

CHAPTER 7: ELECTRICITY & MAGNETISM (TP1, TP2 & TP4)

1 Apakah cas elektrostatik?/What are electrostatic charges? **TP1**

Cas-cas elektrik yang/Electrical charges that .

tidak bergerak/do not move
 sentiasa bergerak/ always move

2 Apakah cas yang terhasil pada belon selepas digosok dengan kain bulu? **TP2**
What are the charges that are produced on the balloon after it is rubbed with the woollen cloth?

caj elektrik/ electric charges
 caj elektrostatik /electrostatic charges

3 Tandakan (✓) jenis-jenis cas elektrik./Tick (✓) the types of electric charges. **TP1**

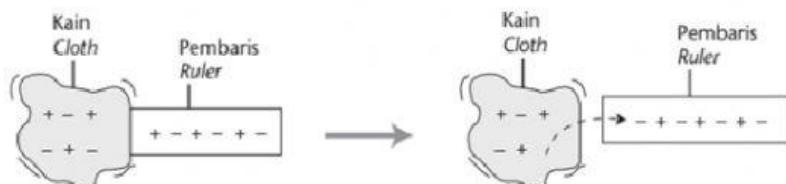
Cas positif **Positive charge** Cas negatif **Negative charge** Cas neutral **Neutral charge**

4 Tandakan (✓) apa yang berlaku kepada pembaris plastik selepas digosok dengan kain bulu. **TP1**

Tick (✓) what happens to the plastic ruler after it is rubbed with the woollen cloth.

Pemindahan proton **Transfer of protons** Pemindahan elektron **Transfer of electrons** Tindak balas kimia **Chemical reaction**

5. Pilih jawapan yang betul untuk menyatakan jenis cas yang diperoleh apabila kain dan pembaris di bawah digosok bersama./Choose the correct answers for the types of charge gained when the cloth and the ruler below are rubbed together. **TP2**

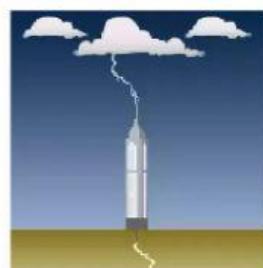


(a) *The cloth loses (protons, electrons) to the ruler. Now, the cloth is charged (positive, negative) because it has excess (protons or positive charges, electrons or negative charges).*

(b) *The ruler receives (protons, electrons) from the cloth. Now, the ruler is charged (positive, negative) because it has excess (proton or positive charges, electrons or negative charges).*

5. Terangkan beberapa fenomena harian yang disebabkan oleh cas elektrostatik dan langkah-langkah keselamatan yang perlu diambil semasa mengendalikan cas elektrostatik.
Explain some daily phenomena caused by electrostatic charges and the safety measures that should be taken when dealing with electrostatic charges.

| | | | | | | |
|----|-------------------------------|--|--------------------------------|---------------------------|----------------------|---|
| a) | Berlawanan <i>Opposite</i> | Konduktor kilat <i>Lightning conductors</i> | Wap air <i>Water vapour</i> | Kilat <i>Lightning</i> | Bumi <i>Earth</i> | Zarah-zarah udara <i>Air particles</i> |
|----|-------------------------------|--|--------------------------------|---------------------------|----------------------|---|



TP4/KBAT

Clouds are charged when the _____ in them rubs with the _____. When a negatively-charged cloud moves closer to another cloud or to the Earth's surface that has an _____ charge, the negative charges 'jump' from one charged cloud to another, or to the ground. _____ is produced. _____ that are fixed at the top of a building allow the charges of lightning to flow to the _____ and reduce the risk of the building from being struck by lightning.

| | | | |
|----|----------------------------|------------------------------------|---------------------------------------|
| b) | Cas <i>Charges</i> | Rantai logam <i>Metal chain</i> | Bergeser <i>Rub</i> |
| | Bunga api <i>Sparks</i> | Menghalang <i>Prevent</i> | Elektrostatik <i>Electrostatic</i> |



TP4/KBAT

A petrol tanker becomes charged with _____ charges as it moves and _____ with the air. The rubber tyres _____ the charges from flowing to the Earth. Therefore, a _____ is fixed to the tanker to allow the _____ to flow to the Earth as the chain touches the road to prevent _____ that can cause a fire from being produced.