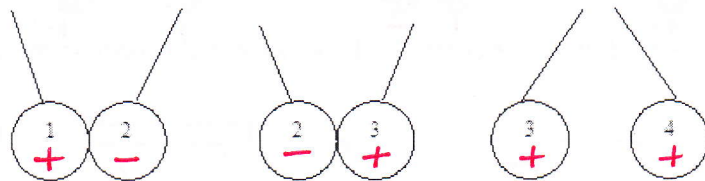
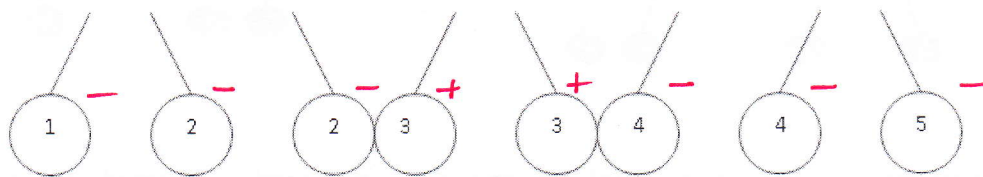


Static Electricity

1. You are given 4 spheres that are electrically charged. If sphere 3 is positively charged, what are the charges of the other spheres?



2. You have five spheres which are each electrically charged. Based on the reactions between the spheres, determine what will occur when sphere 1 and sphere 4 come into contact and when sphere 3 and 5 come into contact.

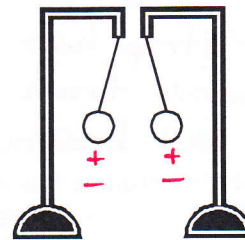


1 & 4 : repel

3 & 5 : attract

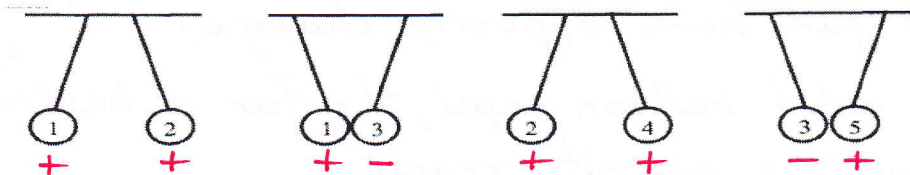
3. The diagram represents the interaction of charged spheres that you have observed.

Which of the following statements describes the situation in the diagram?

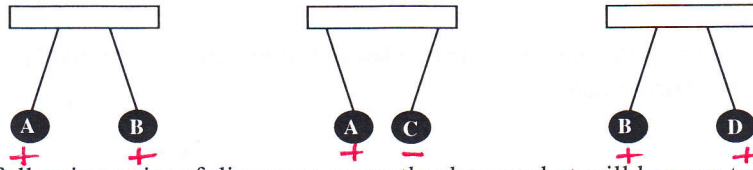


- A) The right-hand sphere is charged positively and the left-hand sphere negatively.
- B) The two spheres are both electrically neutral.
- C) The right-hand sphere is charged negatively and the left-hand sphere positively.
- D) The two spheres both carry the same electrical charge.

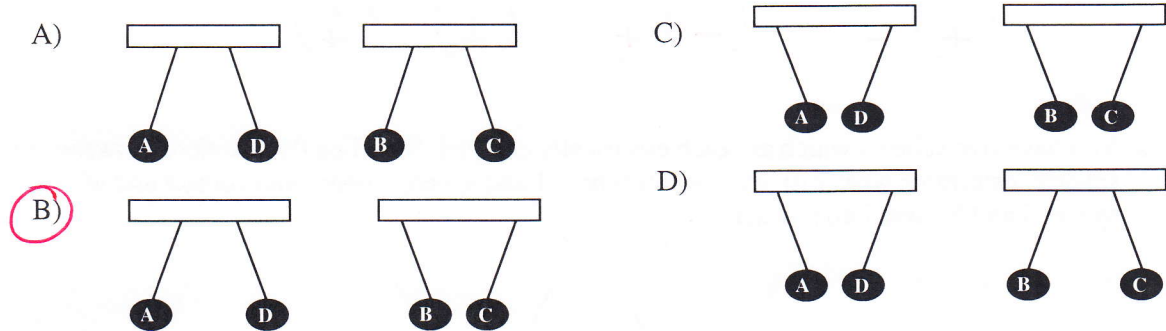
4. You are given five electrically charged spheres and told that sphere 4 is positively charged. The following diagrams show what happens to these spheres when they are suspended in pairs close to each other. What are the charges of the other spheres?



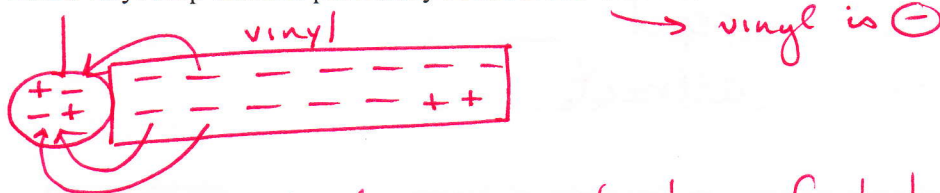
5. Four charged spheres A, B, C and D are suspended from wires.
The following diagrams show what happens when these spheres are suspended in pairs close to each other.



Which of the following pairs of diagrams correctly shows what will happen to these spheres?



6. Using diagrams, explain why a neutral pith ball will become negatively charged when it is touched with a vinyl strip that had previously been rubbed with wool.



- vinyl strip has higher concentration of electrons
- e⁻s move from vinyl strip into pith ball
- pith ball becomes ⊖ charged.

7. In a laboratory, a student was given the following materials:
- a piece of fur - a plastic rod - a suspended balloon
Using these materials, the student performed the following steps in the order shown.

Step	Result
1- The plastic rod is rubbed with fur.	---
2- A suspended balloon is touched with the plastic rod.	---
3- The rod is brought close to the balloon.	The balloon and rod repel one another.
4- The fur is brought close to the balloon.	?

Predict the result for Step 4. Justify your answer.

- Attract*
- Rod + fur have opposite charges.*
∴ if rod + balloon repel, the fur + balloon will have the opposite reaction.