Model Home

Preliminary Physics, Assessment Task 3

Electrical Energy in the Home

Due: 13 August 07 (T3W5) Weighting: 20%

Construction Task

Perform an investigation and construct a model of a household electrical circuit using such electrical components as:

- Conductors
- Switches
- Lights
- Power outlets
- Stove
- Hot water system
- Electrical distribution board
- Safety devices
- Earth connection

The model does not need to be a functioning electrical circuit. However, it should clearly demonstrate to another person how a house is wired and where and what safety devices are used.

Size of model must be between A4 and A3.

Research Task

Carry out research to describe:

1. How a Circuit Breaker works.
2. What a *Residual Current Device* **or** *Earth Leakage Detector* is, and how it works.
3. What voltage and current supplies an average house receives.
4. The cost of electricity in your house and ways in which this cost could be reduced.

Marking Guideline

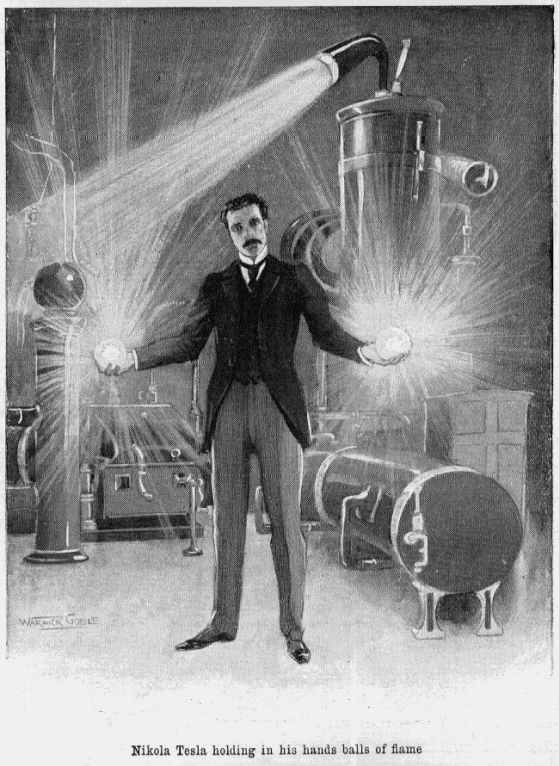
You can receive a **total of 20 marks** for this assessment.

Maximum of **1 mark** for each of the following:

- Fuse-link [Supply to house from mains]
- Earth connection [Distribution board]
- Safety devices [Distribution board]
- Power circuit [15 A]
- Lighting circuit [8 A]
- Stove and HWS circuits [15 A]
- Switch for each appliance or light

Maximum of **5 marks** for the presentation of the model.

Maximum of **2 marks** for each research question.



Nikola Tesla holding in his hands balls of flame