When the Lightning Strikes: Static Electricity

https://www.youtube.com/watch?v=m37z5R2rJ5E

1. What would happen if an unprotected aircraft were to be struck by lightning?

2. Why is the lightning drawn to the air plane specifically?

3. Lightning strikes dozens of times every second and involves incredible amounts of energy. However, very similar events happen on much smaller scales such as the shock you might get while wearing wool clothing. What is the scientific term for these shocks?

4. Most lightning occurs when a negatively charged cloud passes close to the ground and makes the surface positively charged. What is this process called?

5. Another way to charge an object or material is through friction. Describe how the rods in each of the following situations will interact if brought close together (attract or repel)

   a) A plastic rod rubbed with cotton cloth and a lead rod rubbed with a silk cloth.

   b) A gold rod rubbed with plastic wrap and a rubber rod rubbed with wool.

   c) A lead rod rubbed with a wool cloth and a glass rod rubbed with paper.

Tendency	Substance
High affinity to capture electrons (Take on Negative charge)	• Plastic • Sulphur • Gold • Nickel • Hard rubber • Amber • Cotton • Paper • Silk
Strong tendency to give electrons (Take on Positive charge)	• Lead • Wool • Glass