Sample Pearson Set Assignment Brief

Single Part Assessment

Unit 3: Principles and Applications of Physics I

For use with:

Pearson International BTEC Level 3 Qualifications in Applied Science

Certificate/ Subsidiary Diploma /Foundation Diploma/Diploma/ Extended Diploma

Advised supervised hours	16 hours

For completion by the centre

Qualification (select as appropriate)	Certificate/Subsidiary Diploma/Foundation Diploma/Diploma/ Extended Diploma
Assessment date	

Instructions to teachers/tutors and/or invigilators

The Pearson Set Assignment should be undertaken in conditions that assure the authenticity of outcome. This may require supervision.

We advise that the Pearson Set Assignment be completed in sessions that come to a total of 16 hours. The Pearson Set Assignment should not be shared with learners prior to the start of the assessment period. Teachers/tutors are responsible for security of the Pearson Set Assignment and materials.

Outcomes for Submission

Learners must complete this set assignment on a computer, using office productivity software.

Learners must save their work regularly and ensure that all materials can be identified as their work.

Learners must submit their own, independent work as detailed in the set assignment.

Instructions to learners

You will be asked to carry out specific activities using the information provided. You will be given a specific time period to complete the assignment. Read the Set Assignment information carefully.

You must work independently at all times and must not share your work with other learners.

Set Assignment information

a) As a member of the technician's team in a busy city secondary school, you have been asked to provide a series of notes, with diagrams, to support a student teacher in the delivery of two important topics in physics to a year 12 class. The topics are 'Waves in Communication' and 'Forces in Transport'.
b) You will need to tabulate relevant information clearly and provide accurate diagrams to support the teacher.
c) You will also need to perform the investigations yourself prior to delivery of the practical tasks by the teacher to ensure that the investigation results are reproducible.

Set Assignment

You must complete ALL activities.

ACTIVITY 1- suggested time 8 hours
Produce a fully labelled diagram of the electromagnetic (e/m) spectrum, illustrating the frequencies and wavelengths. Identify the main uses of each part of the e/m spectrum as used in forms of communication. Explain how total internal reflection occurs with the aid of diagrams and describe important applications of fibre optics.
This activity covers learning aim **A** – A.P1, A.P2, A.P3, A.M1, A.M2, A.D1

ACTIVITY 2- suggested time 8 hours
Produce a 'Guide to Motion' which contains definitions and example calculations of the important aspects of motion with appropriate units: • Speed or velocity • Acceleration Draw appropriate fully labelled and explained distance/time and velocity/time graphs. Explain, using diagrams, how the following are achieved; • Lift – applied to aircraft • Orbit – applied to spaceflight • Buoyancy – applied to ships Explain the physical factors which have an effect on stopping distance
This activity covers learning aim **B** – B.P3, B.P4, B.P5, B.M3, B.M4, B.D2