



**SEKOLAH HARAPAN BANGSA
SECONDARY
COURSE OUTLINE
ACADEMIC YEAR 2024-2025**

Subject : Physics
Grade : 07
Semester : 2

Objectives:

Students will be able to

Forces and energy

8Pf.01 Calculate speed (speed = distance / time).

8Pf.02 Interpret and draw simple distance / time graphs.

8Pf.03 Describe the effects of balanced and unbalanced forces on motion.

8Pf.04 Identify and calculate turning forces (moment = force x distance).

8Pf.05 Explain that pressure is caused by the action of a force, exerted by a substance, on an area (pressure = force / area).

8Pf.06 Use particle theory to explain pressures in gases and liquids (qualitative only).

8Pf.07 Describe the diffusion of gases and liquids as the intermingling of substances by the movement of particles.

Light and sound

8Ps.01 Describe reflection at a plane surface and use the law of reflection.

8Ps.02 Describe refraction of light at the boundary between air and glass or air and water in terms of change of speed.

8Ps.03 Know that white light is made of many colours and this can be shown through the dispersion of white light, using a prism.

8Ps.04 Describe how colours of light can be added, subtracted, absorbed and reflected.

Electricity and magnetism

8Pe.01 Describe a magnetic field, and understand that it surrounds a magnet and exerts a force on other magnetic fields.

8Pe.02 Describe how to make an electromagnet and know that electromagnets have many applications.

8Pe.03 Investigate factors that change the strength of an electromagnet.

Contents:

- Force and Motion
- Earth, Solar System and Universe

Assessments:

Items	Weighing	Due Date
A. Process ● Project (ex: observation, models, surveys, making models or charts), presentation (simulation, demonstration) ● Homework ● Group Work ● Unit tests, Quizzes	70%	
B. Summative Assessments ● Mid Test/ Final Test	30%	To be announced

References:

- Jones, et.al. (2021). Cambridge Checkpoint Science Coursebook 7. Cambridge: University Printing House. United Kingdom.
- Jones, et.al. (2021). Cambridge Checkpoint Science Coursebook 8. Cambridge: University Printing House. United Kingdom.
- Jones, et.al. (2021). Cambridge Checkpoint Science Coursebook 9. Cambridge: University Printing House. United Kingdom.
- Pople, Stephen. (2020). Complete Physics for Cambridge IGCSE® Third Edition with CD-ROM.

Singapore: Cambridge University Press. Hodder Education.

- Duncan, Tom, G. and Kennett, Heather. (2021). Cambridge IGCSE® Physics Third Edition with CD-ROM. London: Hodder Education.
- Past Papers (5 years): MCQ, Essays, Practical Tests Papers.
- <https://sites.google.com/view/physicscorners/checkpoint>

Kota Tangerang Selatan, 04 January 2025

Prepared by,



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