

Static Electricity Quiz V6 Name: _____

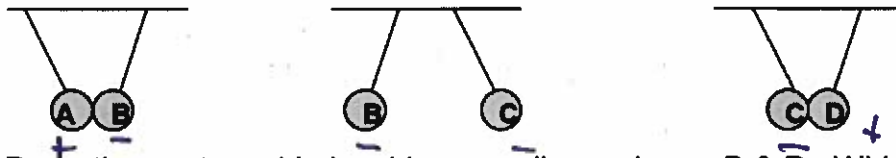
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Multiple choice = 2 points each

1. A wool socks and a silk shirt have been tumble dried in a clothes dryer. Which of the following statements is correct regarding the resulting static charge of the clothes?

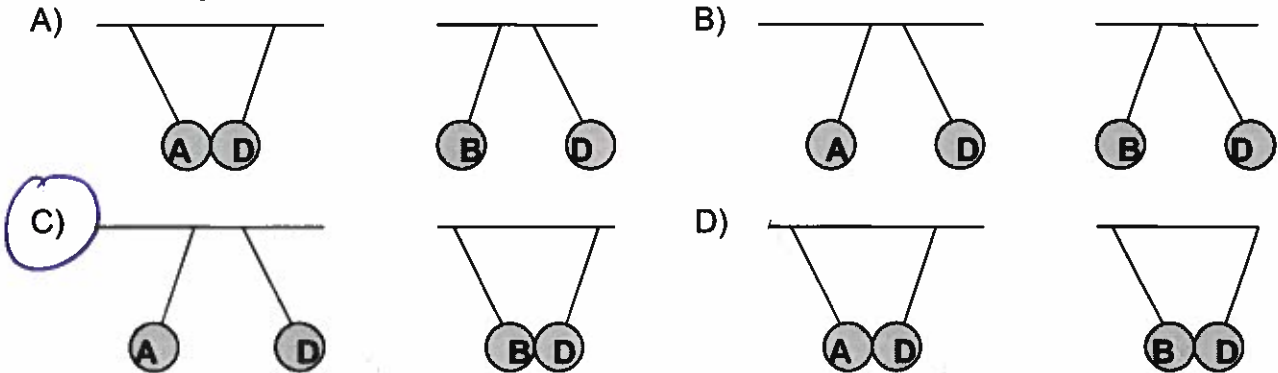
- A) The wool socks would become negatively charged.
- B) The wool socks and the silk shirt would remain neutral.
- C) The silk shirt would become positively charged.
- D) The silk shirt would become negatively charged.

2. The following experiment is set up using charged spheres.



AD ++ repel
BD -+ attract

Spheres A & D are then set up side by side, as well as spheres B & D. Which diagram below correctly shows what would happen?



3. You use three charged objects – A, B & C for an experiment on charges. During the lab you make the following observations

TEST	OBSERVATIONS
Bring object A near object B	Objects attract each other
Bring object A near object C	Objects repel each other

Triboelectric Series
Rubber
Ebonite
Polyethylene
Cotton
Silk
Wool
Glass
Acetate
Hair

What would happen if object B & C were brought together?

- A) Object B & C would attract each other
- B) Object B & C would repel each other
- C) Nothing would happen, since objects B & C are neutrally charged
- D) The oppositely charged objects A & C will repel each other

4. You have 2 spheres made of acetate. You rub one with rubber (+) & the other with cotton (+). What would happen if you brought the two spheres together?

- A) Nothing, they are both neutrally charged
- B) Nothing, it all evens out
- C) They will attract
- D) They will repel

5. Which substance is the best conductor:

- A) Copper
- B) Nichrome
- C) Styrofoam
- D) Wood

Question	1	2	3	4	5
Answer	D	C	A	D	A

$$1\text{C} = 6.25 \times 10^{18} \text{ electrons}$$

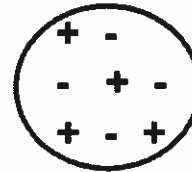
6. A spark that transfers 5.75×10^{20} electrons was created. What is the charge that was transferred in this process? (2)

$$\frac{1\text{C}}{x} = \frac{6.25 \times 10^{18} e^-}{5.75 \times 10^{20} e^-} \quad x = 92\text{C}$$

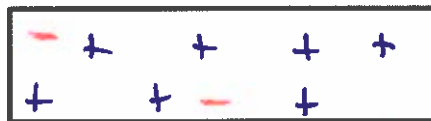
7. A spark that transfers 75 C of charge was created. Calculate how many electrons were transferred in this process? (2)

$$\frac{1\text{C}}{75\text{C}} = \frac{6.25 \times 10^{18} e^-}{x} \quad 4.69 \times 10^{20} e^-$$

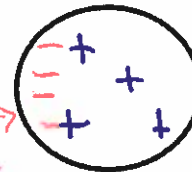
8. A positively charged ruler and a neutral pith-ball are shown below. (6)



a) Induction: Draw the "+"s and "-" in the ruler and the pith-ball when they are brought close together.



no movement



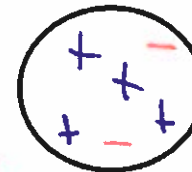
side

What is the final charge of each item? Circle.

Ruler: positive negative neutral

Ball: positive negative neutral

b) Conduction: Draw the "+"s and "-" in the ruler and the pith-ball after they come in contact with each other.



What is the final charge of each item?

Ruler: positive negative neutral

Ball: positive negative neutral