Exercise 10.3 Moving electrons

In this exercise, you will use what you know about static electricity to check and correct some statements.

For each of the statements below, decide whether it is correct or incorrect. Put a tick or a cross next to the statement.

If a statement is incorrect, cross out the words that are wrong and write words that will make the statement correct.

1 The nucleus of an atom has a negative charge.

.....

2 The electrons are firmly held on the outside of the atom.

.....

3 A neutral object is uncharged because it has equal amounts of positive and negative charge.

.....

4 When an acrylic rod is rubbed with a cloth, the rod gains a positive charge because electrons are transferred from the rod to the cloth.

.....

5 The cloth also gains a positive charge.

.....

6 The rod and the cloth will attract each other.

.....

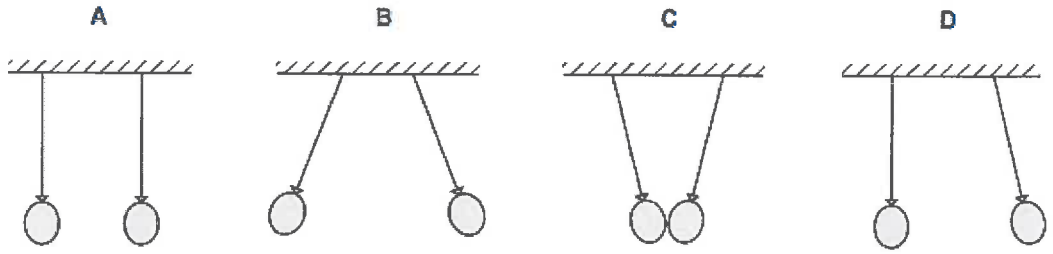
7 The charged rod will only attract objects with an opposite charge.

.....

Cambridge question practice

1. ——— Two similar balloons hang side by side, on insulating threads, a short distance apart. They are both rubbed with the same dry cloth and become charged.

Which diagram shows how the balloons hang after charging?



2.

(b) Polythene is easily given a negative charge by rubbing it with a dry woollen cloth.

(i) Fig. 2 shows a charged polythene rod being held close to a suspended charged polythene rod.

Complete the phrase,

"like charges .....".

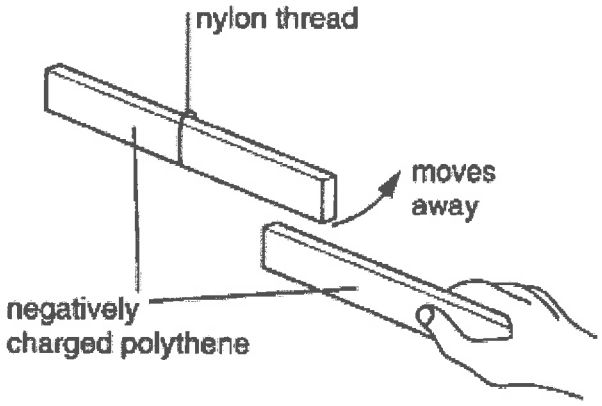


Fig 2

(ii) Fig. 3 shows rod X being held near the suspended charged polythene rod.

Tick **any** of the following which might correctly describe rod X.

positively charged glass ☐

negatively charged ebonite ☐

uncharged copper ☐

negatively charged polythene ☐

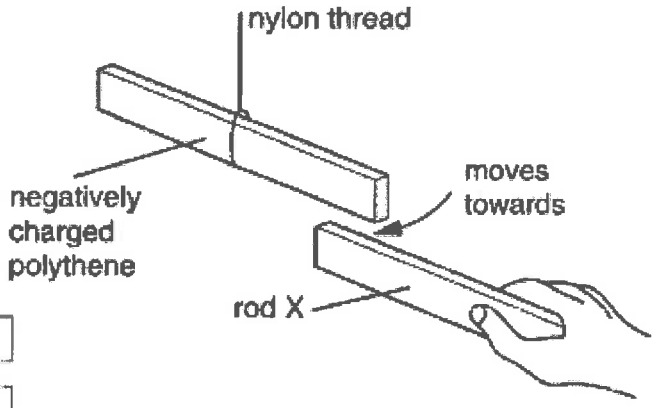


Fig. 3

[3]