

Science in Classics

Exercises on Grammar

Series 02

Notation

- Errors are blue.
- Correct versions are green.
- Comments are black.
- Highlights are red.

Error

- The resistivity is large at high temperature.

Error

- The resistivity is large at high temperature.

Resistivity is high at 100 deg, 101 deg, 102 deg, 1000 deg, etc.. Not just one temperature.

Correction

- The resistivity is large at high temperatures.

Generalization

- The force is negligible at large distances_s.
- The interaction between molecules can be neglected at low densities_s.
- The relativistic correction becomes important at high velocities_s.

Error

- As temperature increases, the vibration amplitude is larger and the chance of collision is higher.

Error

- As Δ temperature increases, the vibration amplitude is larger and the chance of collision is higher.

missing article **the**

Not any temperature, but the specific temperature of the sample.

Correction

- As **the** temperature increases, the vibration amplitude is larger and the chance of collision is higher.

Compare

- Δ Temperature is measured on the kelvin scale.

general; Δ = no article

- If Δ the temperature increases, the pressure will also increase.

specific (temperature of the sample)

Error

- For the experiment 3 of PHY 2822 which is about the Hall effect.

Error

- For the experiment 3 of PHY 2822
which is about the Hall effect.

This is a subordinate clause.

There is no main clause.

Correction

- Experiment 3 of PHY 2822 is about the Hall effect.

One main clause only.

Error

- Hence the potential difference between the top and the bottom of the bar, called the Hall effect.

Error

- Hence the potential difference between the top and the bottom of the bar, called the Hall effect.

No verb in the part indicated.

Correction

- Hence there is a potential difference between the top and the bottom of the bar, and this is called the Hall effect.

Error

- There is one important point should be aware which is the voltage lead misalignment.

Error

- There is one important point **should be aware** which is the voltage lead misalignment.

See next slide for analysis.

Analysis

Correct

- I should be aware of the problem.

Incorrect

- The problem should be aware.

Correction

- One should be aware of one important point, which is the voltage lead misalignment.

Even better

- One should be aware of an important point: the voltage lead misalignment.

Errors

in lab report

- Then, I used a compass to determine the direction of magnetic field.

Error 1

- Then, I used a compass to determine the direction of magnetic field.

use passive voice in lab report

Correction 1

- Then, a compass was used to determine the direction of magnetic field.

Error 2

- Then, a compass was used to determine the direction of Δ magnetic field.

missing article **the**

The magnetic field is specific.

Correction 2

- Then, a compass was used to determine the direction of the magnetic field.

Corrections

- Then, a compass was used to determine the direction of the magnetic field.

Errors

- Hall effect is an electric field which produced from an electric current and a magnetic field.

Error 1

- Δ Hall effect is an electric field which produced from an electric current and a magnetic field.

missing article **the**

This is a specific effect.

Specific noun is preceded by **the**.

Correction 1

- The Hall effect is an electric field which produced from an electric current and a magnetic field.

Error 2

- The Hall effect is an electric field which **produced** from an electric current and a magnetic field.

See next slide for analysis.

Analysis

Compare active / passive voice.

- The current and the magnetic field produced the electric field.
- The electric field was produced by the current and the magnetic field.

Correction 2

- The Hall effect is an electric field which is produced from an electric current and a magnetic field.

Error 3

- The Hall effect **is** the electric field which is produced from an electric current and a magnetic field.

The effect is not equal to the E field.

The effect refers to the phenomenon of producing E .

Correction 3

- The Hall effect is the phenomenon in which an electric field is produced from an electric current and a magnetic field.

Corrections

- The Hall effect is the phenomenon in which an electric field is produced from an electric current and a magnetic field.

Improvements?

- The Hall effect is the phenomenon in which an electric field is produced from an electric current and a magnetic field.

grammatically correct, but messy

Improved version

- In the Hall effect, an electric field is produced from an electric current and a magnetic field.

Error

- The potential difference between these charges called the Hall voltage.

Error

- The potential difference between these charges **called** the Hall voltage.

Should be passive voice

Compare

- I call it the p.d. the Hall voltage.
- The p.d. is called the Hall voltage.

Correction

- The potential difference between these charges is called the Hall voltage.

Error

- In most kinds of metal, the charge carriers, which conduct electric current, are mainly conduction electrons.

Error

- In most kinds of **metal**, the charge carriers, which conduct electric current, are mainly conduction electrons.

metal should be plural

Correction

- In most kinds of metals, the charge carriers, which conduct electric current, are mainly conduction electrons.

Improvements?

- In most kinds of metals, the charge carriers, which conduct electric current, are mainly conduction electrons.

most kinds of metals can be
simplified to most metals

Improved version

- In most metals, the charge carriers, which conduct electric current, are mainly conduction electrons.

Improvements?

- In most metals, the charge carriers, which conduct electric current, are mainly conduction electrons.
simply the current carriers

Final version

- In most metals, the current carriers are mainly conduction electrons.

Compare original

- In most kinds of metal, the charge carriers, which conduct electric current, are mainly conduction electrons.

Errors

- But in semiconductor, the charge carriers not only the free electrons but also the holes which carry positive charges.

Error 1

- But in semiconductor, the charge carriers not only the free electrons but also the holes which carry positive charges.

plural; all semiconductors

Correction 1

- But in semiconductors, the charge carriers not only the free electrons but also the holes which carry positive charges.

Error 2

- But in semiconductors, the charge carriers ? not only the free electrons but also the holes which carry positive charges.

missing main verb

Correction 2

- But in semiconductors, the charge carriers **include** not only the free electrons but also the holes which carry positive charges.

Improvements?

- But in semiconductors, the charge carriers include not only the free electrons but also the holes which carry positive charges.

grammatically correct, but clumsy

Improved version

- But in semiconductors, current is carried both by the negative electrons and by the positive holes.