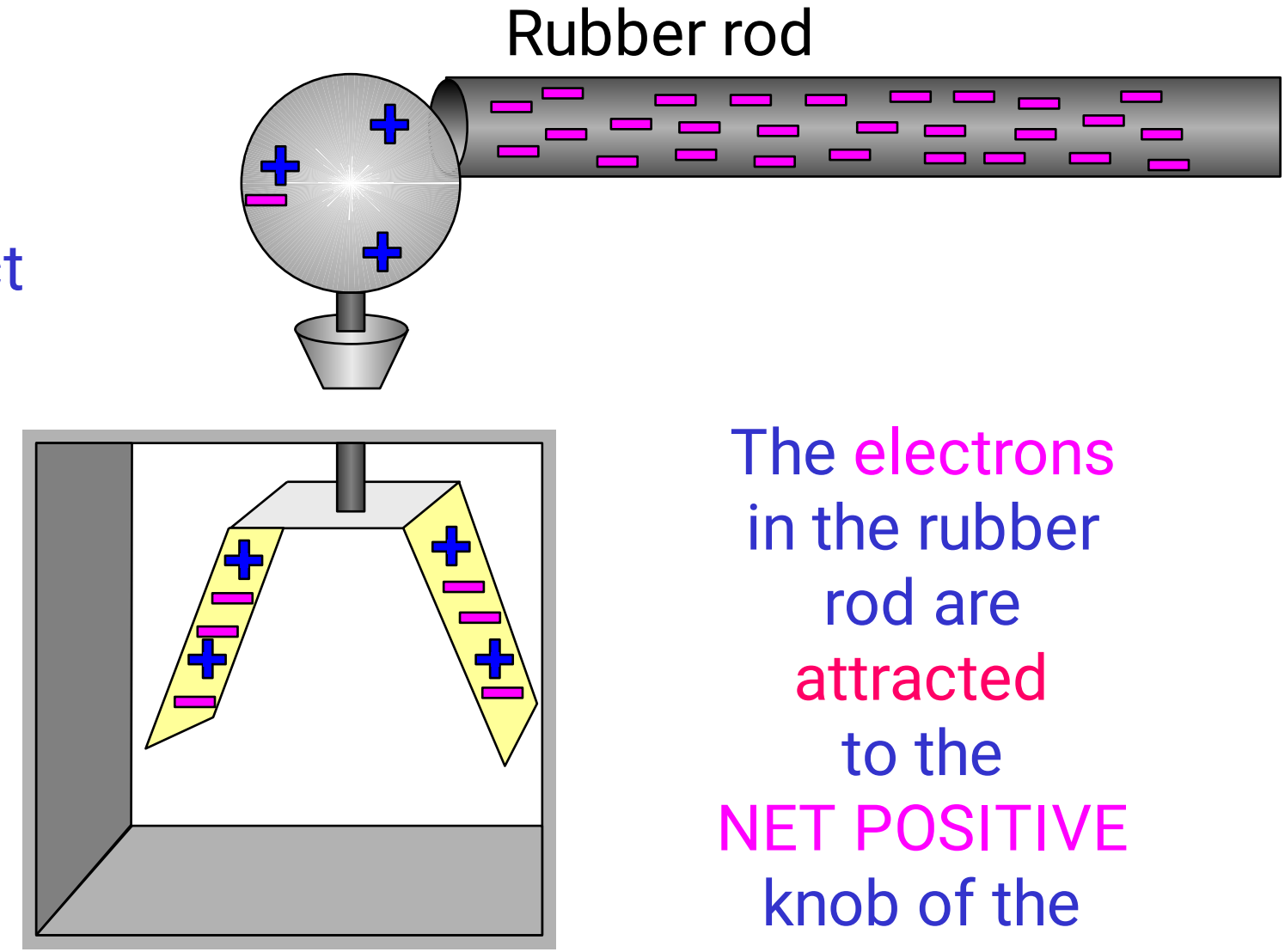
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



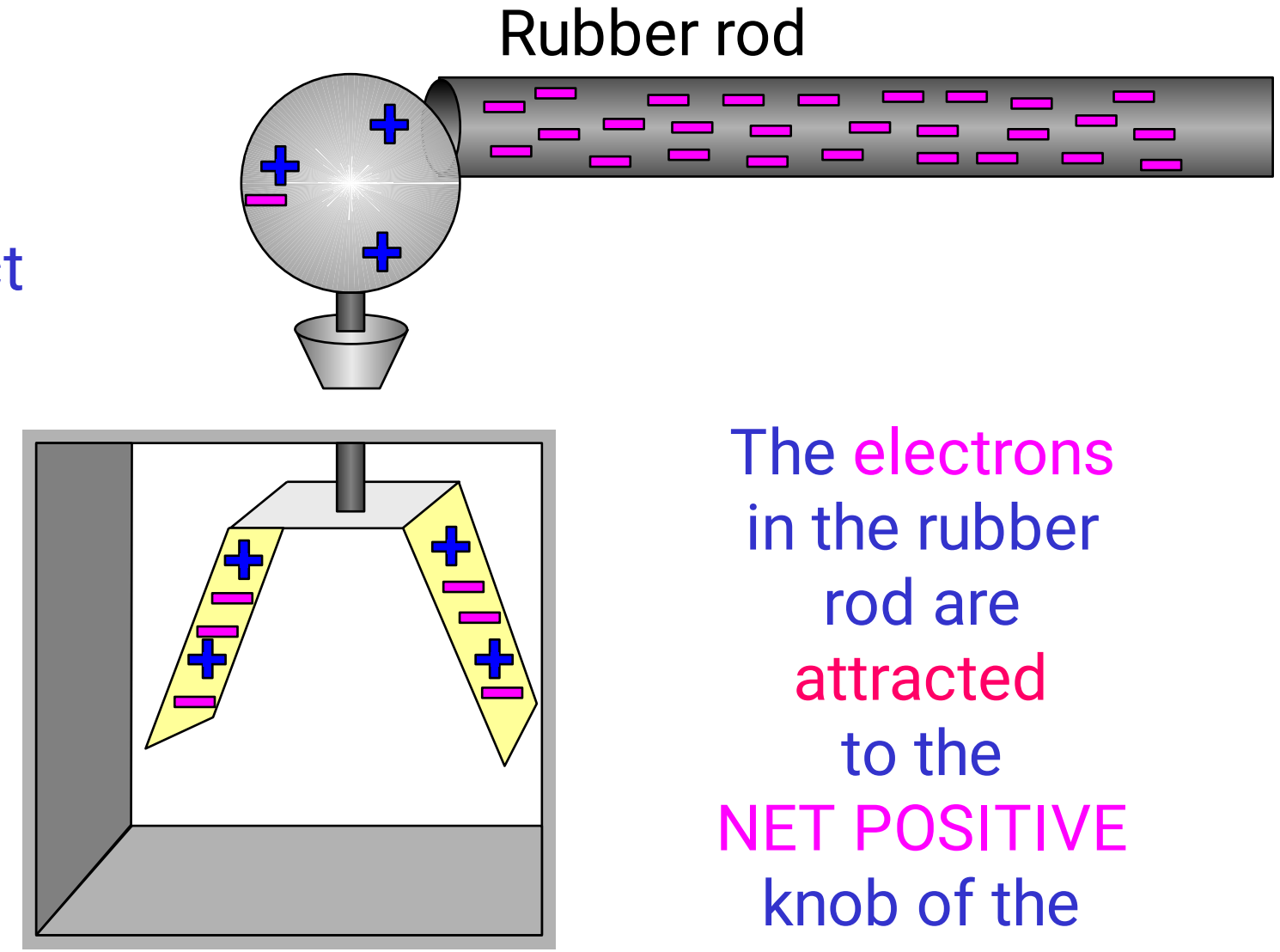
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



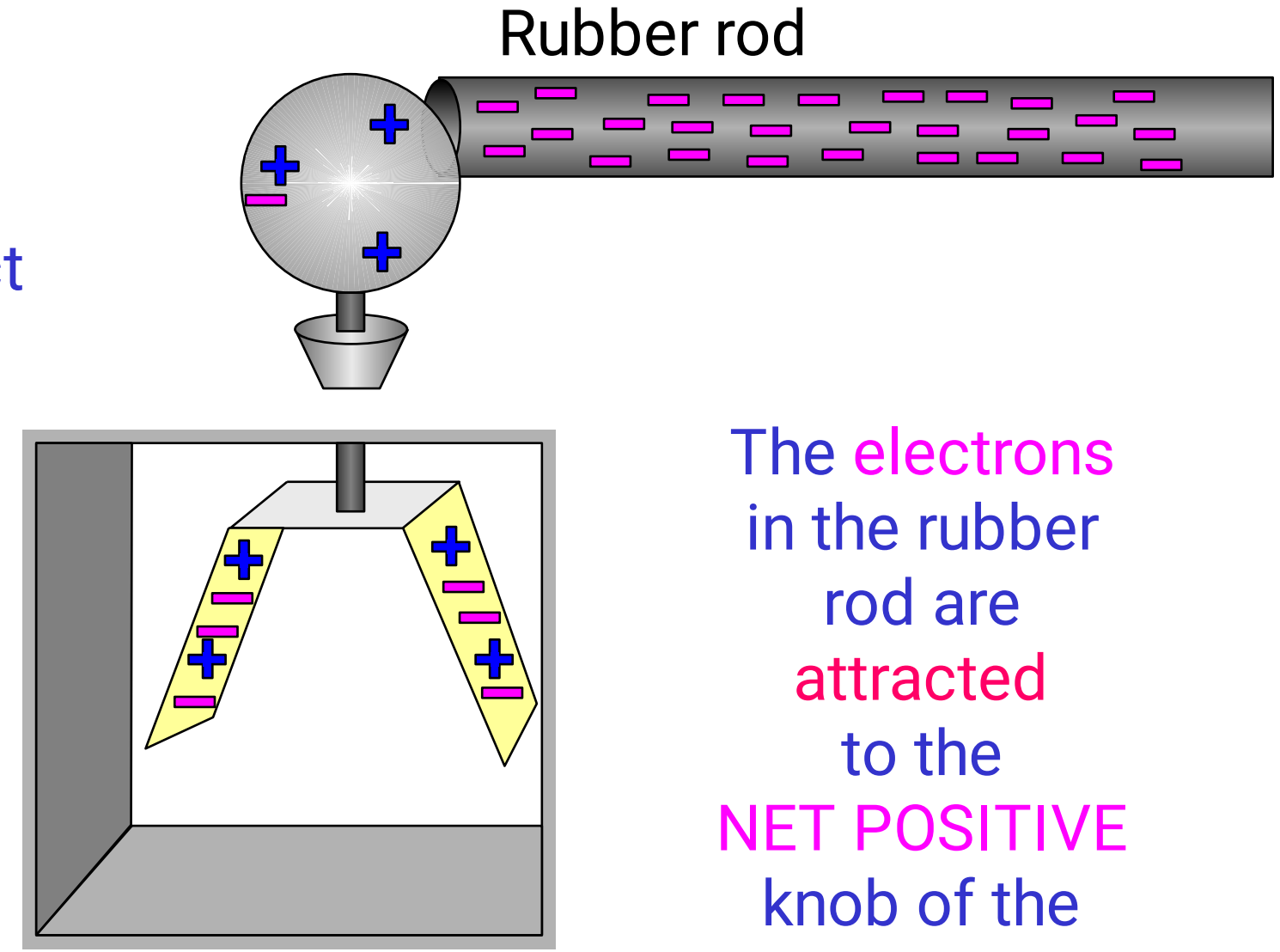
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



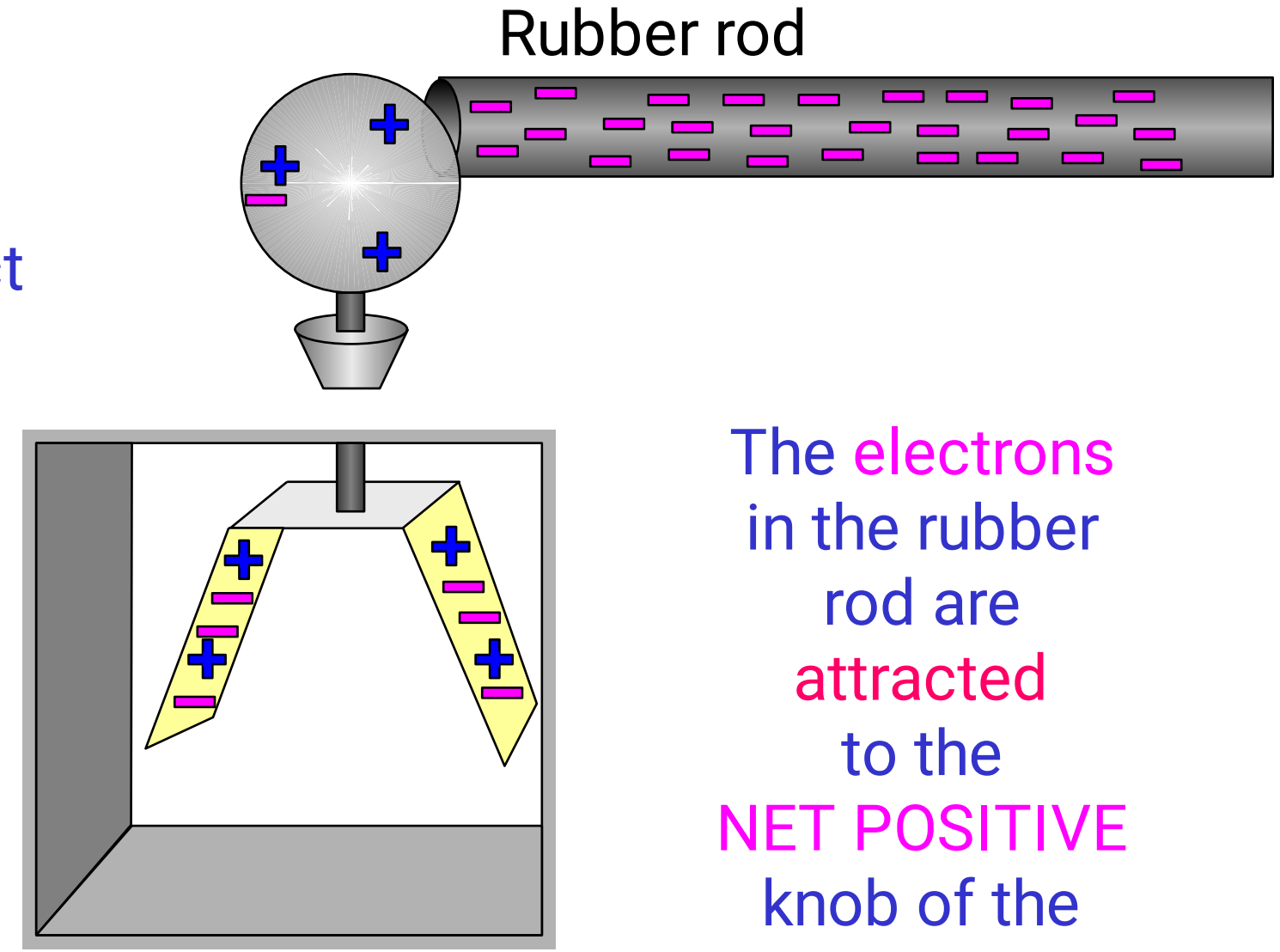
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



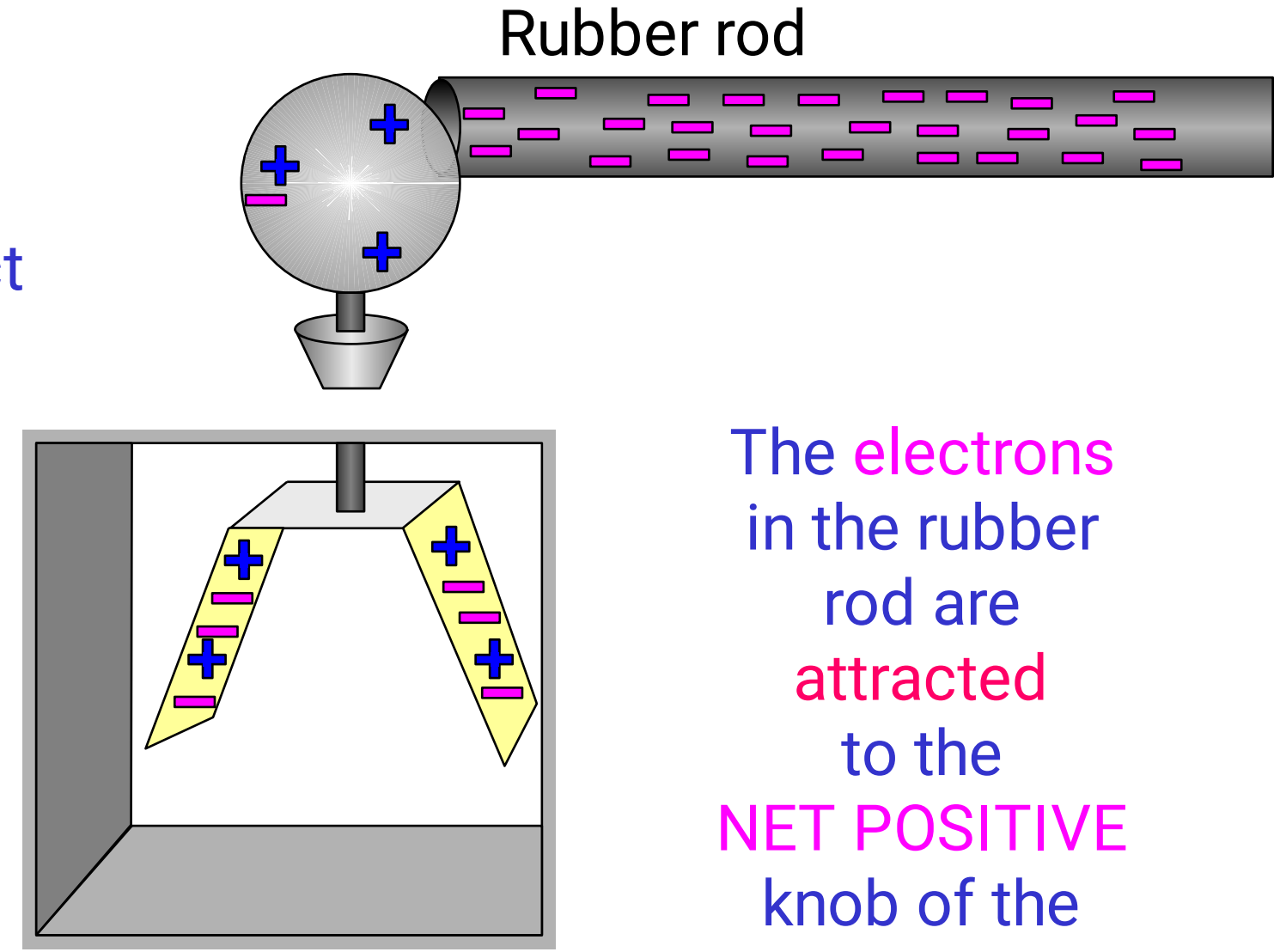
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



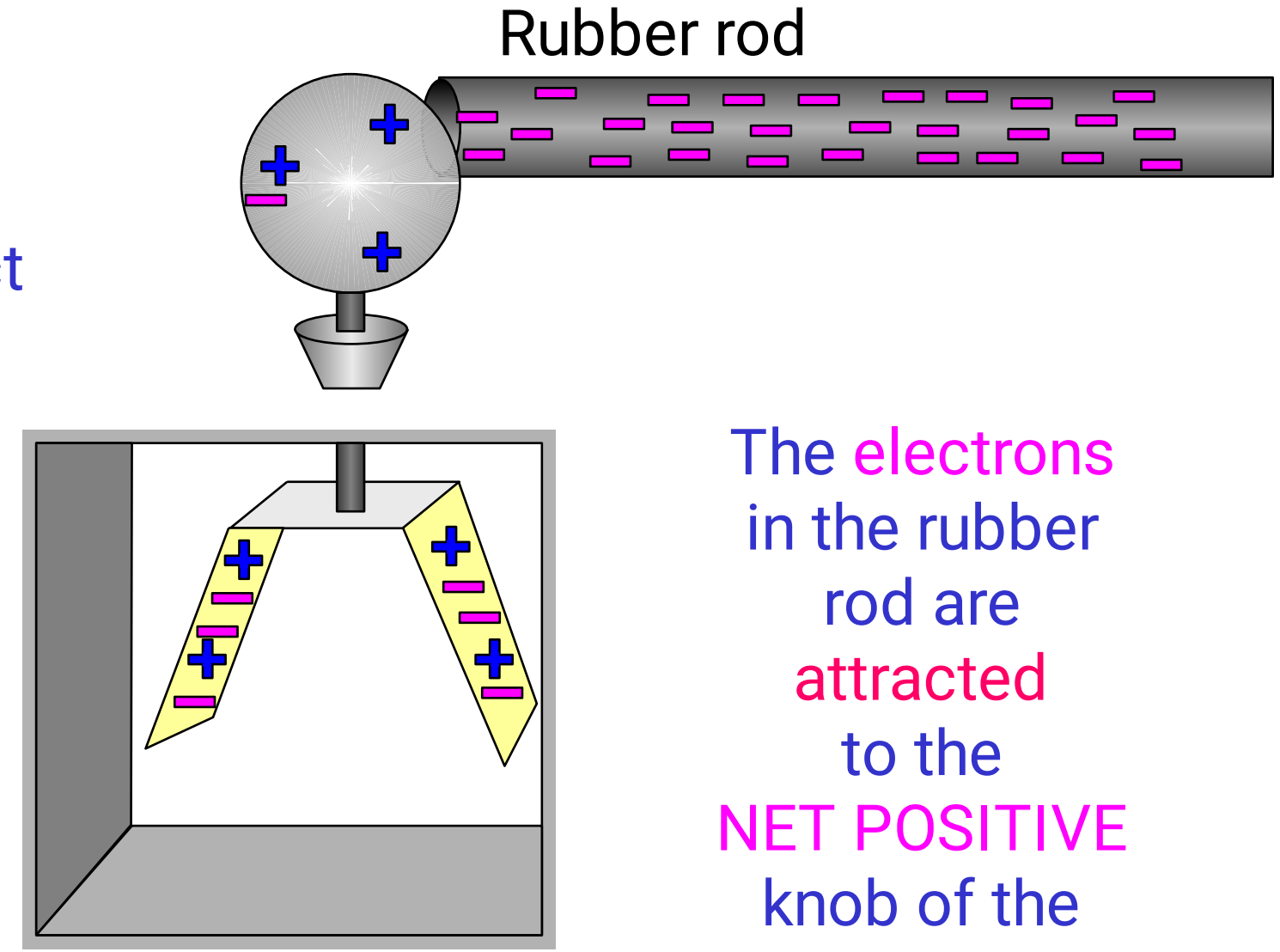
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



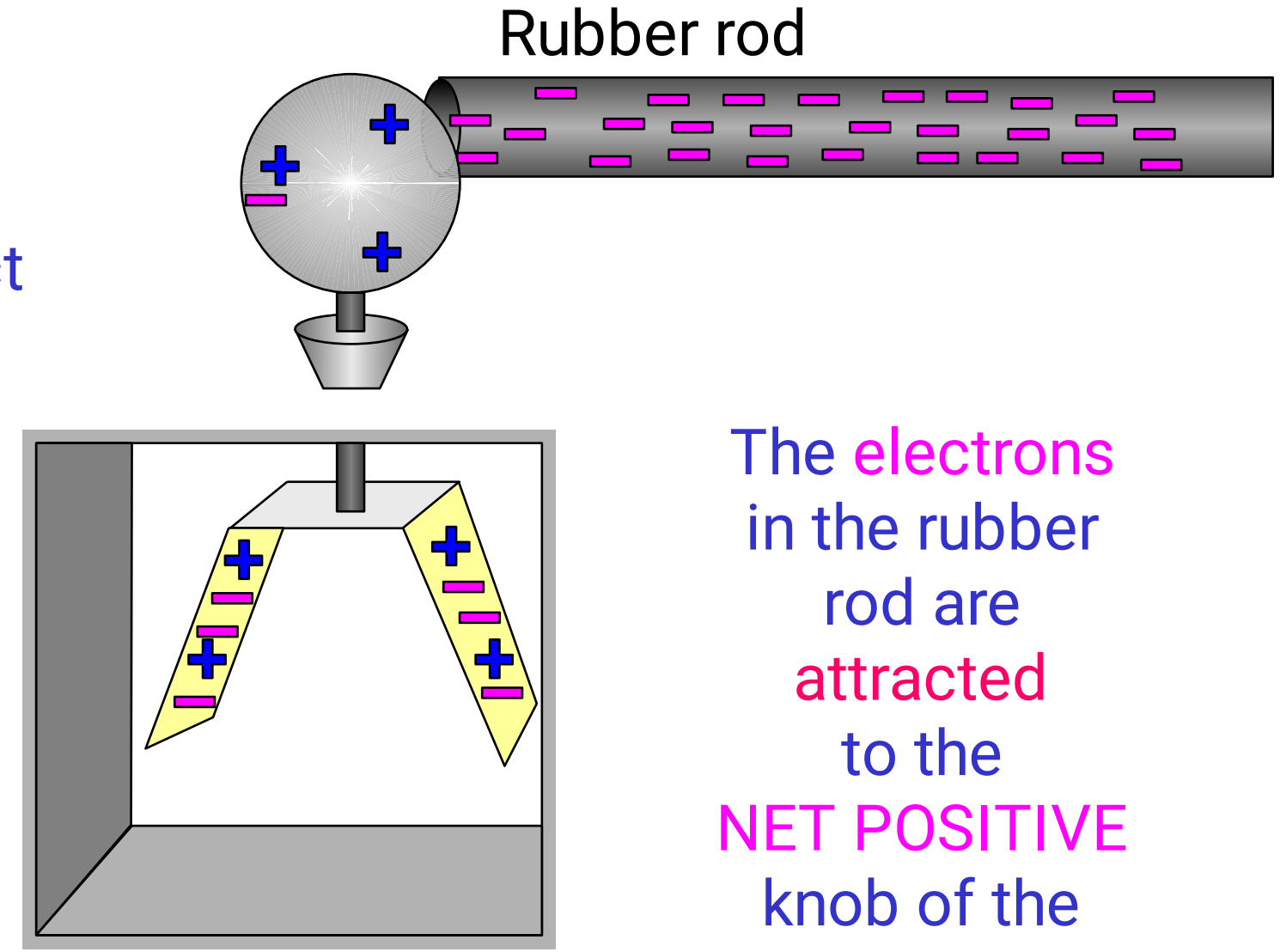
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



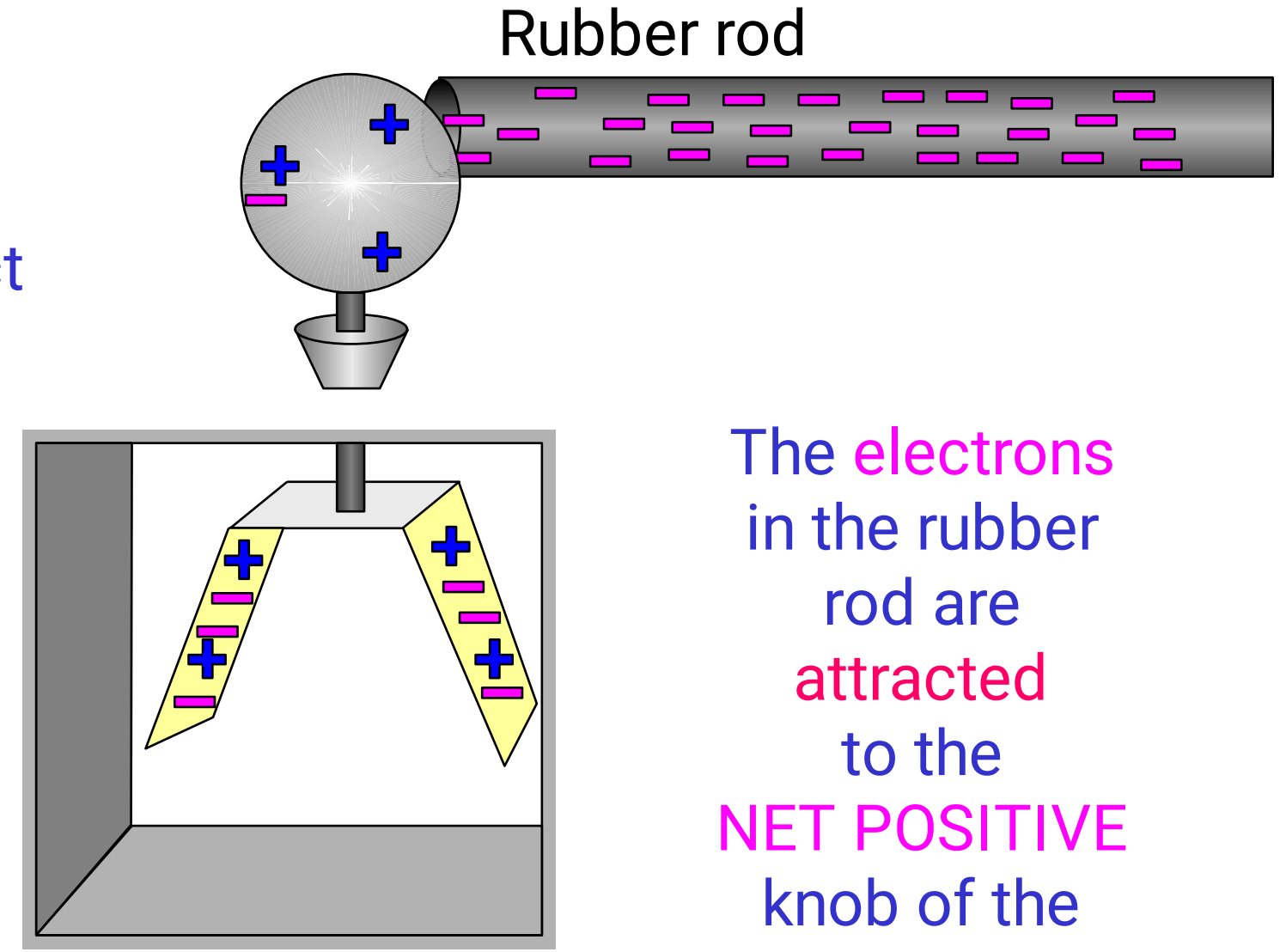
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



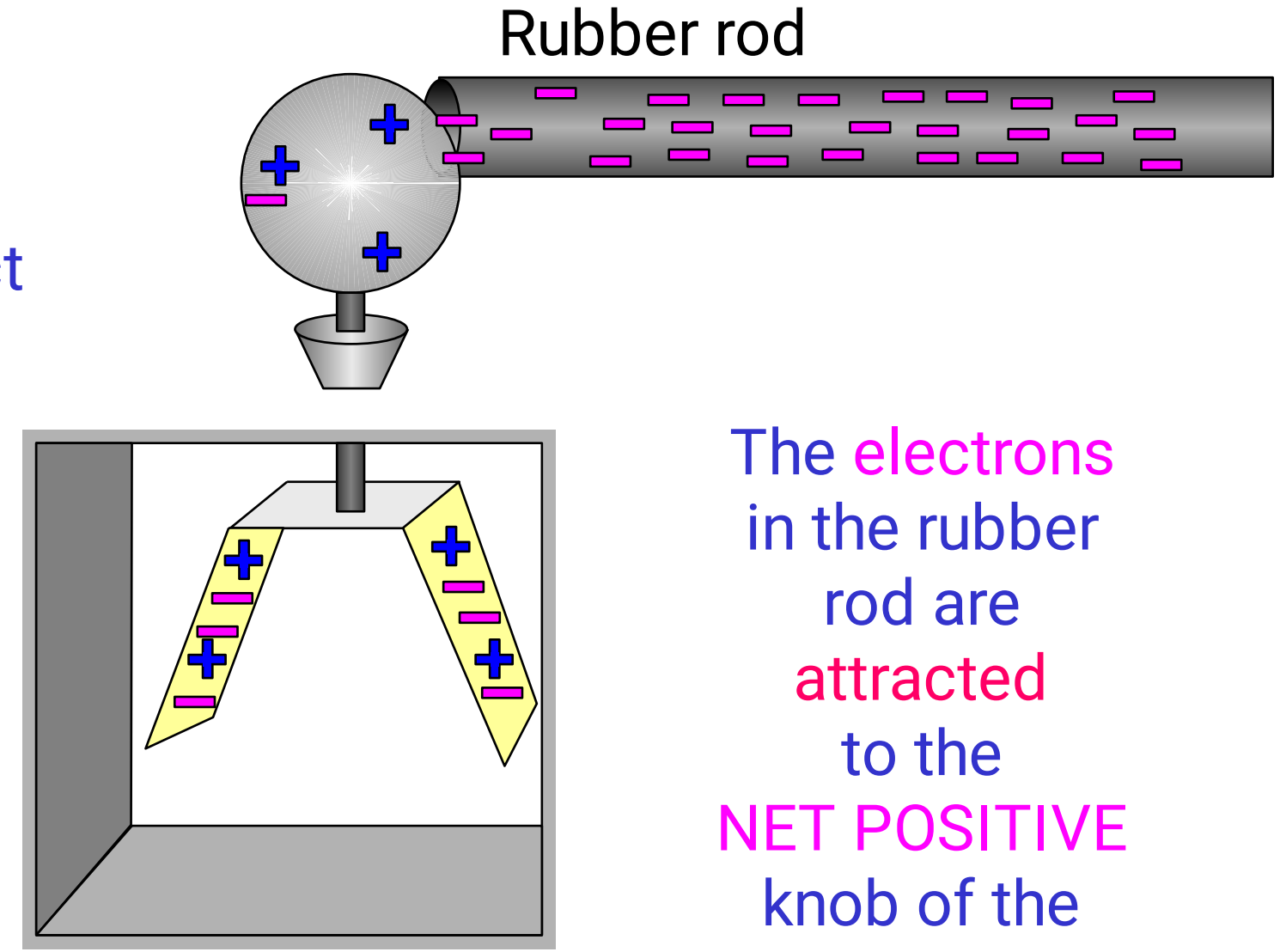
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



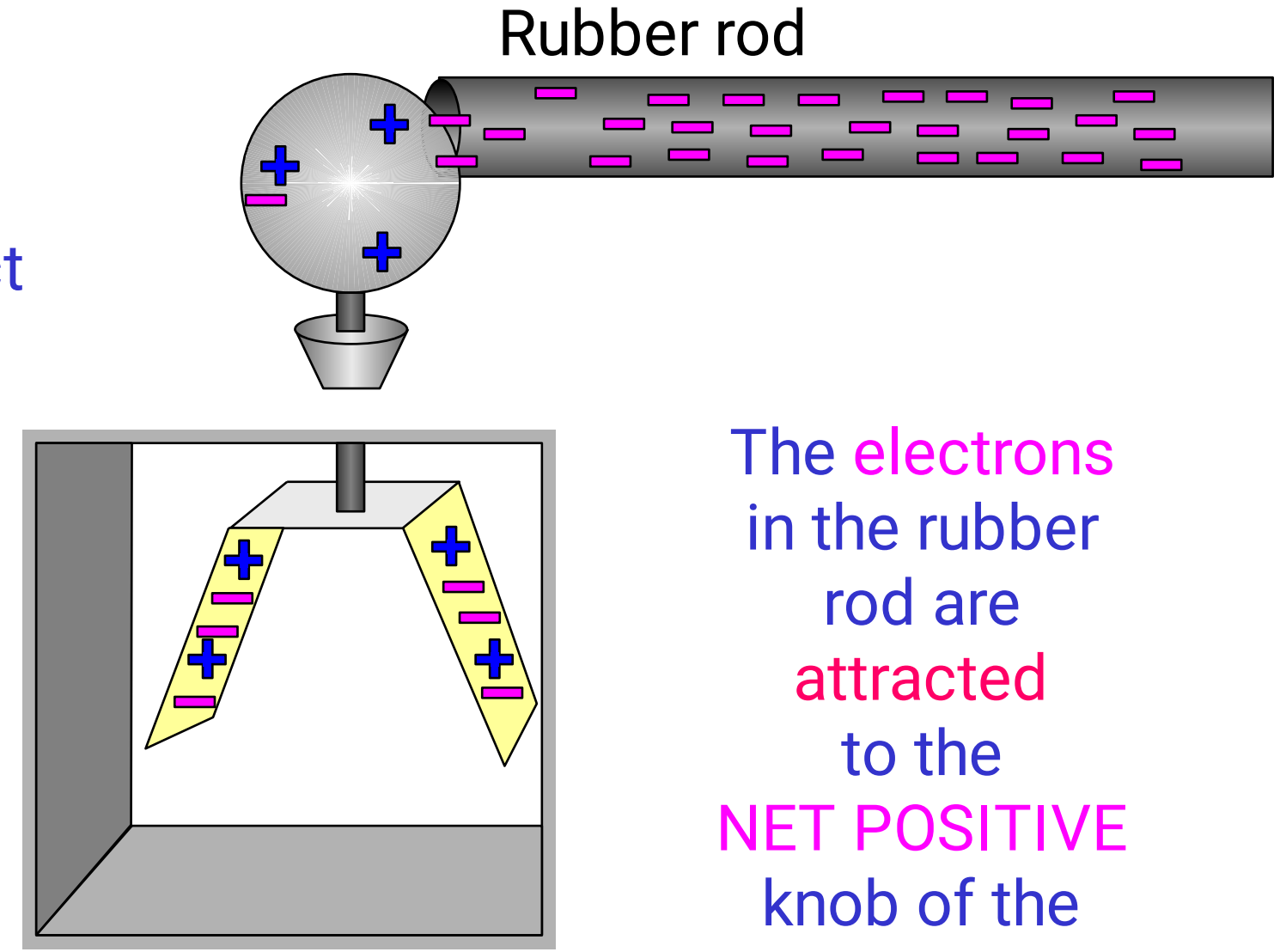
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



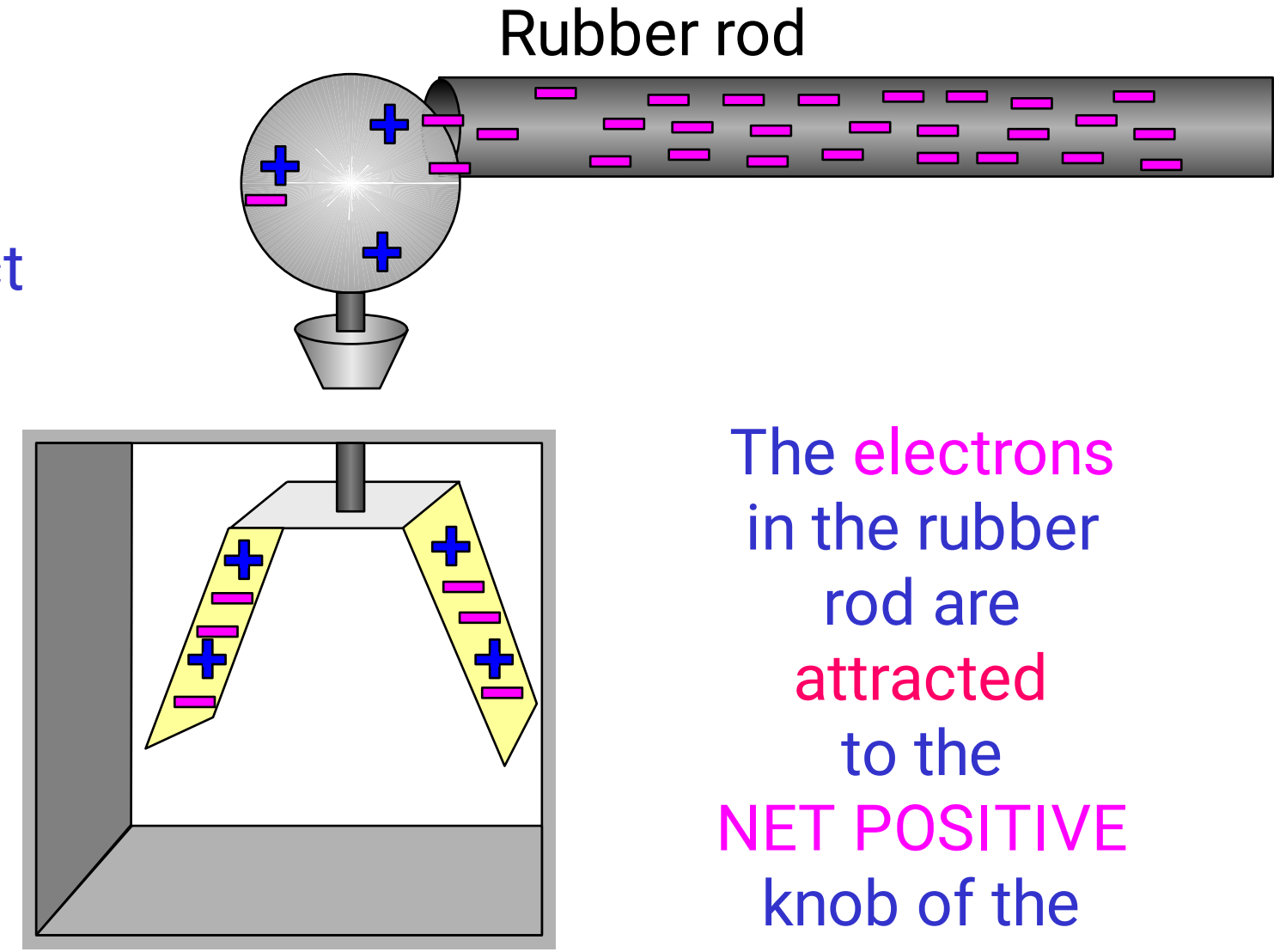
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



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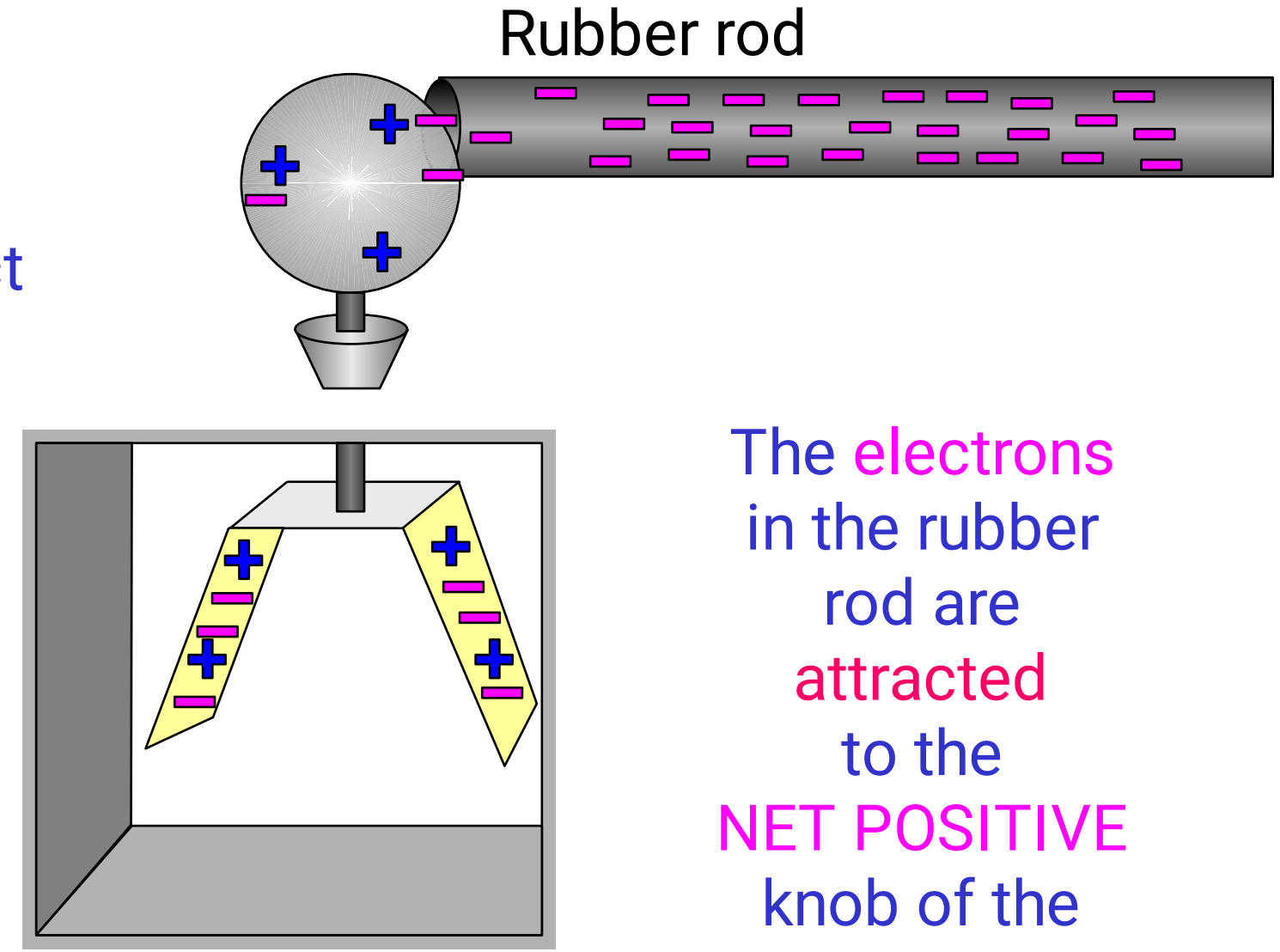

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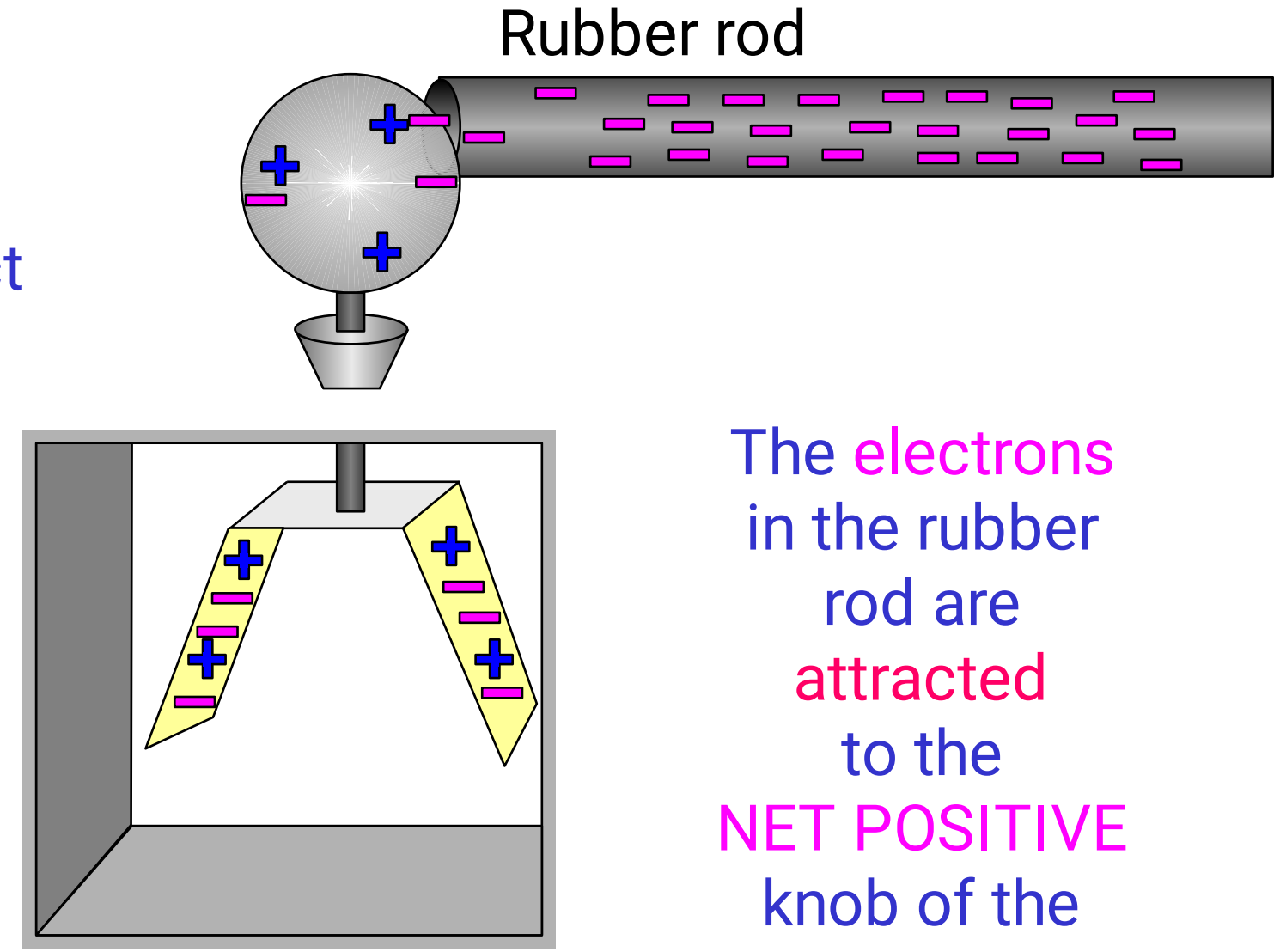
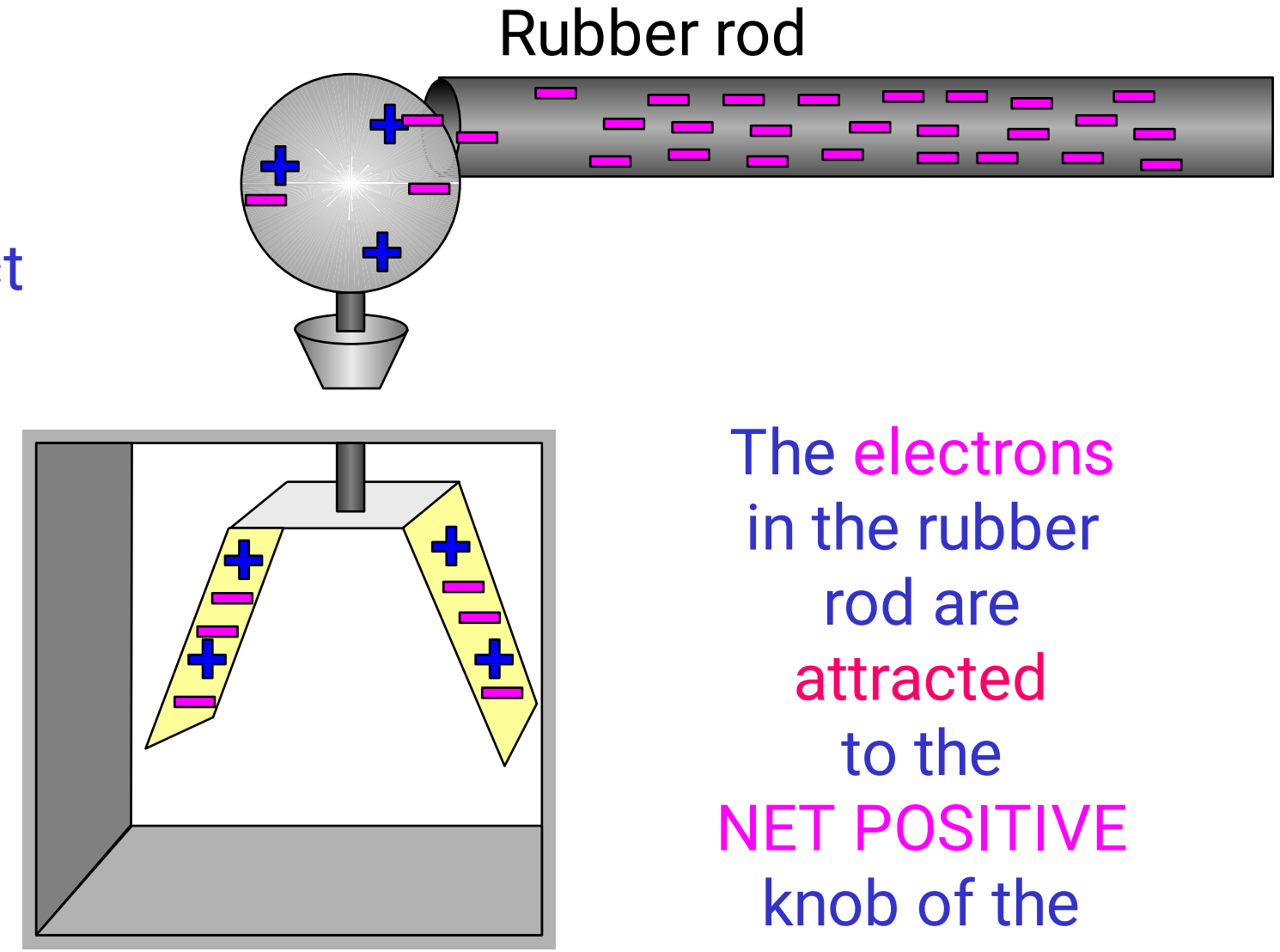


The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

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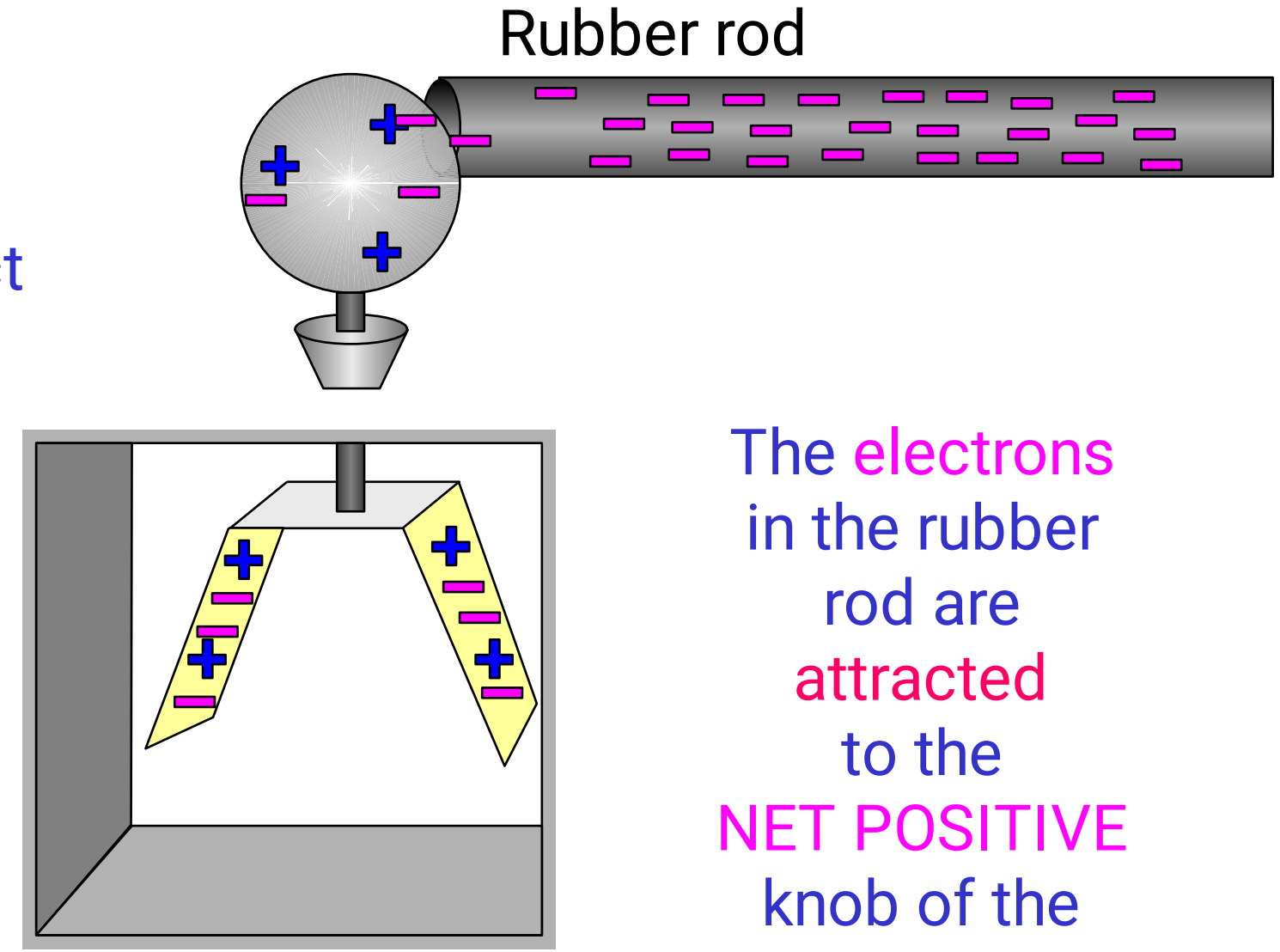
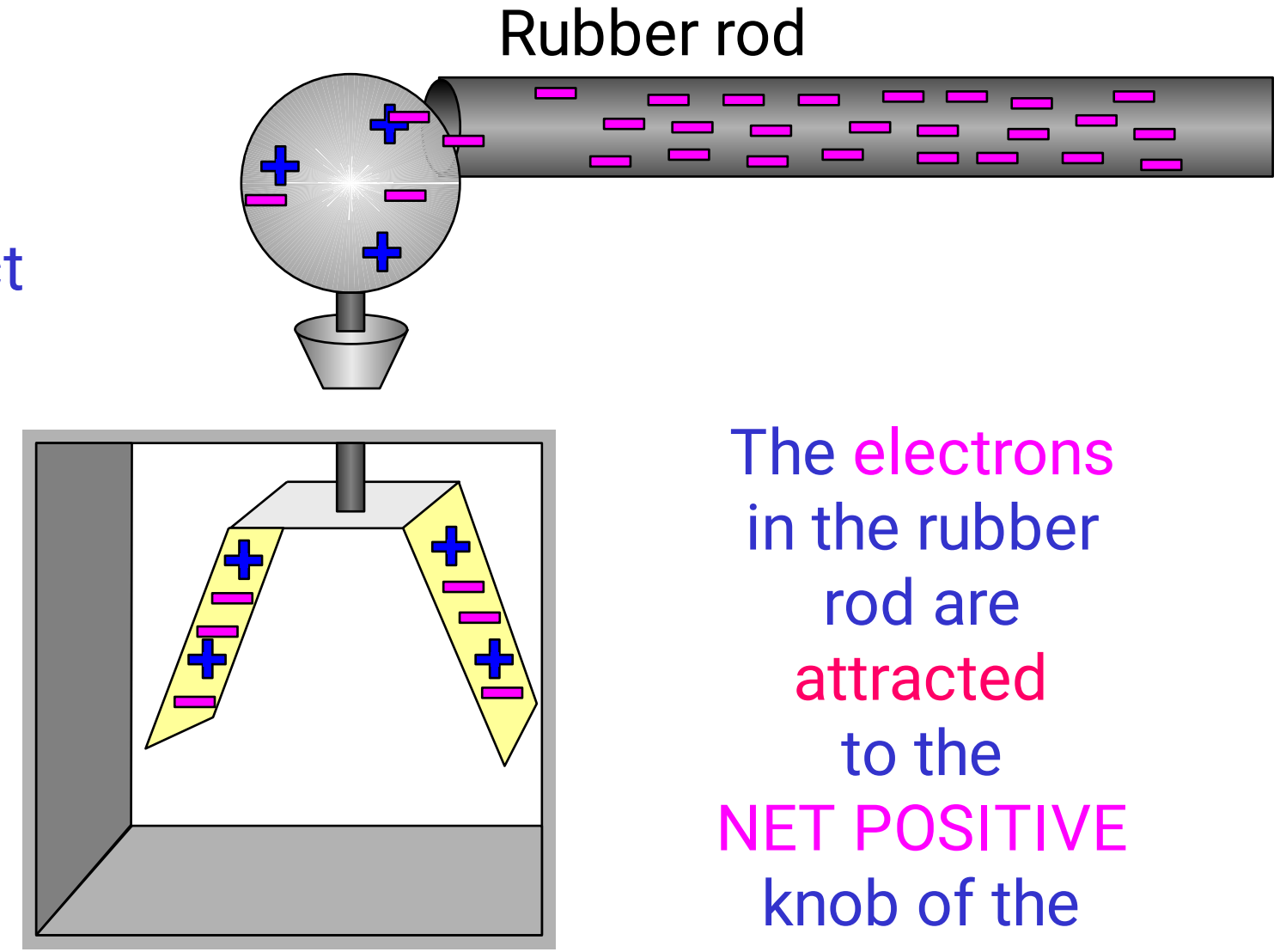


The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



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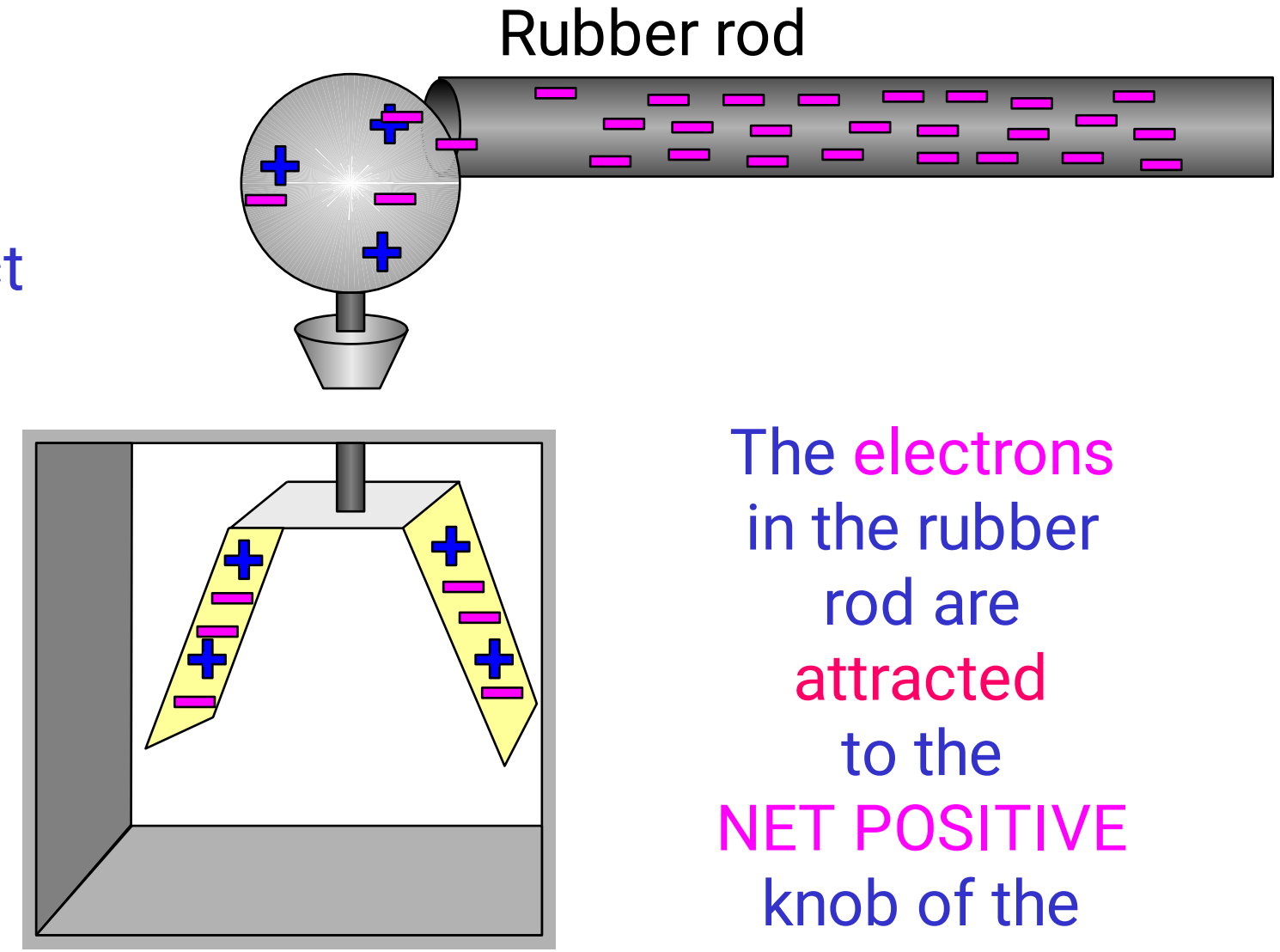
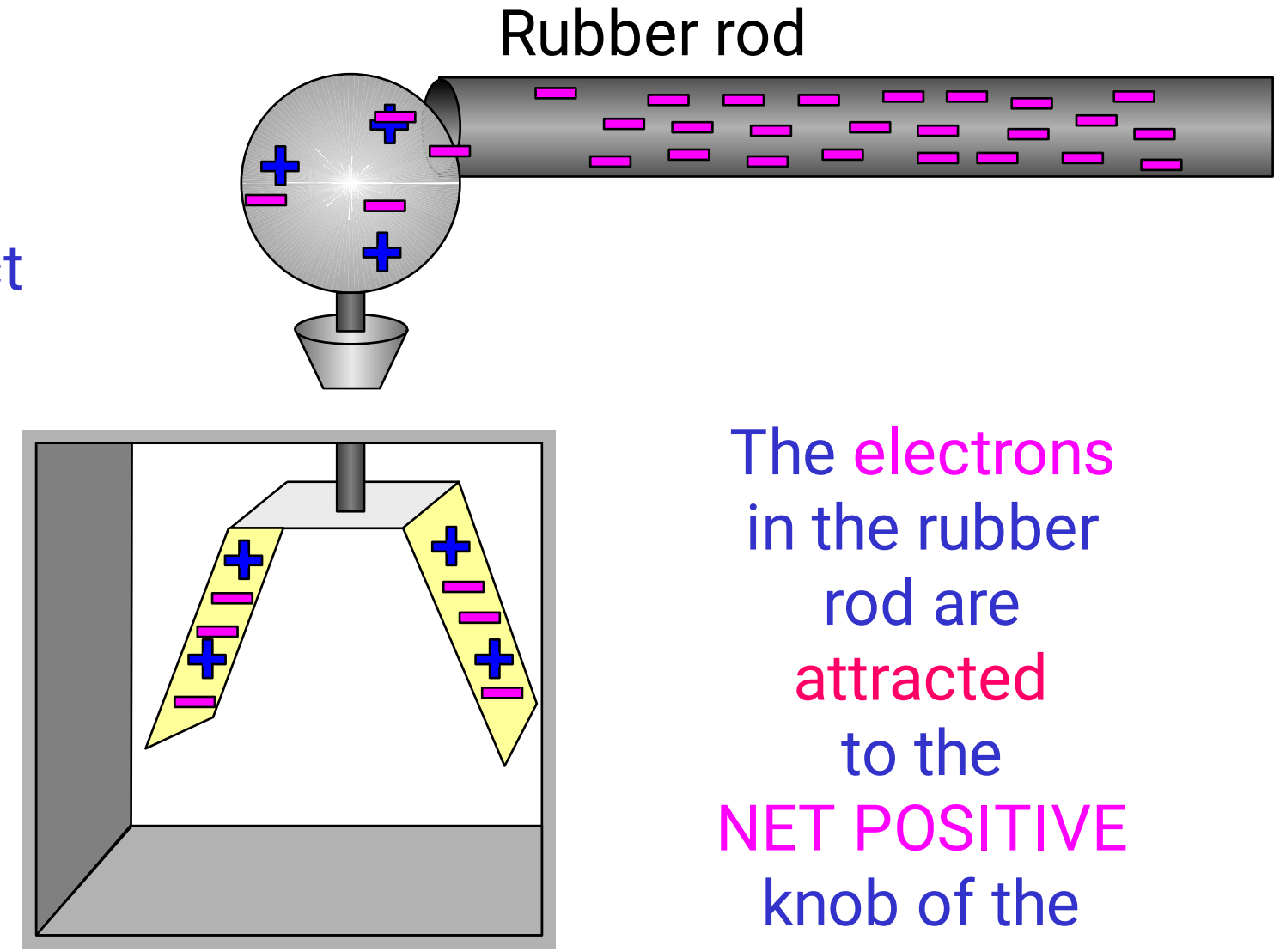


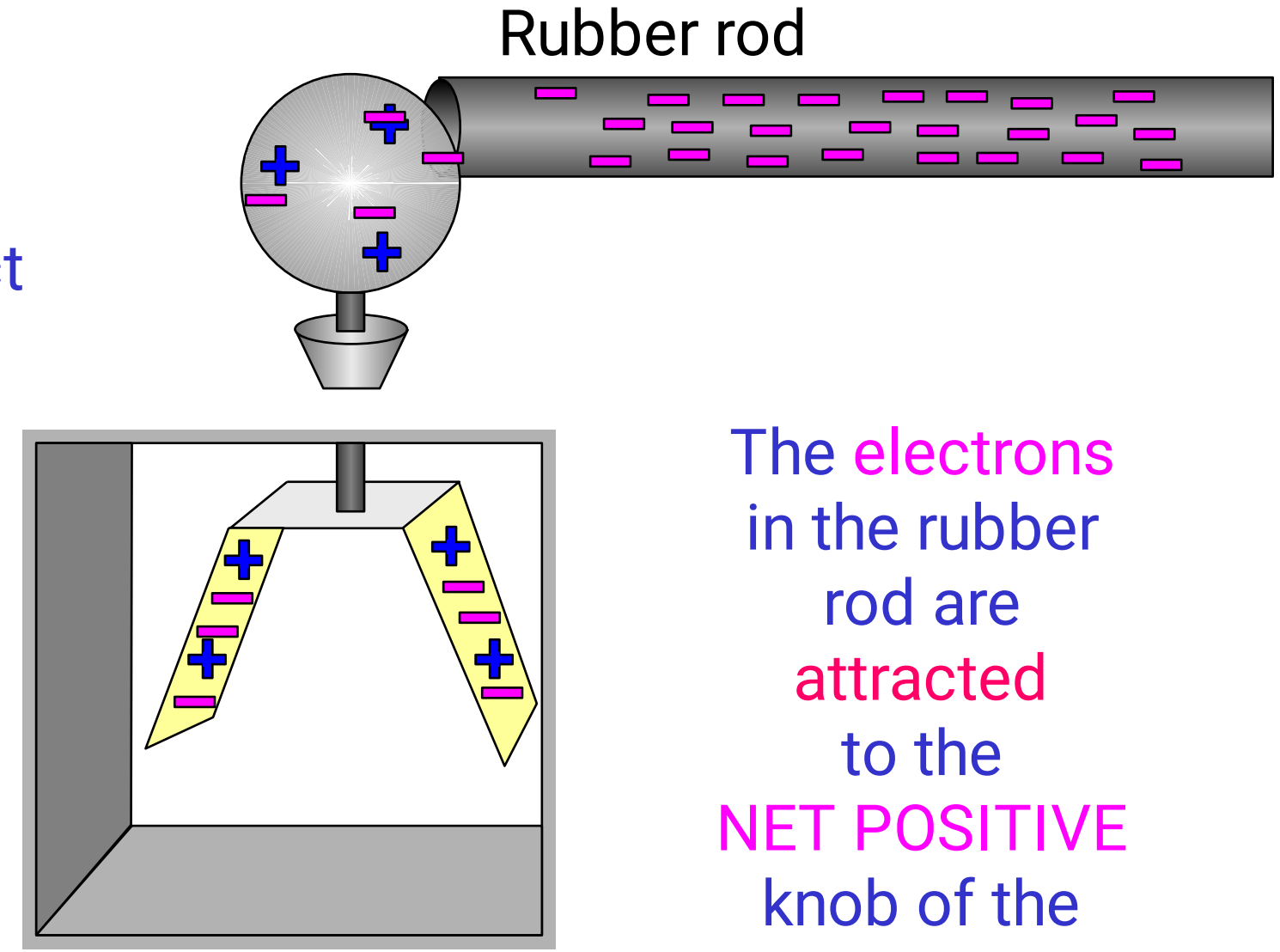
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



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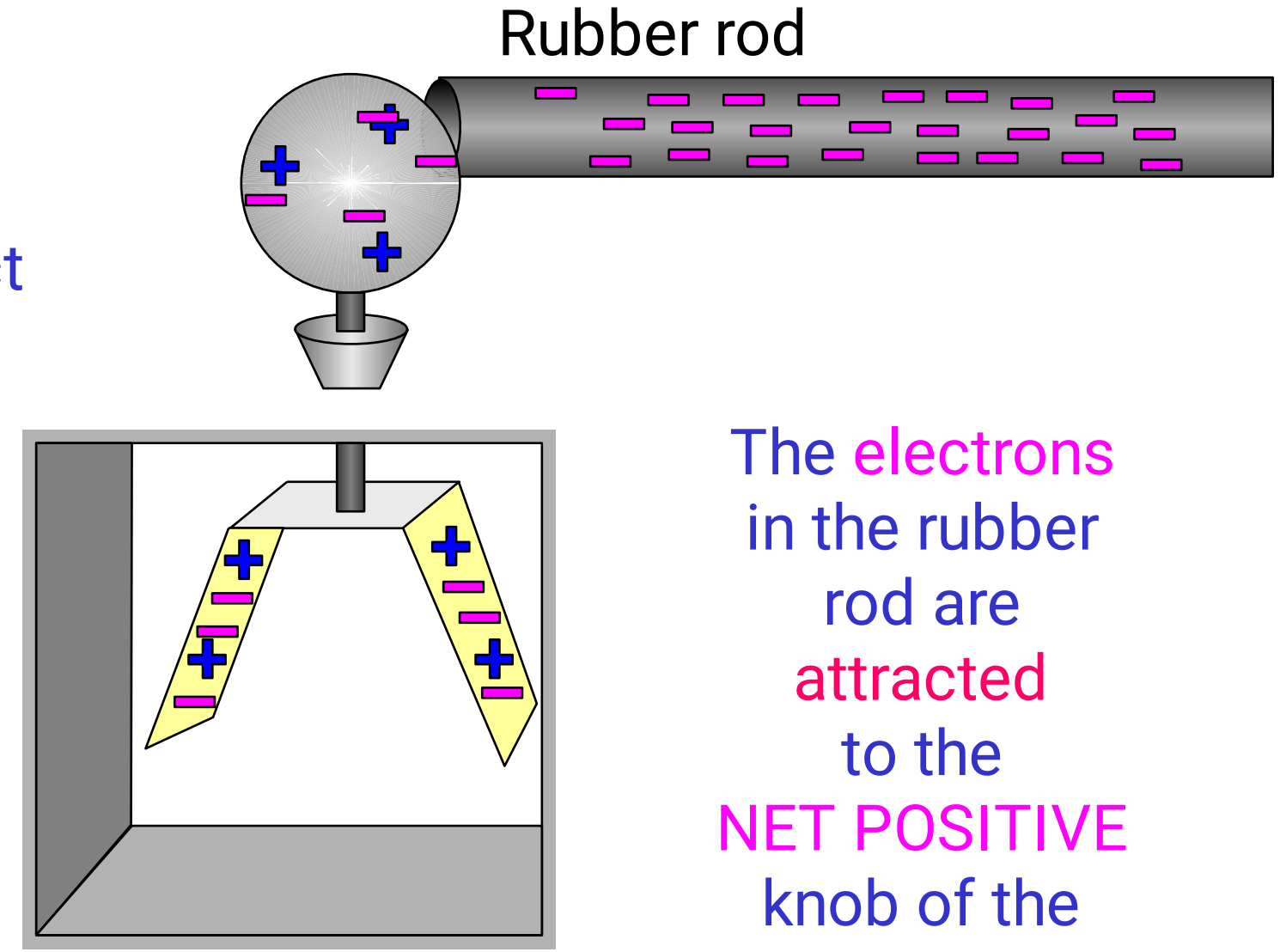
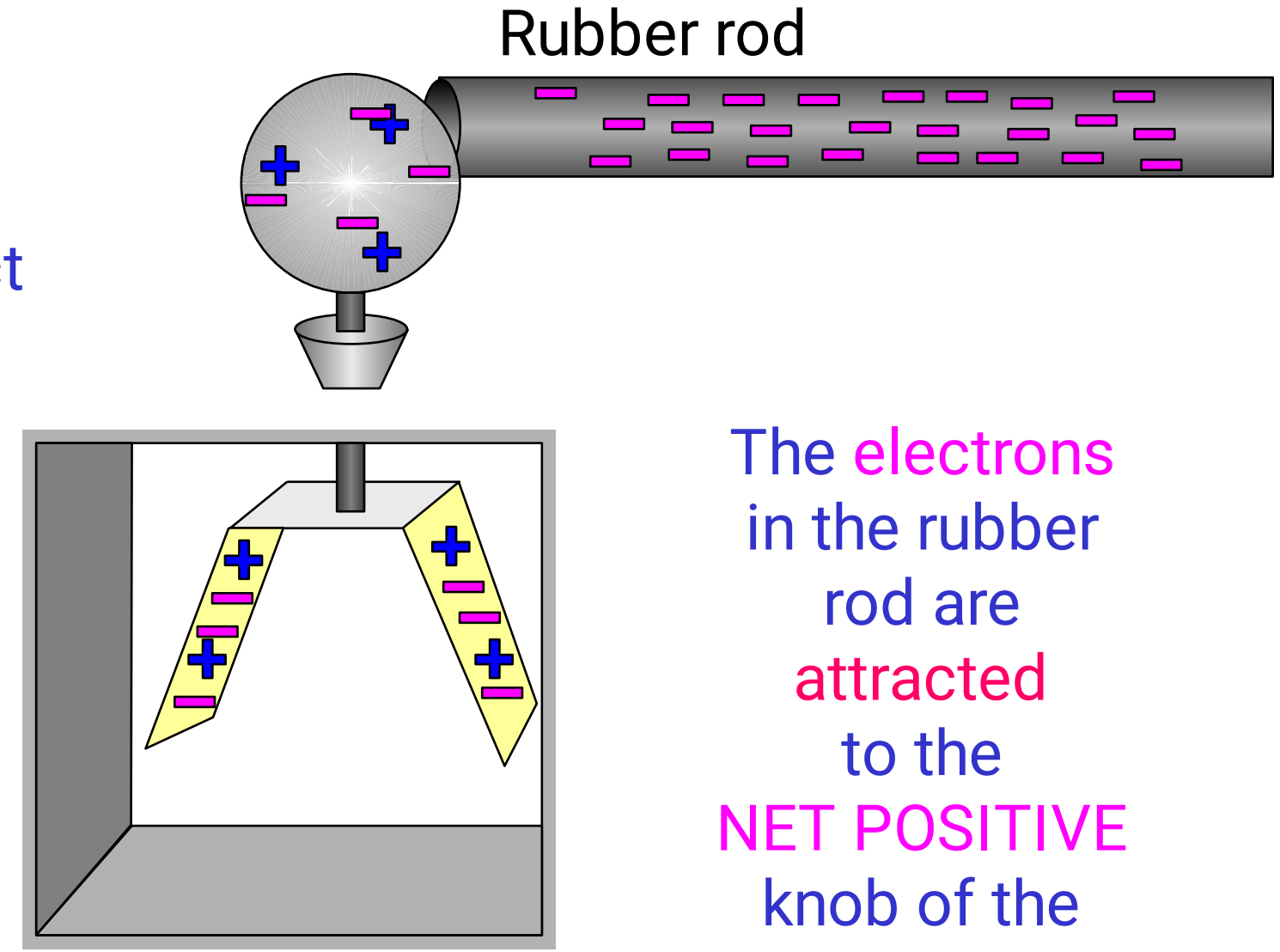
When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



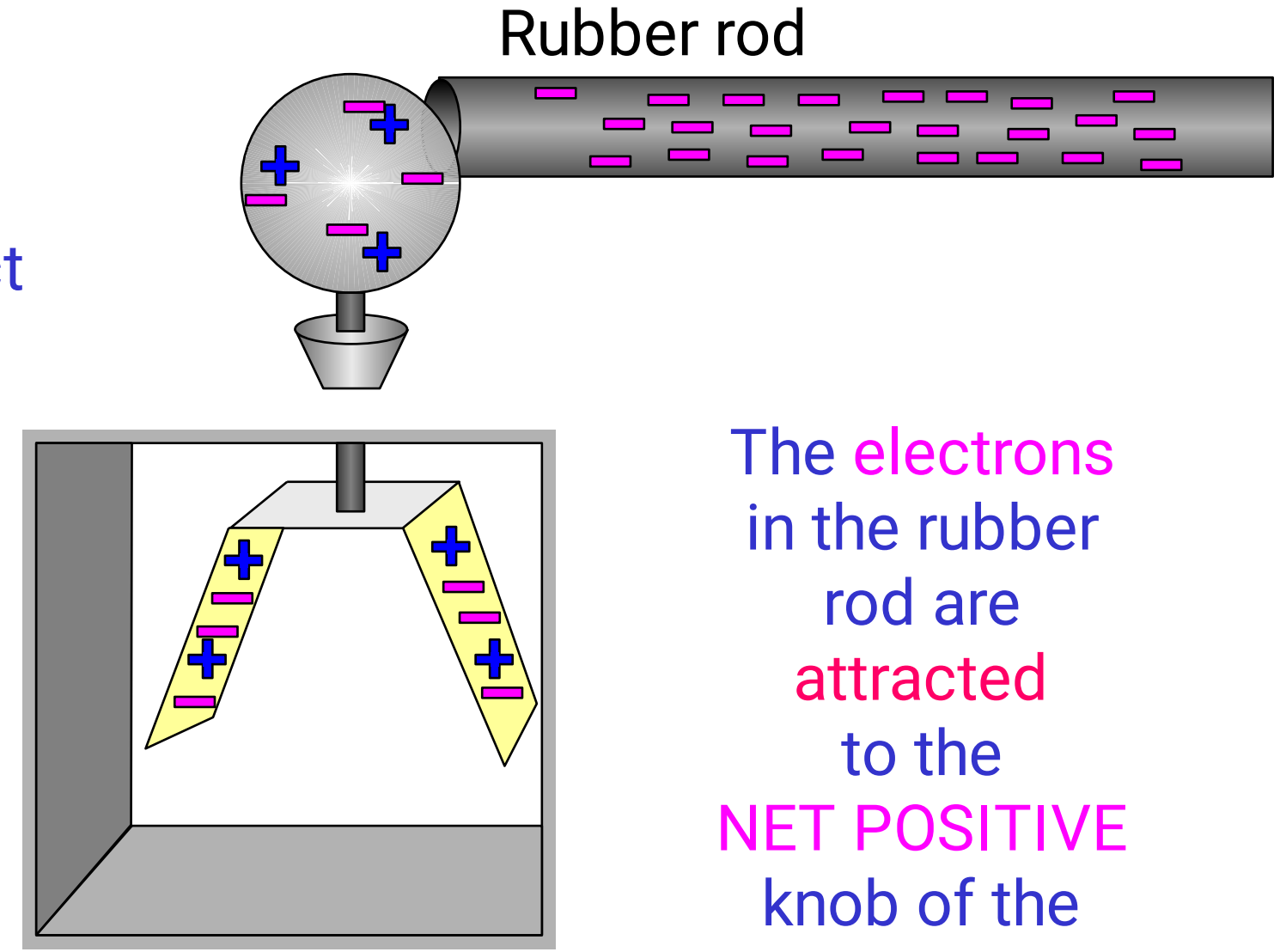
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



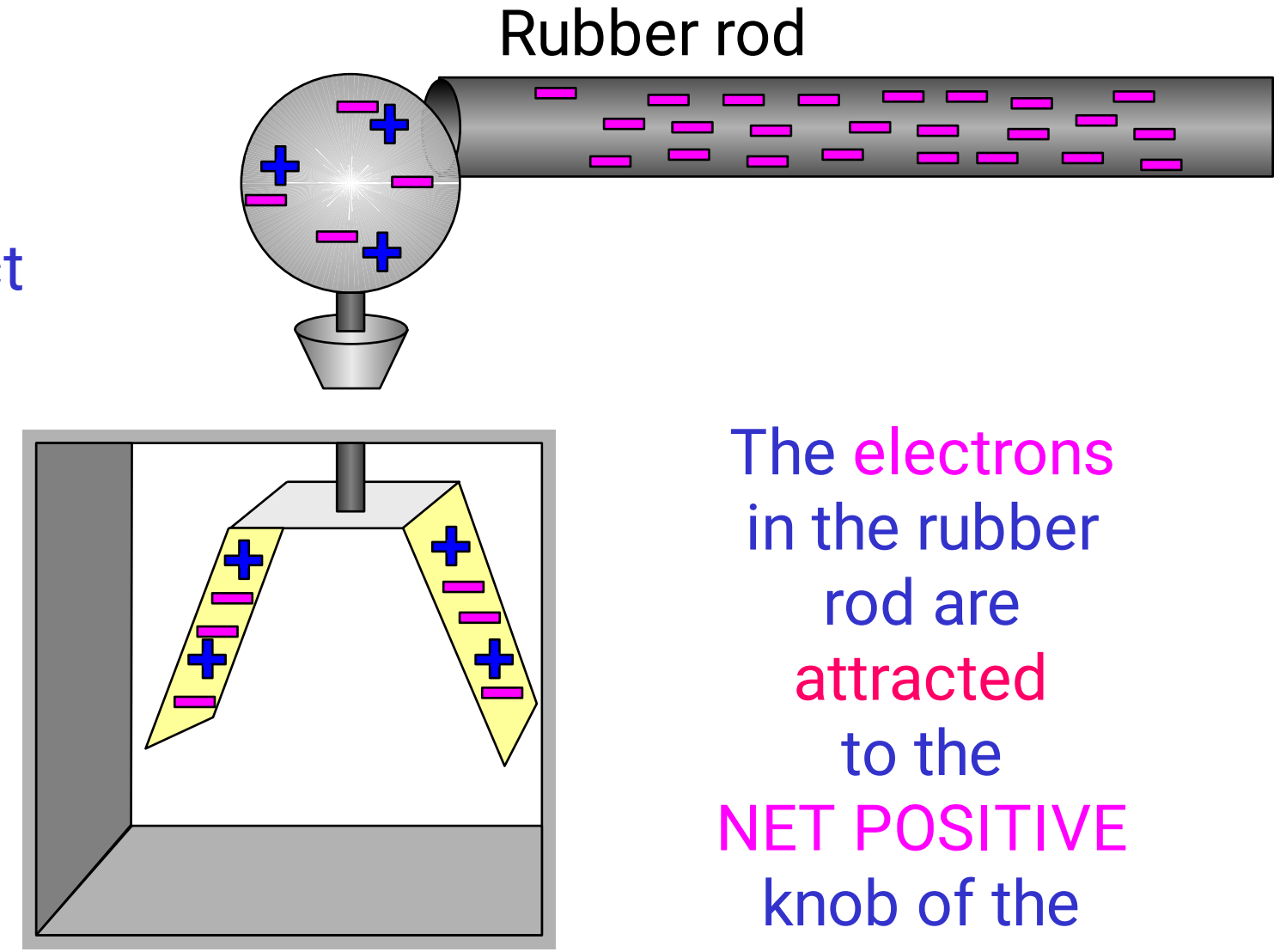
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



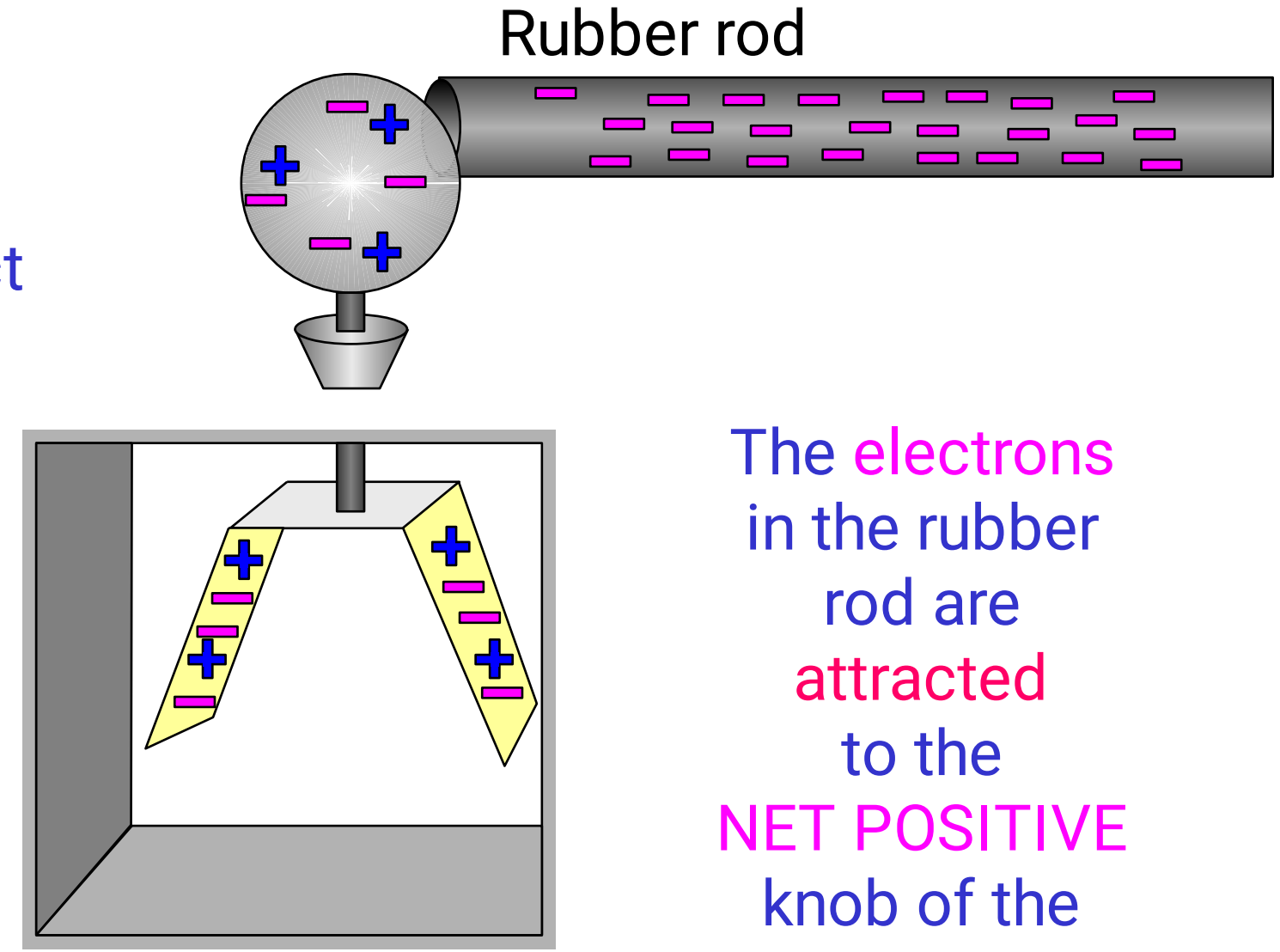
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



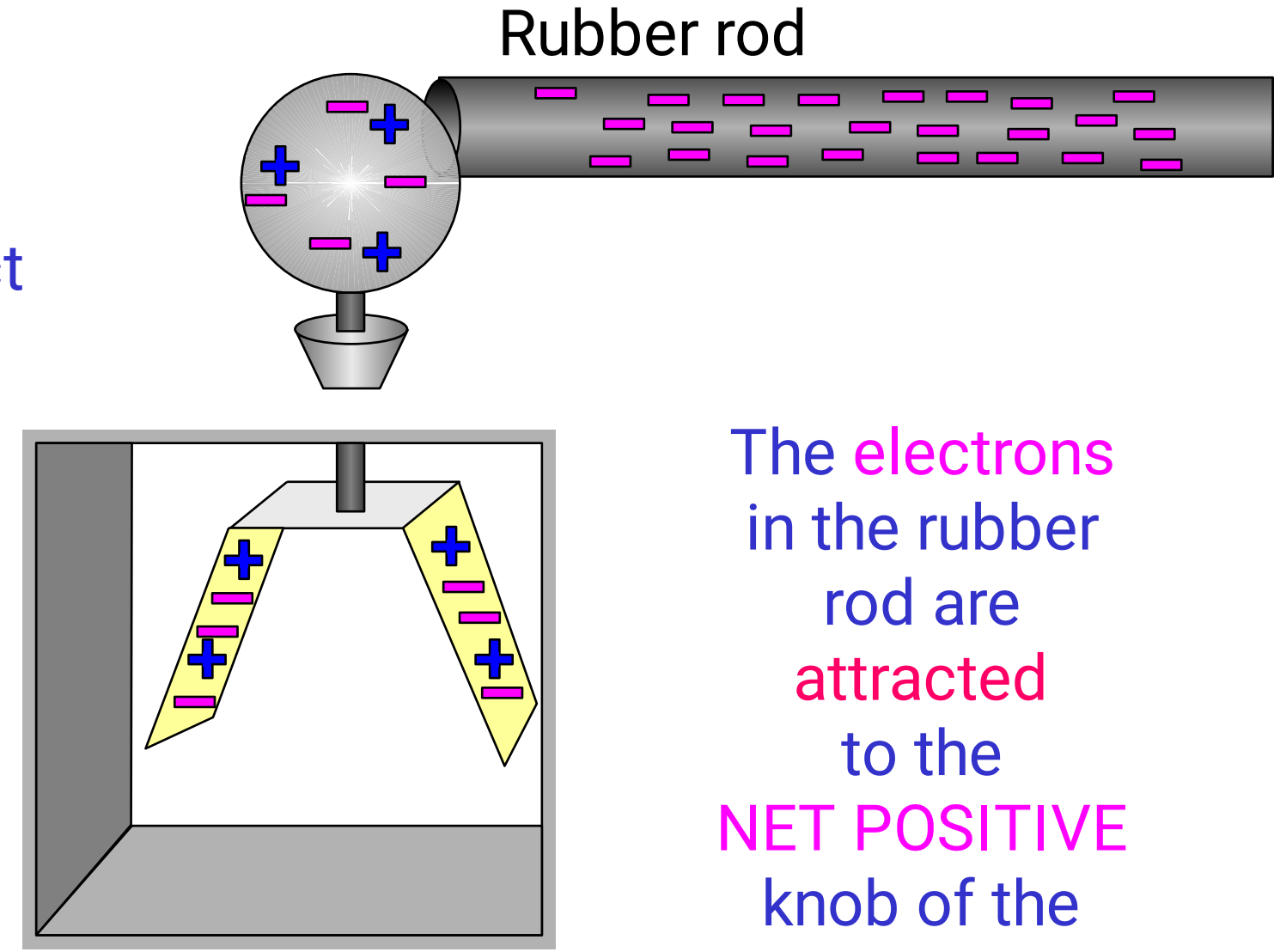
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



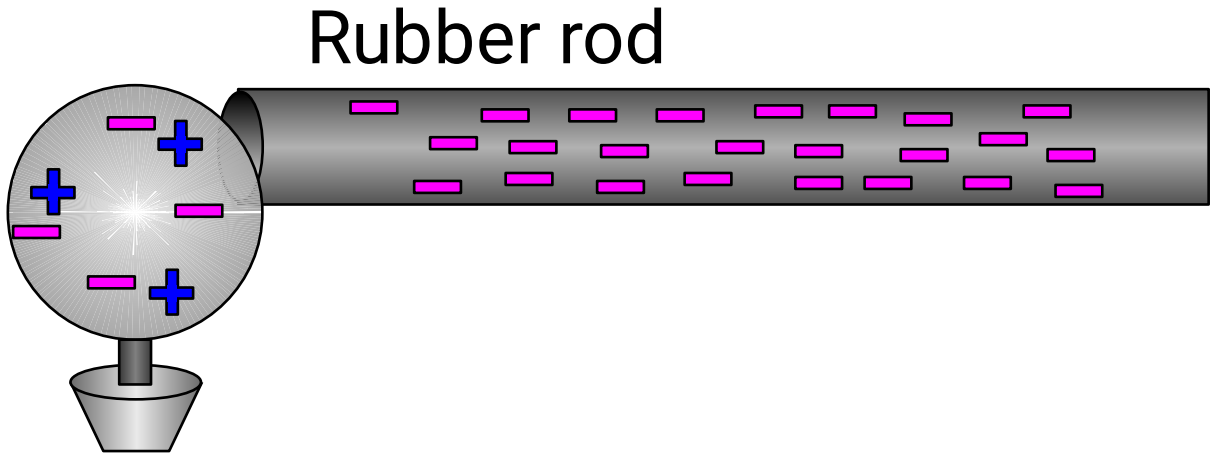
The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

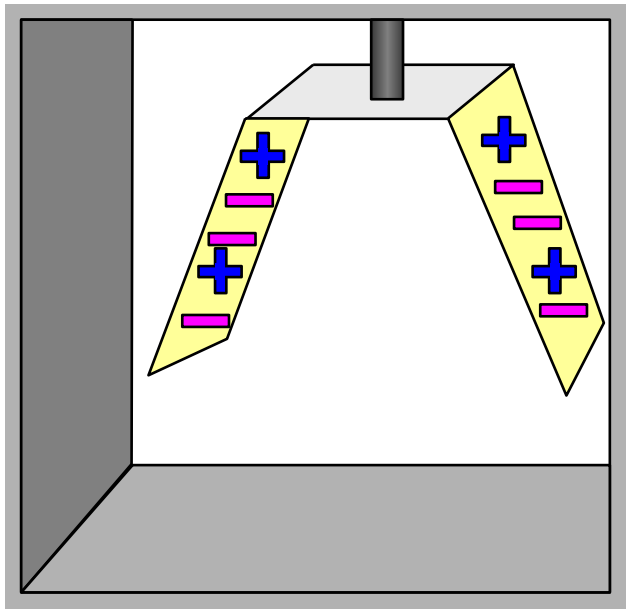
When the rubber rod makes contact with the knob of the electroscope some of the electrons in the rod transfer into the knob.



The electrons in the rubber rod are attracted to the NET POSITIVE knob of the electroscope.

The electroscope has GAINED electrons.

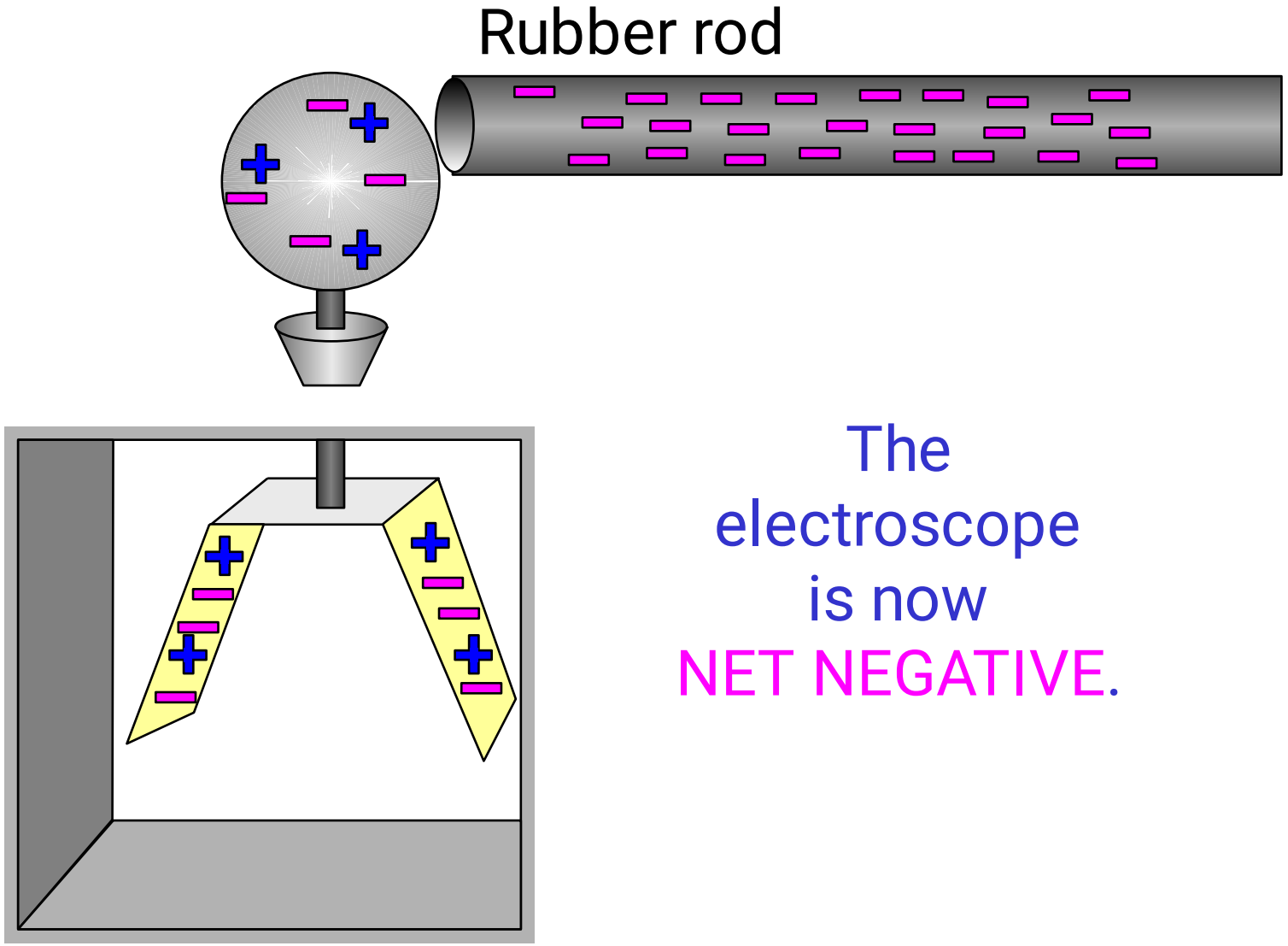




The electroscope is now NET NEGATIVE.

We will now remove the rubber rod

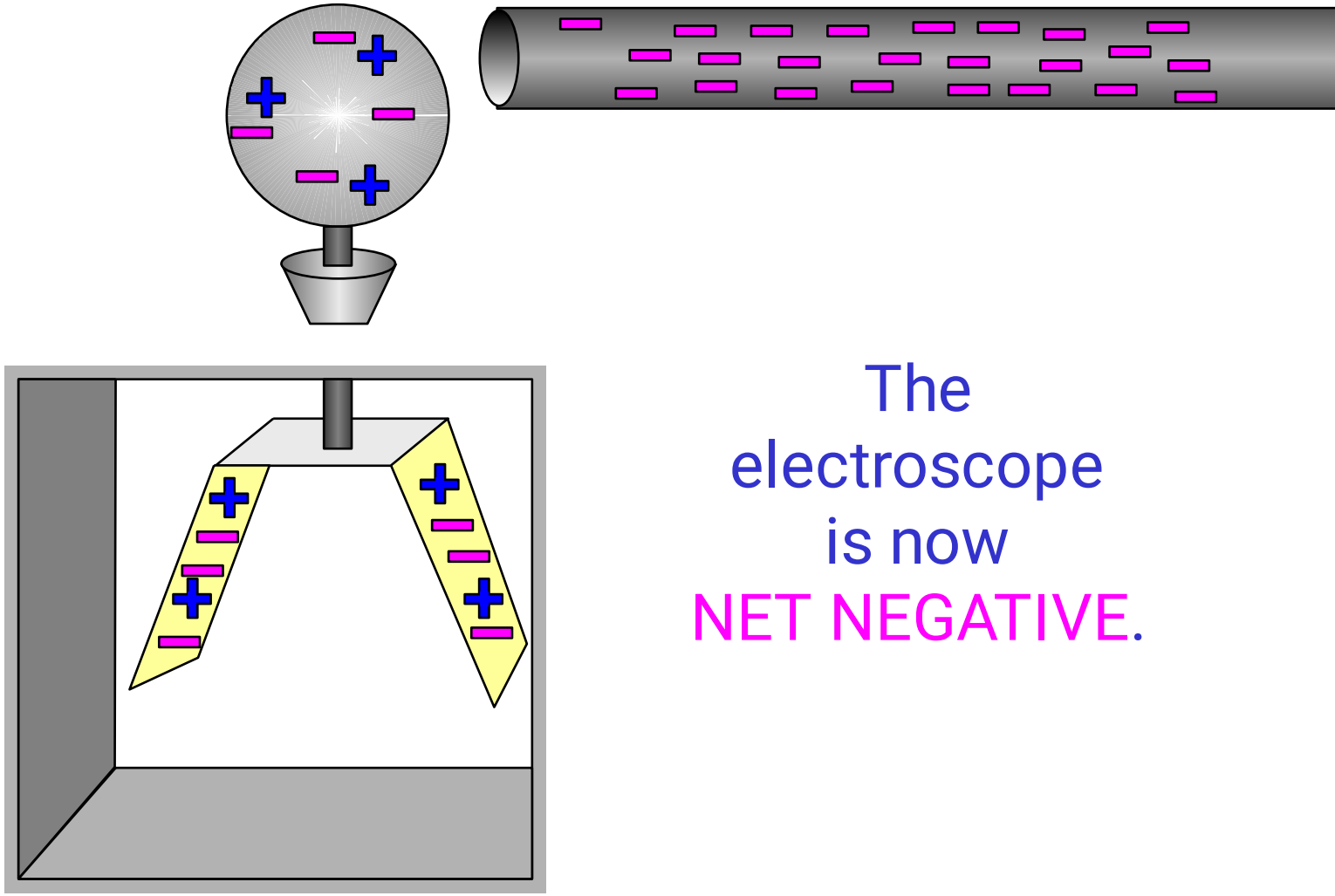
The electroscope has GAINED electrons.



The electroscope is now NET NEGATIVE.

The electroscope has GAINED electrons.

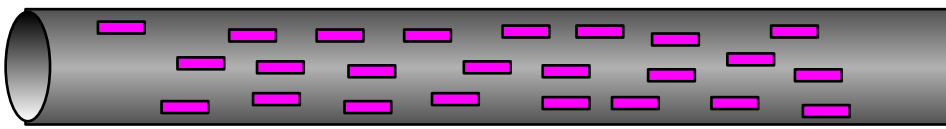
Rubber rod

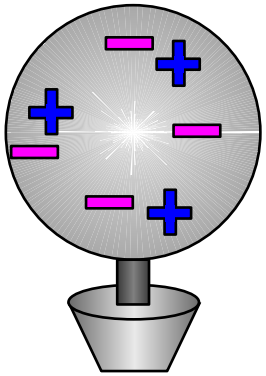


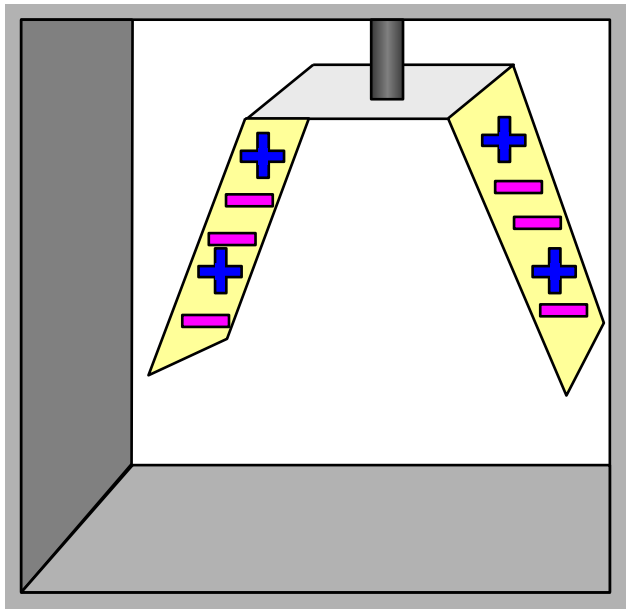
The electroscope is now NET NEGATIVE.

The electroscope has GAINED electrons.

Rubber rod







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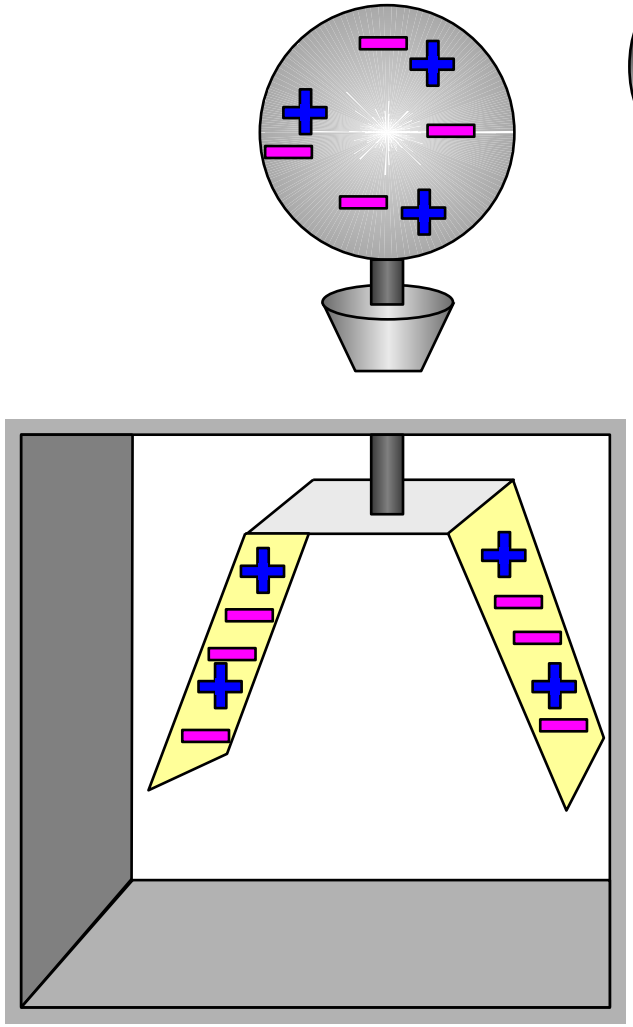
The electroscope has GAINED electrons.



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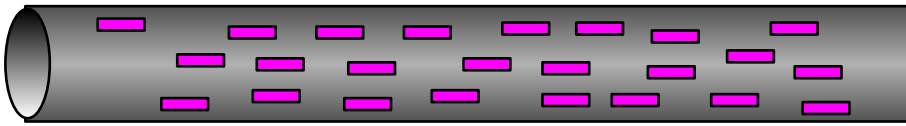

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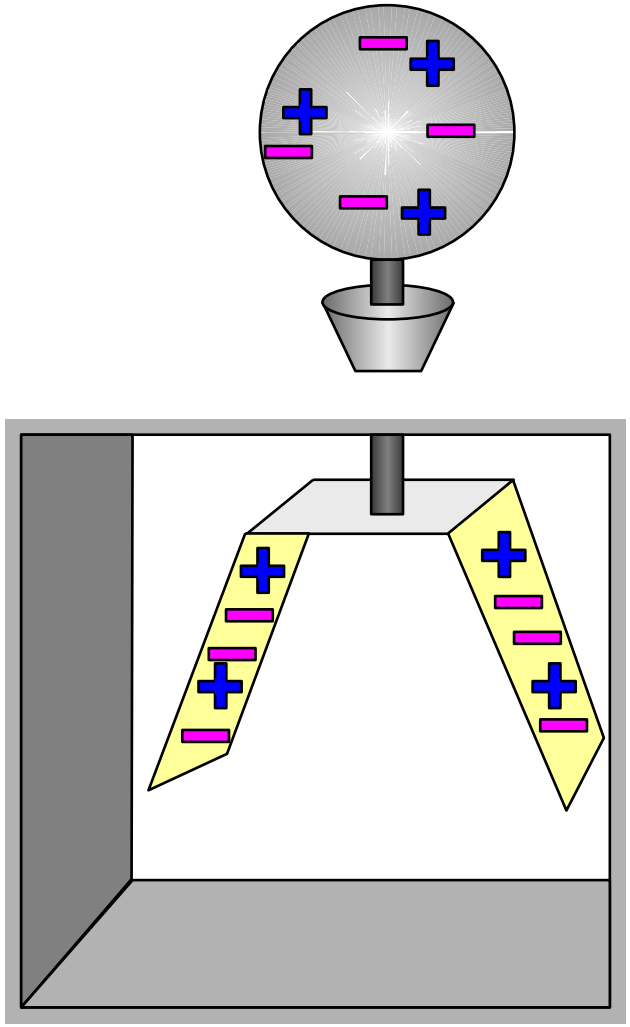
The electroscope has GAINED electrons.



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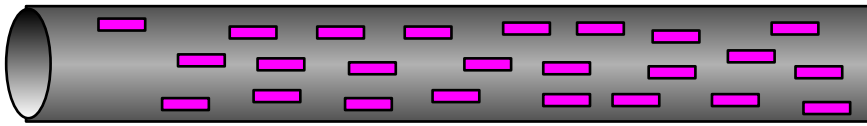

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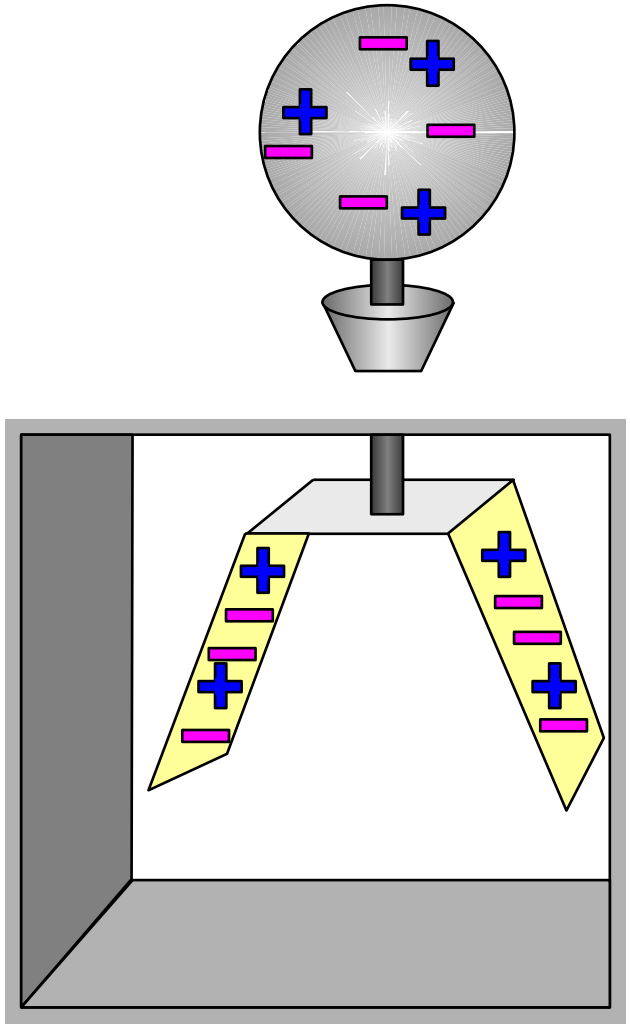

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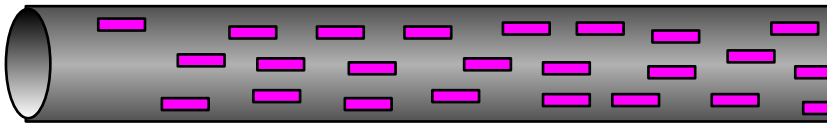

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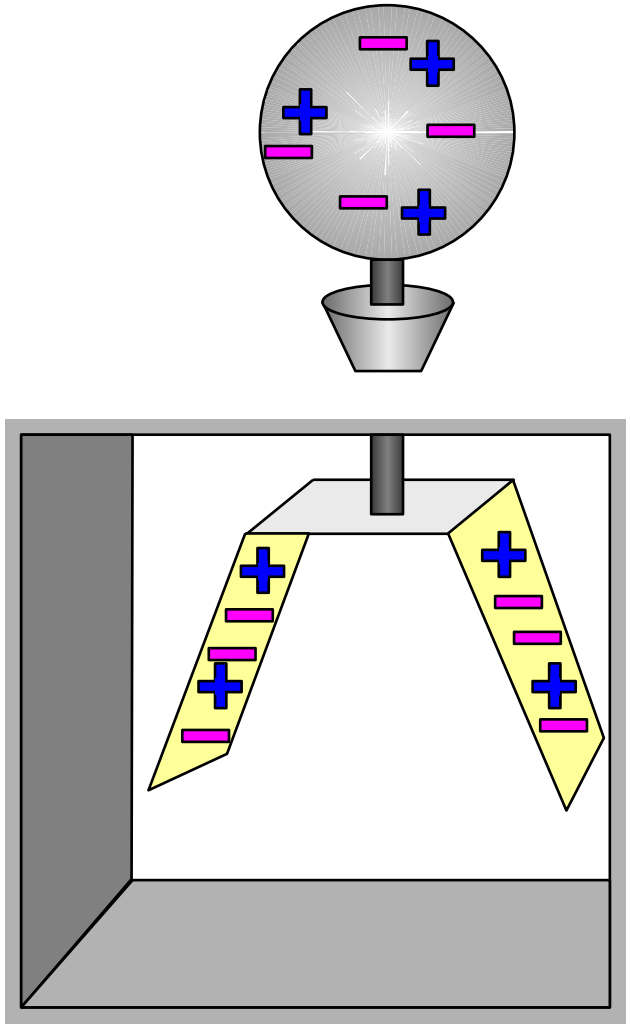

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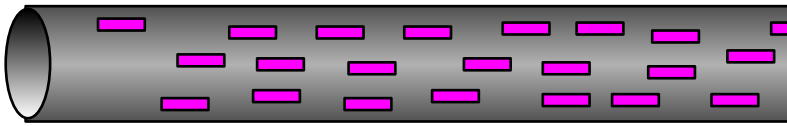

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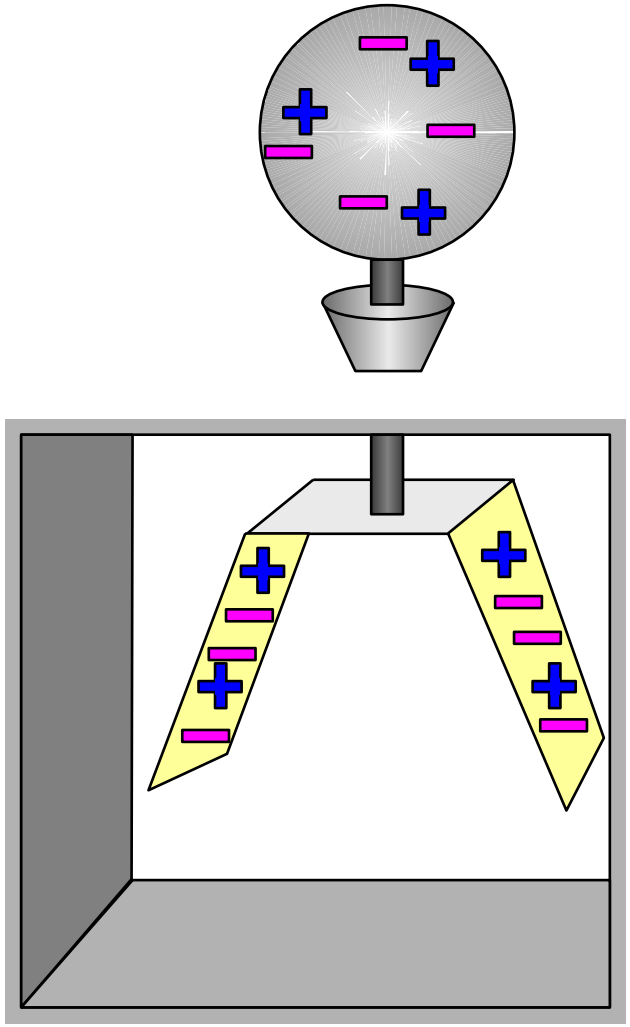

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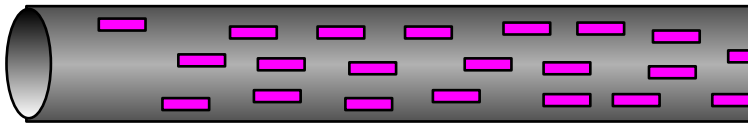

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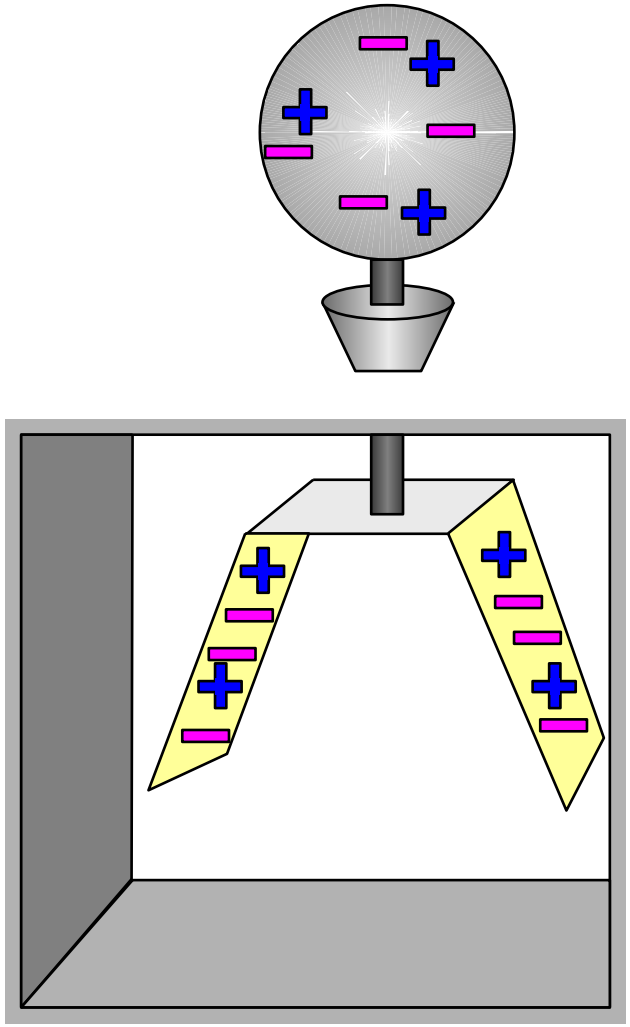

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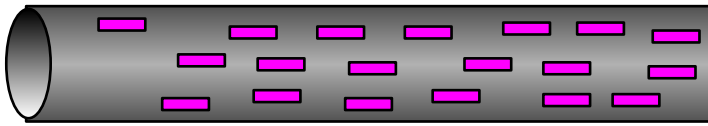

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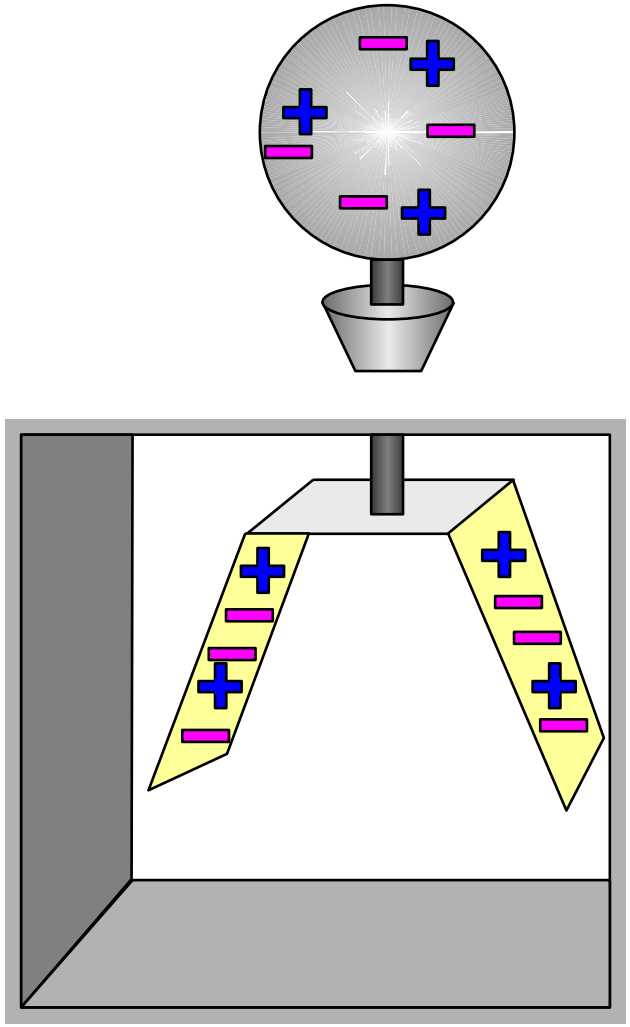

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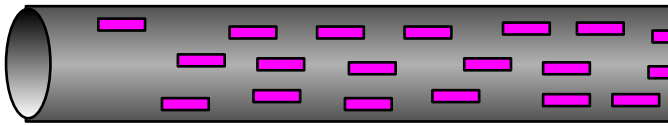

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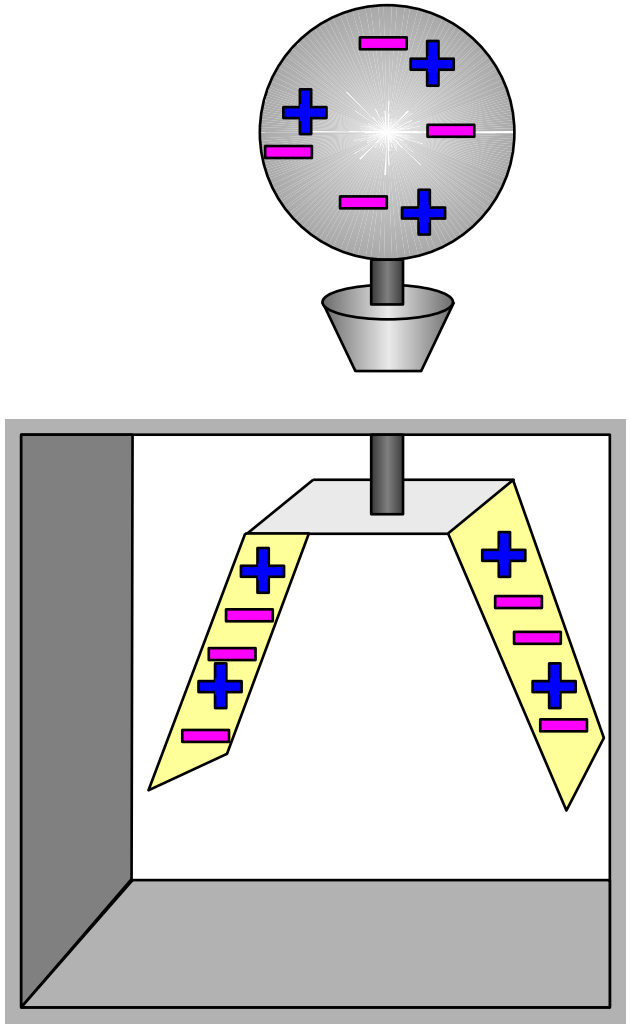

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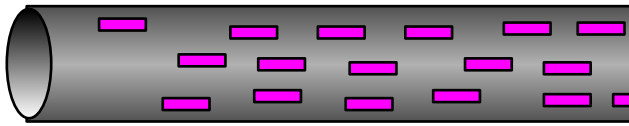

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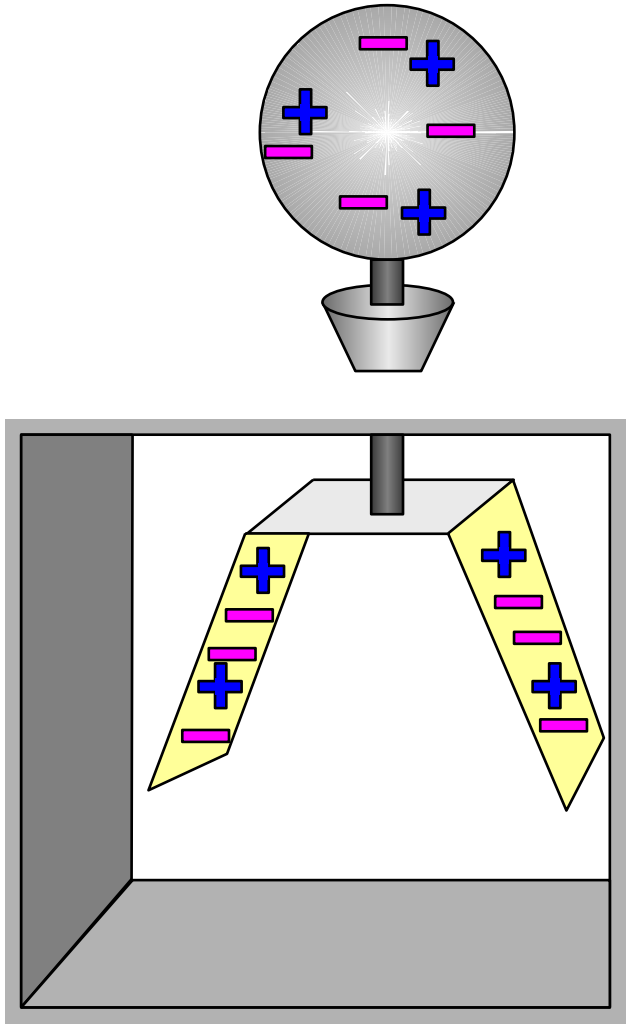

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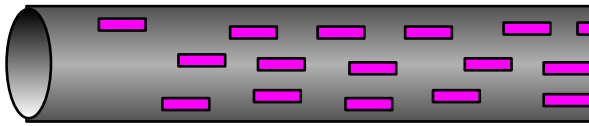

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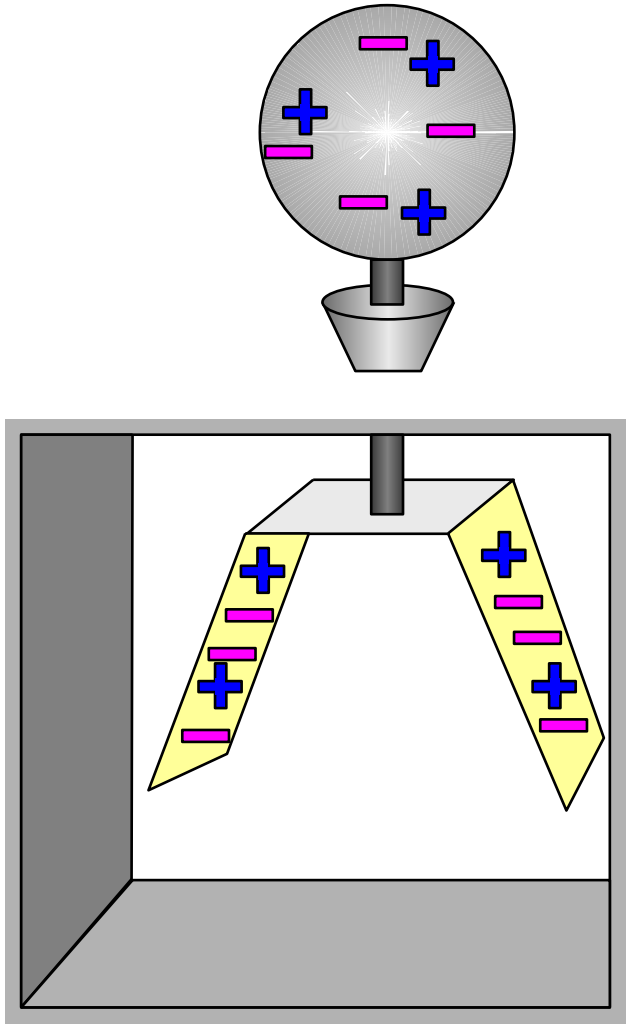

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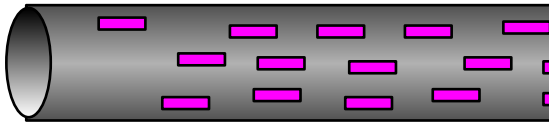

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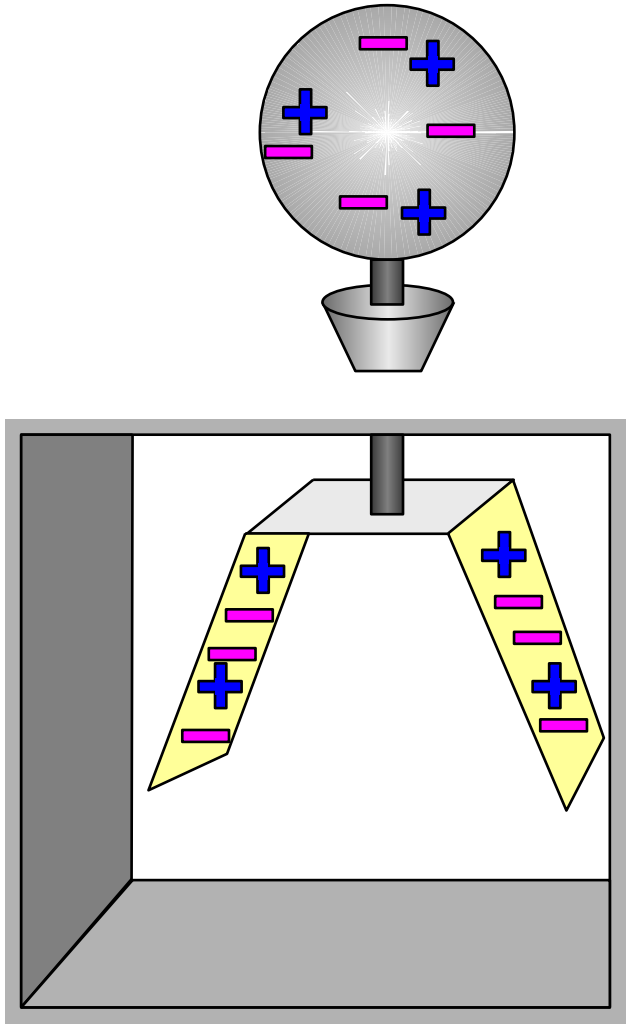

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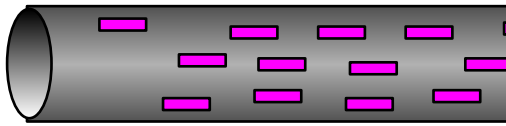

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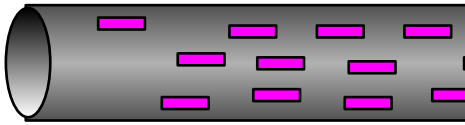

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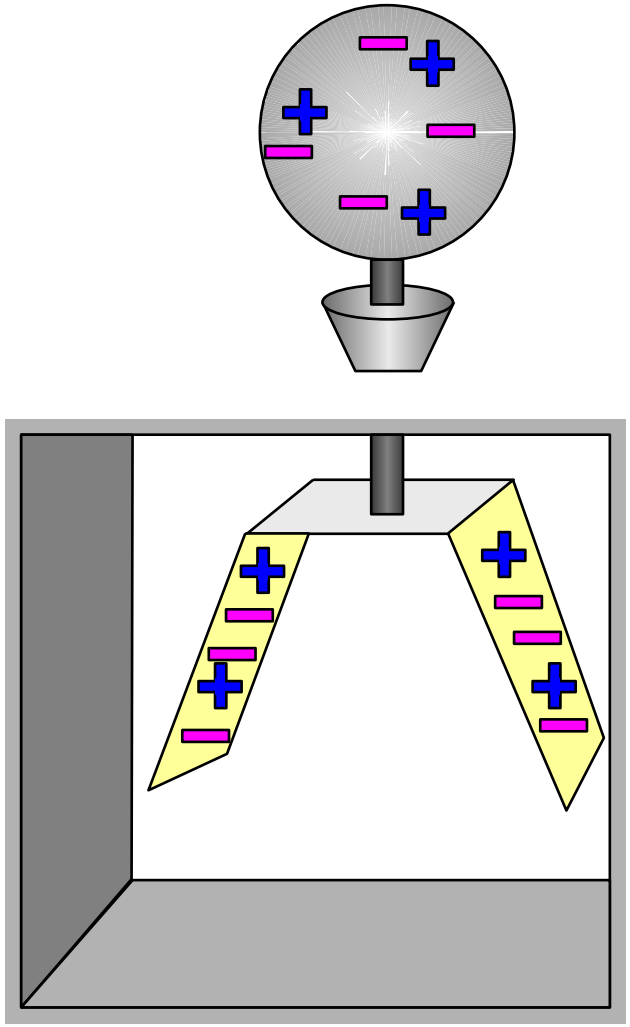

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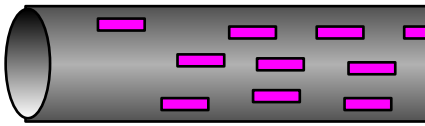

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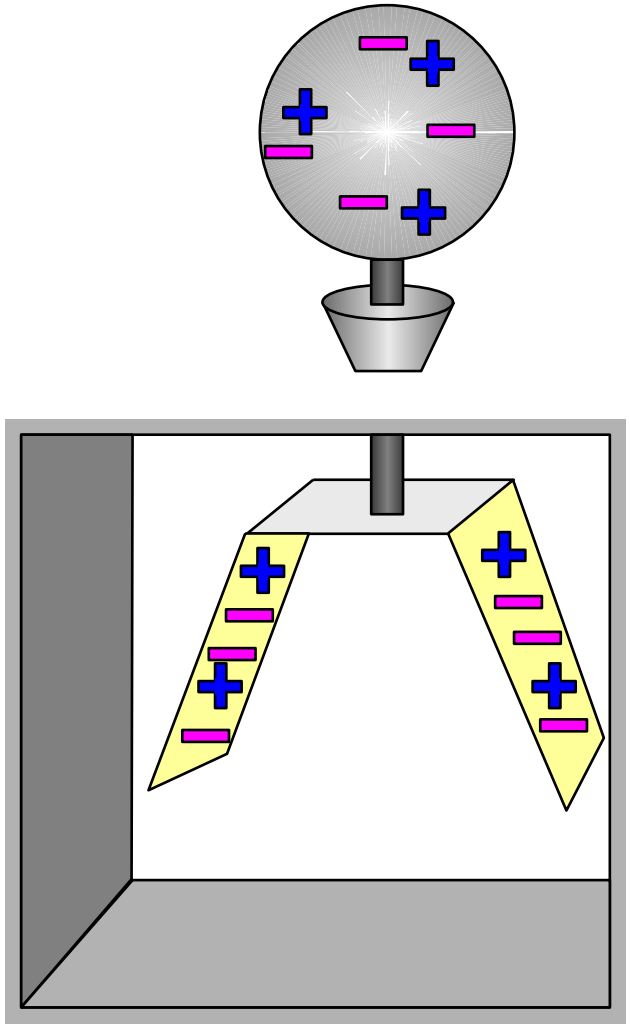

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Rubber ro

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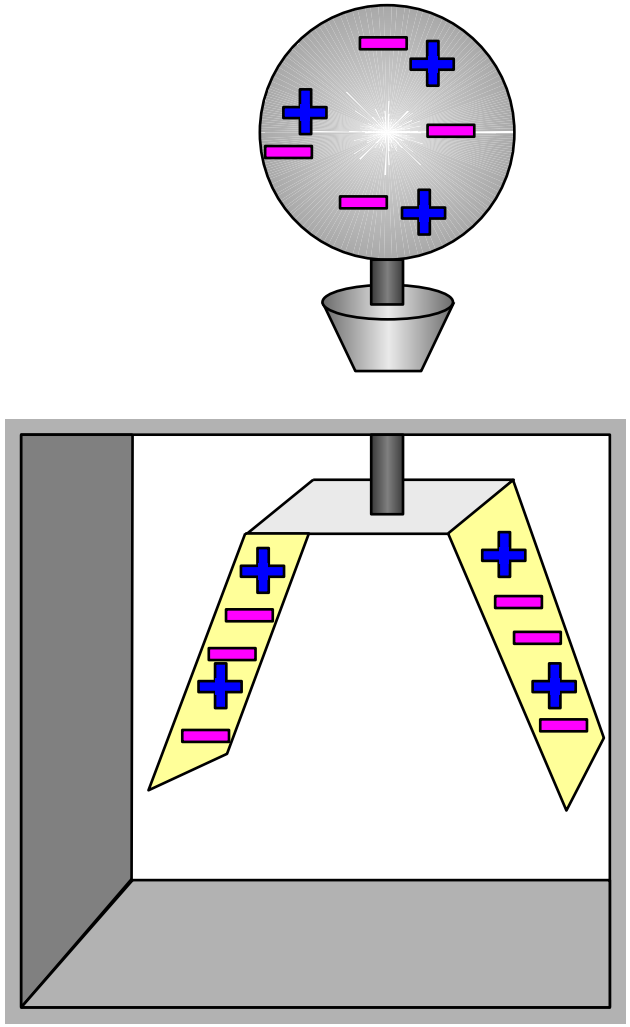

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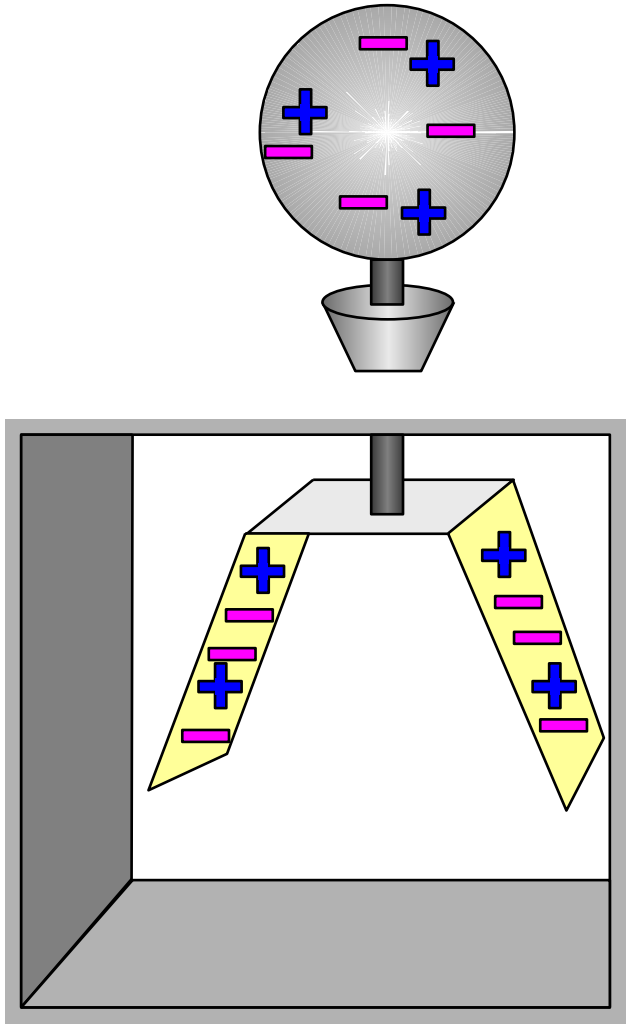

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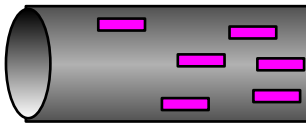
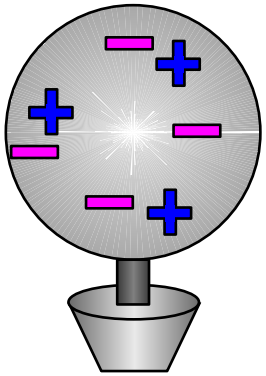
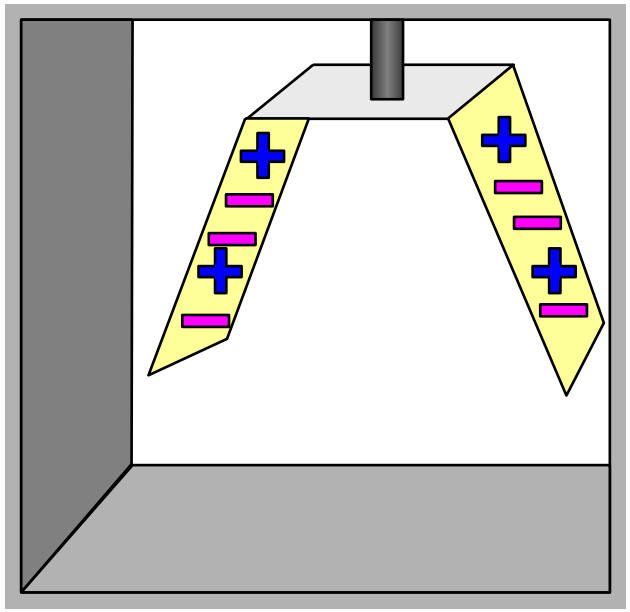


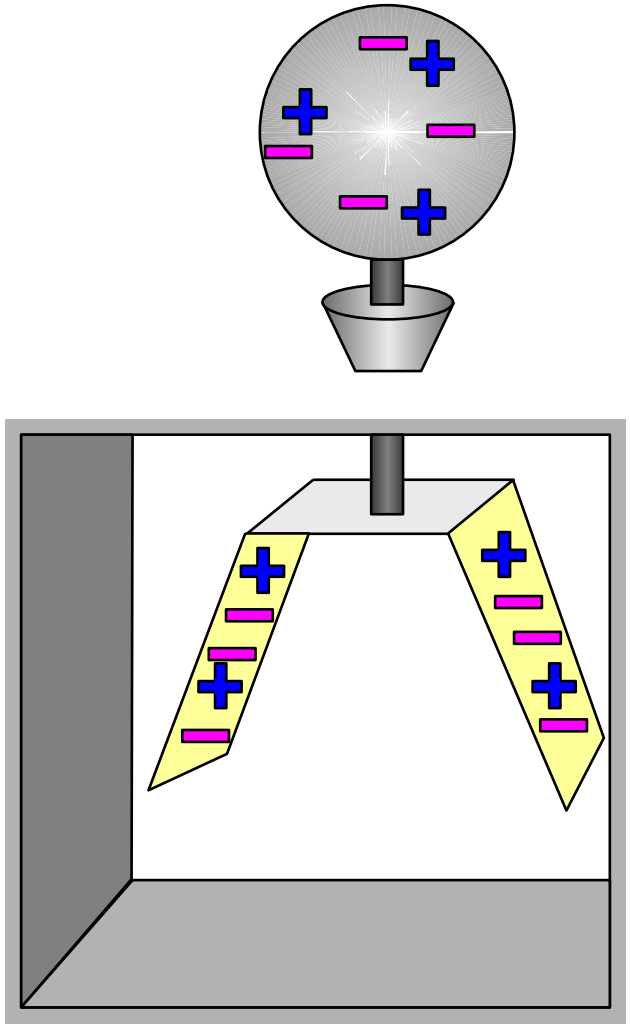
The electroscope has GAINED electrons.



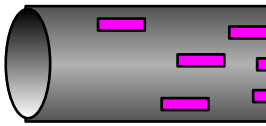


The electroscope is now NET NEGATIVE.

The electroscope has GAINED electrons.

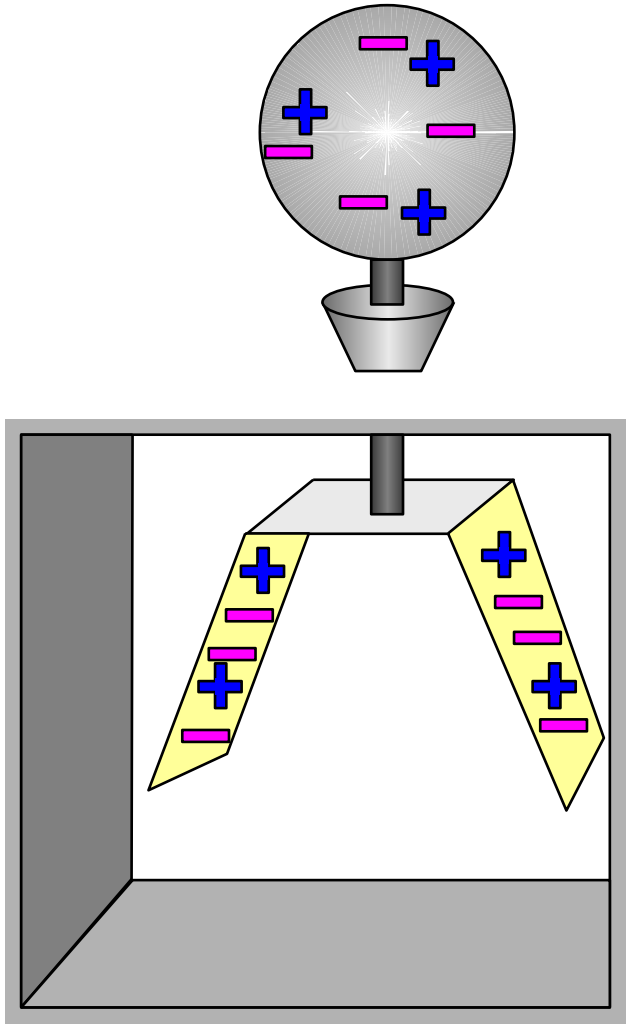


Rubbe



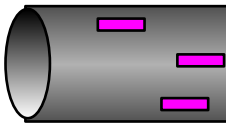
The electroscope is now NET NEGATIVE.

The electroscope has GAINED electrons.



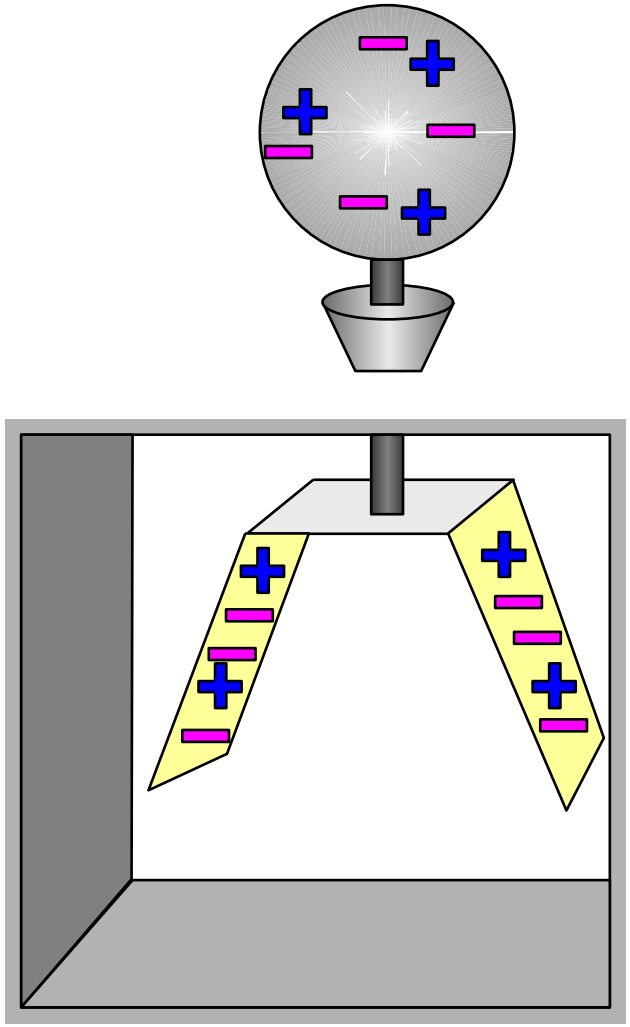
The electroscope is now NET NEGATIVE.

Rubb



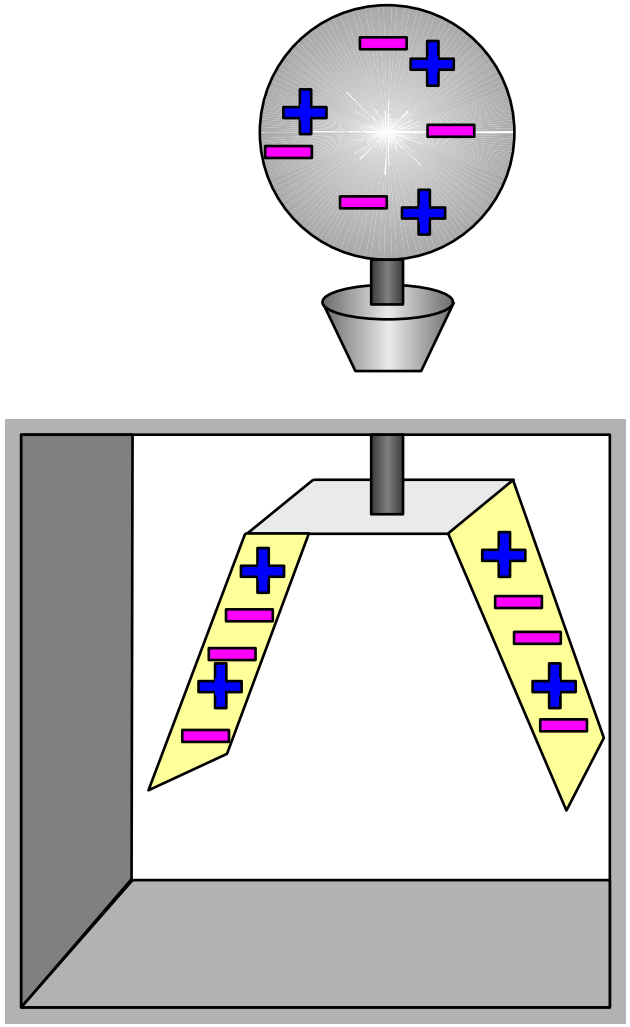
Rub

The electroscope has GAINED electrons.

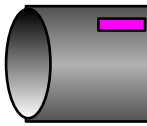


The electroscope is now NET NEGATIVE.

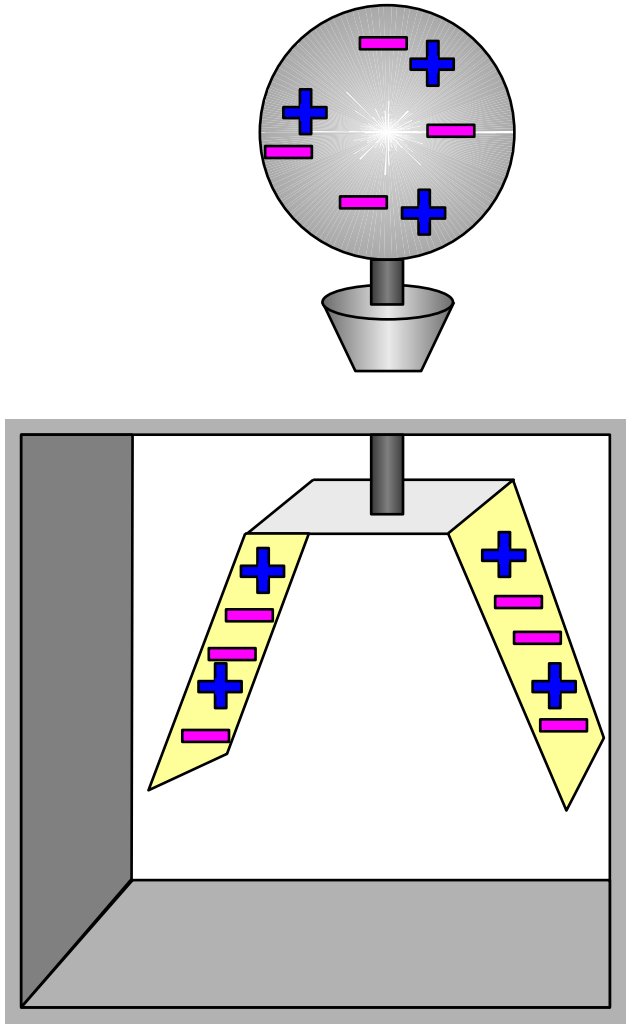
The electroscope has GAINED electrons.



The electroscope is now NET NEGATIVE.



The electroscope has GAINED electrons.



The electroscope is now NET NEGATIVE.