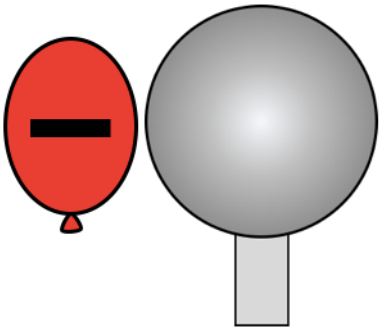
Questions

Activity 1: Separation of Charge

Question Group 1

Question 1

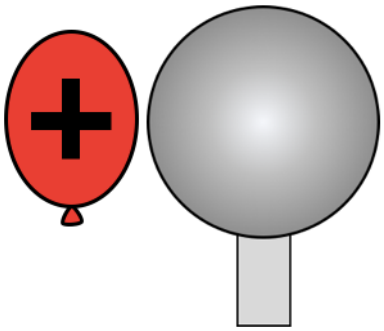
A negatively-charged balloon is brought near to a neutral, conducting sphere. When it is held near, what does the charge distribution on the metal sphere look like?



In this situation, the metal sphere is _____. Select all that apply.
negatively-charged
positively-charged
electrically neutral
polarized

Question 2

A positively-charged balloon is brought near to a neutral, conducting sphere. When it is held near, what does the charge distribution on the metal sphere look like?

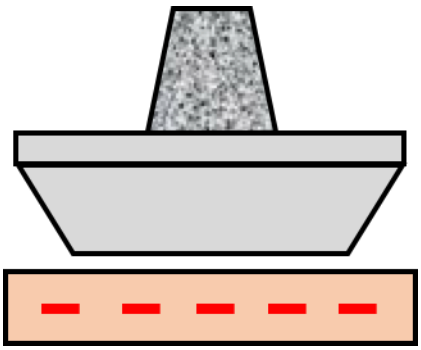


In this situation, the metal sphere is _____. Select all that apply.
negatively-charged
positively-charged
electrically neutral
polarized

Question Group 2

Question 3

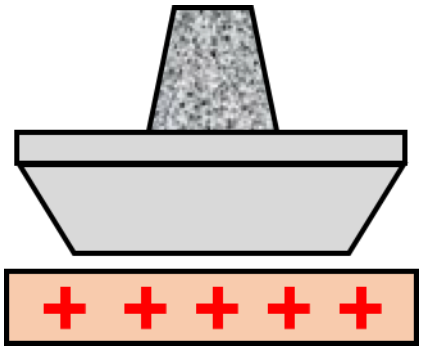
A neutral, aluminum pie plate is brought near to a negatively-charged foam board. When it is held near, what does the charge distribution on the aluminum pie plate look like?



In this situation, the aluminum pie plate is _____. Select all that apply.
negatively-charged
positively-charged
electrically neutral
polarized

Question 4

A neutral, aluminum pie plate is brought near to a positively-charged foam board. When it is held near, what does the charge distribution on the aluminum pie plate look like?

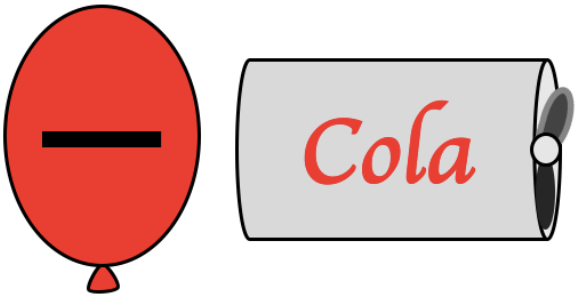


In this situation, the aluminum pie plate is _____. Select all that apply.
negatively-charged
positively-charged
electrically neutral
polarized

Question Group 3

Question 5

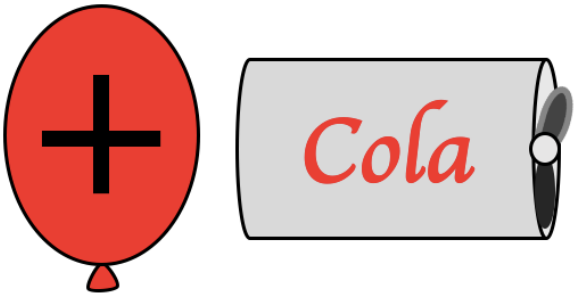
A negatively-charged balloon is brought near to a neutral, metal pop can. When it is held near, what does the charge distribution on the metal can look like?



In this situation, the metal pop can is _____.
Select all that apply.
negatively-charged
positively-charged
electrically neutral
polarized

Question 6

A positively-charged balloon is brought near to a neutral, metal pop can. When it is held near, what does the charge distribution on the metal can look like?



In this situation, the metal pop can is _____.
Select all that apply.
negatively-charged
positively-charged
electrically neutral
polarized

Question Group 4

Question 7

A negatively-charged balloon is brought near to a neutral, metal bar. When it is held near, what does the charge distribution on the metal bar look like?

In this situation, the metal bar is _____. Select all that apply.

negatively-charged
positively-charged
electrically neutral
polarized

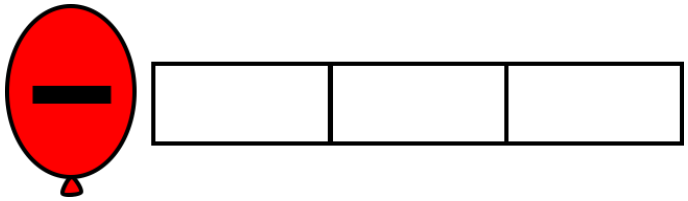
Question 8

A positively-charged balloon is brought near to a neutral, metal bar. When it is held near, what does the charge distribution on the metal bar look like?

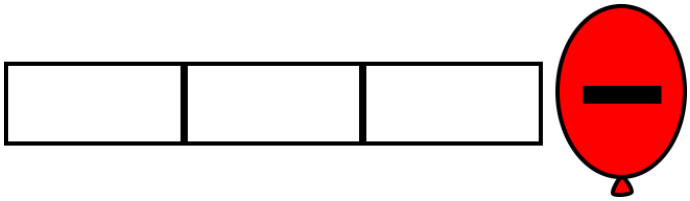
In this situation, the metal bar is _____. Select all that apply.

negatively-charged
positively-charged
electrically neutral
polarized

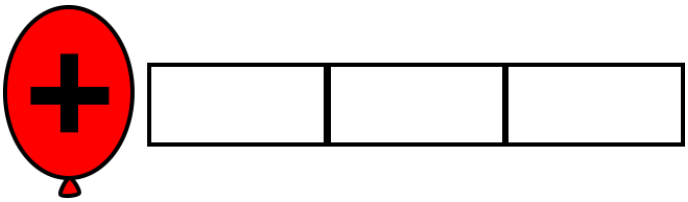
Activity 2: Particle Flow
Question Group 5
Question 9
A negatively-charged balloon is brought near a set of three blocks. Some blocks are conductors; others are insulators. Describe how the blocks become polarized and show what particle movement is involved to cause this polarization.



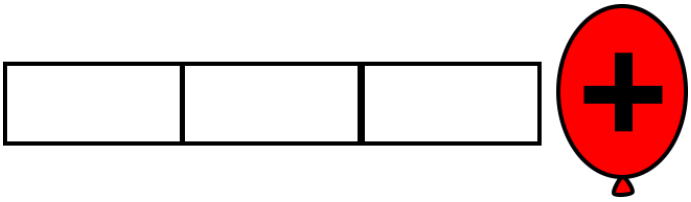
Question 10
A negatively-charged balloon is brought near a set of three blocks. Some blocks are conductors; others are insulators. Describe how the blocks become polarized and show what particle movement is involved to cause this polarization.



Question Group 6
Question 11
A positively-charged balloon is brought near a set of three blocks. Some blocks are conductors; others are insulators. Describe how the blocks become polarized and show what particle movement is involved to cause this polarization.



Question 12
A positively-charged balloon is brought near a set of three blocks. Some blocks are conductors; others are insulators. Describe how the blocks become polarized and show what particle movement is involved to cause this polarization.



Question Group 7
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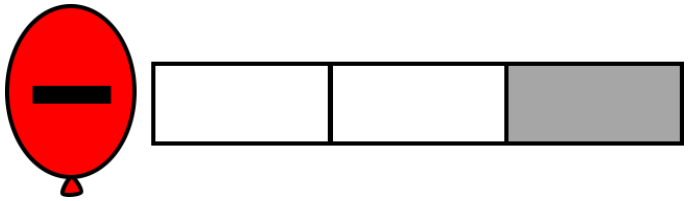
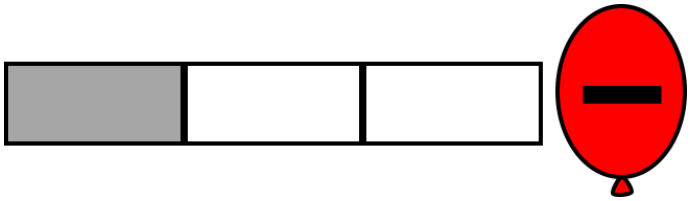
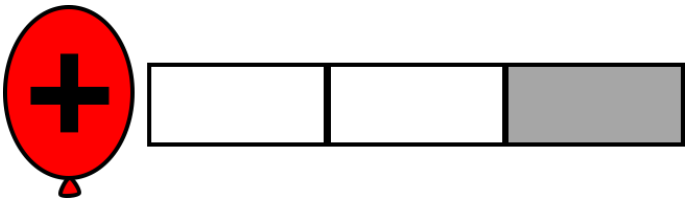
A negatively-charged balloon is brought near a set of three blocks. Some blocks are conductors; others are insulators. Describe how the blocks become polarized and show what particle movement is involved to cause this polarization.



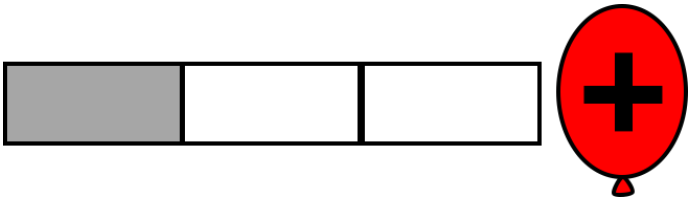
Question 14
A negatively-charged balloon is brought near a set of three blocks. Some blocks are conductors; others are insulators. Describe how the blocks become polarized and show what particle movement is involved to cause this polarization.



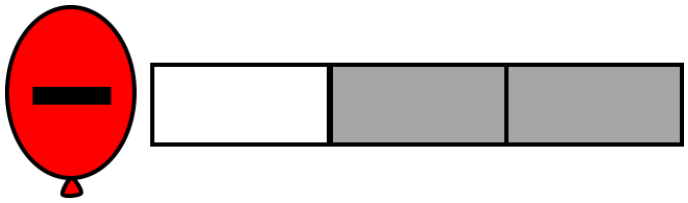
Question Group 8
Question 15
A positively-charged balloon is brought near a set of three blocks. Some blocks are conductors; others are insulators. Describe how the blocks become polarized and show what particle movement is involved to cause this polarization.



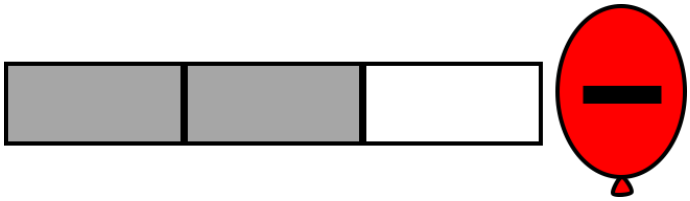
Question 16
A positively-charged balloon is brought near a set of three blocks. Some blocks are conductors; others are insulators. Describe how the blocks become polarized and show what particle movement is involved to cause this polarization.



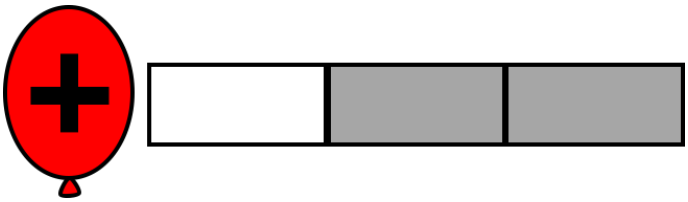
Question Group 9
Question 17
A negatively-charged balloon is brought near a set of three blocks. Some blocks are conductors; others are insulators. Describe how the blocks become polarized and show what particle movement is involved to cause this polarization.



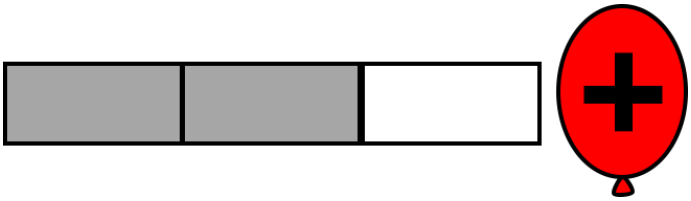
Question 18
A negatively-charged balloon is brought near a set of three blocks. Some blocks are conductors; others are insulators. Describe how the blocks become polarized and show what particle movement is involved to cause this polarization.



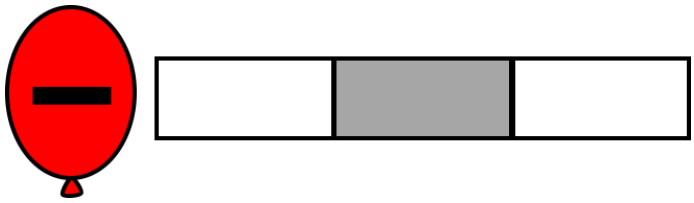
Question Group 10
Question 19
A positively-charged balloon is brought near a set of three blocks. Some blocks are conductors; others are insulators. Describe how the blocks become polarized and show what particle movement is involved to cause this polarization.



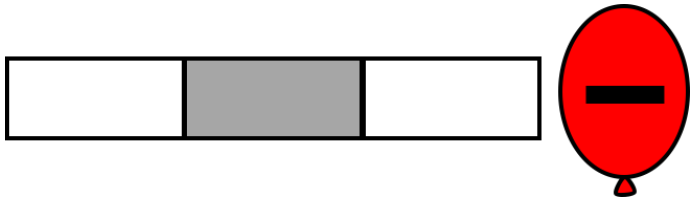
Question 20
A positively-charged balloon is brought near a set of three blocks. Some blocks are conductors; others are insulators. Describe how the blocks become polarized and show what particle movement is involved to cause this polarization.



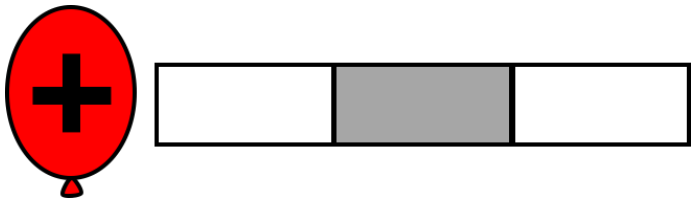
Question Group 11
Question 21
A negatively-charged balloon is brought near a set of three blocks. Some blocks are conductors; others are insulators. Describe how the blocks become polarized and show what particle movement is involved to cause this polarization.



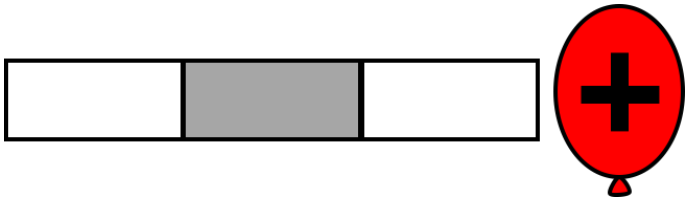
Question 22
A negatively-charged balloon is brought near a set of three blocks. Some blocks are conductors; others are insulators. Describe how the blocks become polarized and show what particle movement is involved to cause this polarization.



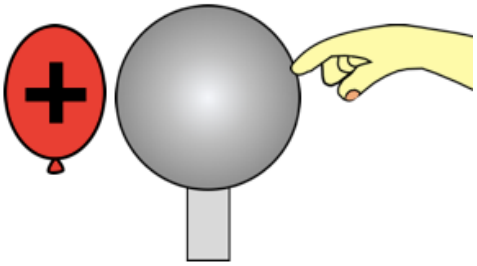
Question Group 12
Question 23
A positively-charged balloon is brought near a set of three blocks. Some blocks are conductors; others are insulators. Describe how the blocks become polarized and show what particle movement is involved to cause this polarization.



Question 24
A positively-charged balloon is brought near a set of three blocks. Some blocks are conductors; others are insulators. Describe how the blocks become polarized and show what particle movement is involved to cause this polarization.



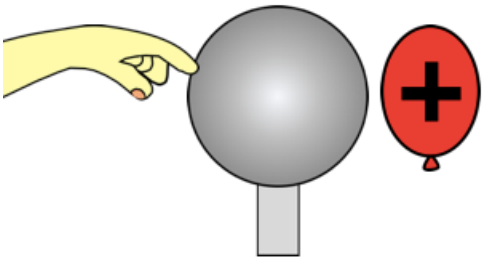
Activity 3: Induction
Question Group 13
Question 25



A positively-charged balloon is brought near to a neutral, conducting sphere. When it is held near, the opposite side of the conducting sphere is touched. Touching the sphere causes it to become _____.
a. negatively-charged
b. positively-charged
c. electrically neutral

What particle movement explains why this occurs? Tap to choose the appropriate explanation.

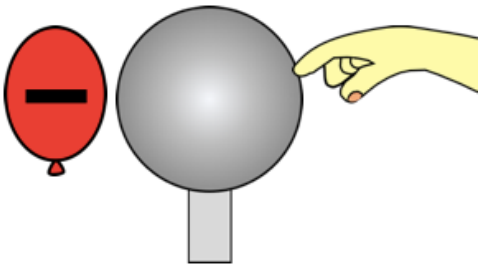
Question 26



A positively-charged balloon is brought near to a neutral, conducting sphere. When it is held near, the opposite side of the conducting sphere is touched. Touching the sphere causes it to become _____.
a. negatively-charged
b. positively-charged
c. electrically neutral

What particle movement explains why this occurs? Tap to choose the appropriate explanation.

Question Group 14
Question 27

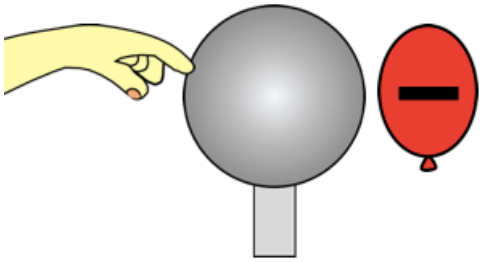


A negatively-charged balloon is brought near to a neutral, conducting sphere. When it is held near, the opposite side of the conducting sphere is touched. Touching the sphere causes it to become _____.
a. negatively-charged
b. positively-charged
c. electrically neutral

What particle movement explains why this occurs? Tap to choose the appropriate explanation.

Question 28

A negatively-charged balloon is brought near to a neutral, conducting sphere. When it is held near, the opposite side of the conducting sphere is touched. Touching the sphere causes it to become _____.



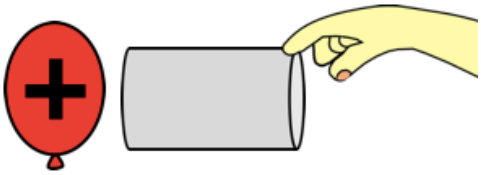
a. negatively-charged
b. positively-charged
c. electrically neutral

What particle movement explains why this occurs? Tap to choose the appropriate explanation.

Question Group 15

Question 29

A positively-charged balloon is brought near to a neutral, conducting can. When it is held near, the opposite side of the conducting can is touched. Touching the can causes it to become _____.

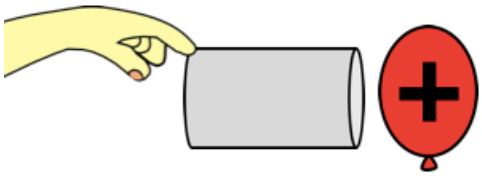


a. negatively-charged
b. positively-charged
c. electrically neutral

What particle movement explains why this occurs? Tap to choose the appropriate explanation.

Question 30

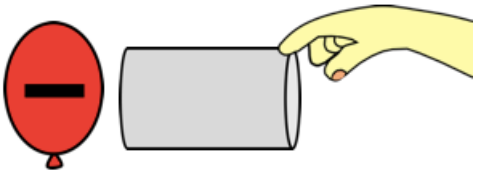
A positively-charged balloon is brought near to a neutral, conducting can. When it is held near, the opposite side of the conducting can is touched. Touching the can causes it to become _____.



a. negatively-charged
b. positively-charged
c. electrically neutral

What particle movement explains why this occurs? Tap to choose the appropriate explanation.

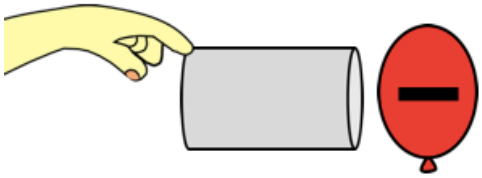
Question Group 16
Question 31



A negatively-charged balloon is brought near to a neutral, conducting can. When it is held near, the opposite side of the conducting can is touched. Touching the can causes it to become _____.
a. negatively-charged
b. positively-charged
c. electrically neutral

What particle movement explains why this occurs? Tap to choose the appropriate explanation.

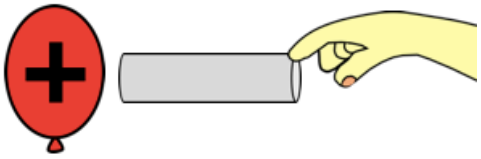
Question 32



A negatively-charged balloon is brought near to a neutral, conducting can. When it is held near, the opposite side of the conducting can is touched. Touching the can causes it to become _____.
a. negatively-charged
b. positively-charged
c. electrically neutral

What particle movement explains why this occurs? Tap to choose the appropriate explanation.

Question Group 17
Question 33

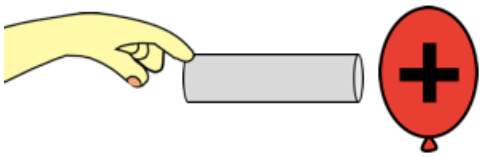


A positively-charged balloon is brought near to a neutral, conducting bar. When it is held near, the opposite side of the conducting bar is touched. Touching the bar causes it to become _____.
a. negatively-charged
b. positively-charged
c. electrically neutral

What particle movement explains why this occurs? Tap to choose the appropriate explanation.

Question 34

A positively-charged balloon is brought near to a neutral, conducting bar. When it is held near, the opposite side of the conducting bar is touched. Touching the bar causes it to become _____.



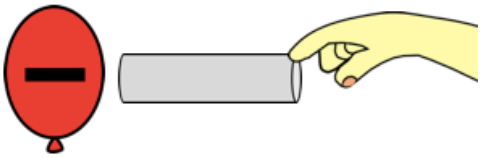
a. negatively-charged
b. positively-charged
c. electrically neutral

What particle movement explains why this occurs? Tap to choose the appropriate explanation.

Question Group 18

Question 35

A negatively-charged balloon is brought near to a neutral, conducting bar. When it is held near, the opposite side of the conducting bar is touched. Touching the bar causes it to become _____.

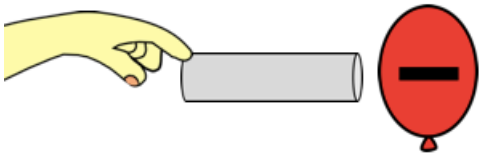


a. negatively-charged
b. positively-charged
c. electrically neutral

What particle movement explains why this occurs? Tap to choose the appropriate explanation.

Question 36

A negatively -charged balloon is brought near to a neutral, conducting bar. When it is held near, the opposite side of the conducting bar is touched. Touching the bar causes it to become _____.



a. negatively-charged
b. positively-charged
c. electrically neutral

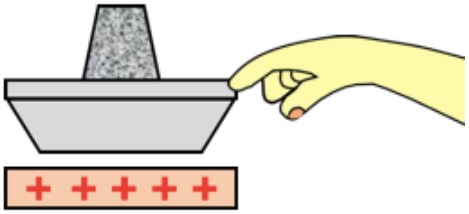
What particle movement explains why this occurs? Tap to choose the appropriate explanation.

Question Group 19

Question 37

A neutral, aluminum pie tin is held above a positively-charged foam board. When it is held above the foam, it is touched near the top rim. Touching the rim causes the bar to become _____.

a. negatively-charged
b. positively-charged
c. electrically neutral

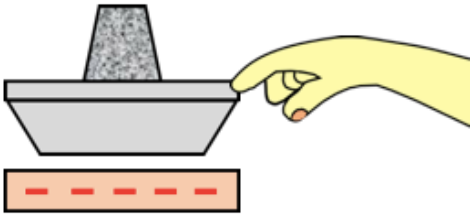


What particle movement explains why this occurs? Tap to choose the appropriate explanation.

Question 38

A neutral, aluminum pie tin is held above a negatively-charged foam board. When it is held above the foam, it is touched near the top rim. Touching the rim causes the bar to become _____.

a. negatively-charged
b. positively-charged
c. electrically neutral



What particle movement explains why this occurs? Tap to choose the appropriate explanation.