**Physics Revision: Static Electricity**

Mastery Matrix Points TRIPLE ONLY

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| Explain how insulating materials can become electrically charged (triple only) |
| Explain why electrically charged objects attract or repel (triple only) |
| Describe and explain the effect of electric fields (triple only) |
| Draw an electric field pattern for an isolated charged sphere (triple only) |
| Link the concept of electric fields to electrostatic phenomena (triple only) |

Key Knowledge

Static electricity happens on conductors or insulators?

Attraction and repulsion are contact or non-contact forces?

Charge on electrons:

Charge if something loses electrons:

Charge is something gains electrons:

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| *Charges* | *Attract or repel or no effect?* |
| Positive & positive |  |
| Neutral & positive |  |
| Negative & negative |  |
| Neutral & neutral |  |
| Neutral & negative |  |
| Positive & negative |  |

Strength of an electric field depends on two factors:

Understanding and Explaining

1. **Explain how insulating materials become electrically charged.**
2. **Explain why hair stands on end when you touch a Van de Graaff generator.**
3. **Explain why you get an electric shock if you touch a door handle after walking on thick carpet.**
4. **Draw the electric field pattern for an isolated positively charged sphere.**
5. **Draw the electric field pattern for an isolated negatively charged sphere.**
6. **Explain why charge A moves away more quickly than charge B.**

Fixed charge