**Activity 1.2.6 Electrical conductivity of plastic materials**

**a) Comparing electrical conductivity of plastic materials with that of other materials**

Materials:

Source of electricity, electric bulb, different kinds of plastic, cotton, metal and wood

Procedure:

In groups discuss electrical conductivity of plastic materials and that of natural substances (cotton, wood, metal). Write down your hypotheses and compare them with the results of the experiment afterwards.

Hypotheses:

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Carry out the following experiment:

Prepare a simple electrical circuit and connect into it a particular kind of plastic, cotton , metal and wood, respectively.

Write your findings into the table

Findings:

**Tab. Conductivity of plastic materials**

|  |  |  |  |
| --- | --- | --- | --- |
| **Plastic** | **Conductivity** | **Natural substances** | **Conductivity** |
| PVC |  | Cotton |  |
| Polyethylene |  | Wood |  |
| Polypropylene |  | Metal |  |
| Polystyrene |  |  |  |

What could you say about electrical conductivity of plastic materials?

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**Homework:**

Look up on the Internet information about using plastic materials as electrical conductors  / insulators.

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**b) Static electricity and plastic materials**

Materials:

Plastic spoon, cotton cloth, polystyrene balls

Procedure:

In groups discuss and tackle the following problem: When Ann came home, she took off her nylon stockings. When she then touched a metallic door handle, she screamed and jumped out of horror.

What happened to Ann? What is the substance of the phenomenon?

What caused the electric shock?

Hypotheses:

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Try to simulate the situation using a plastic bar, cotton cloth and polystyrene balls. Write down the test procedure and findings.

Procedure:

plastic bar

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Findings:

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