

Southend High School for Girls



Assessment Policy for Physics

Our assessment policy and procedures are underpinned by three key questions:

1. Where is the learning going?
2. Where is the learner now?
3. How does the learner get there?
(Dylan Wiliam)

Our students should be able to answer these two questions:

1. What am I doing well in the subject?
2. What do I need to do to improve my work in the subject?

At SHSG we see assessment, in all its forms, as an integral part of teaching and learning and as such it is inextricably linked to our curriculum.

We use three broad overarching forms of assessment at Southend High School for Girls:

1. Diagnostic assessment – assessment used to determine what students already know (usually at the start of a lesson / unit)
2. Formative assessment (responsive teaching) – assessment used during the learning process to provide feedback and encourage students to act upon it to make improvements.
3. Summative assessment (in-school summative assessment and nationally standardised summative assessment) – used at the end of the learning process as a measure of where students are in their learning.

KS3

By the end of KS3 students should be able to :

- Demonstrate an understanding of the key topics in the physics curriculum and the KS3 National Curriculum by being able to recall fundamental definitions, complete basic calculations, and describe and explain physical phenomena.
- Demonstrate developing skills in working scientifically such as: planning investigations to test hypotheses, working safely in a lab, using scientific equipment correctly, collecting and recording data appropriately, doing basic data analysis and graphing, and drawing simple conclusions from data.
- Apply foundational mathematical skills to their work in physics. This will include plotting graphs, choosing appropriate scales, using simple formulae to complete calculations,

rearranging simple equations, comparing values, converting between units, and using the basic functions on a scientific calculator.

KS4

By the end of KS4 students should be able to

- Demonstrate a deeper understanding of the key knowledge, methods, and processes within the physics curriculum and GCSE, having now studied them in more depth. Students should be able to respond to questions that ask them to state key definitions, laws, and equations, describe and explain key concepts that appear in the GCSE Physics Specification.
- Demonstrate a concrete ability to interpret data and draw conclusions, make predictions, or suggest causes, even in novel contexts.
- Show a wider understanding of ethical, social, and economic factors considered in physics, discuss advantages and disadvantages, or evaluate possible solutions.
- Complete practical investigations to test hypotheses or prove concepts; taking into consideration a number of different variables and how they will be adjusted, controlled, or measured.
- Apply more advanced mathematical skills to physics such as ideas around estimation, proportionality, standard form, significant figures, orders of magnitude, arithmetic averages, the equation of a straight line, gradients, Pythagoras' theorem, and trigonometry.

KS5

By the end of KS5 students should be able to:

- Demonstrate an extensive understanding of physics concepts, theories, techniques, and processes within the physics curriculum and A Level at an appropriate standard to endeavour upon a physics-related discipline at higher-education.
- Demonstrate their ability to recall definitions and laws, complete complex calculations, and describe and explain advanced physics concepts in detail.
- Apply knowledge and understanding in both a theoretical and practical context. Including making estimations to suggest suitable solutions to practical problems.
- Plan practical investigations based on testing hypotheses. Planning should reflect an understanding of variables, physical limitations, risk assessment, data analysis, and uncertainties in measurements.
- Complete practical investigations to a high standard of competency, selecting appropriate equipment and using it safely and correctly, recording sufficient data appropriately, analysing and presenting data, drawing conclusions from their data, and evaluating their results using appropriate sources.
- Discuss their understanding of how scientific ideas develop and consider how society uses physics to inform decision making. This should include an understanding of ethical, social, economic impacts in physics that impact wider society.
- Apply advanced mathematical skills to physics, including their understanding of vector arithmetic, trigonometry, radians, proportionality, exponentials and logarithms, and uncertainties.

Diagnostic assessment methods

- KS3 checkpoint assessments contain a diagnostic portion to assess prior knowledge from KS2 or prior KS3 years.
- KS4 checkpoint assessments contain two sections that assess prior learning (one skill based, one on a topic needed for upcoming learning).
- KS5 students use GCSE appropriate Isaac Physics boards at the beginning of topics as a diagnostic 'transition' activity.

Formative assessment methods

- In class assessment methods such as mini-whiteboard questions, multiple choice questions, 'cold-calling' for answers, etc.
- Homework tasks
- Low-stakes written assessments mid- or end-of-topic (Checkpoint assessments).

Summative assessment

The majority of assessments in physics will be formative, with the purpose of understanding areas of strength and areas for development.

Only the following assessments are largely summative and even in these cases, they will also be reviewed as formative assessments too.

- End of year assessments for all of KS3 in the Summer Term
- PPEs for Year 11 in Spring Term.
- PPEs for Year 10 in Spring Term.
- PPEs for Y12 in Summer Term.
- PPEs for Y13 in Spring Term.

Marking and Feedback

Marking in the Physics Department will be a mixture of self-assessment, peer-assessment and teacher-assessment.

Classwork will be assessed using self-assessment and peer-assessment, with teachers giving verbal feedback where appropriate. All feedback should be constructive, with the aim of helping students to improve their work, understanding or, skills.

Summative assessments such as PPEs are solely teacher-assessed. This will include marking to the appropriate key-stage standard (eg GCSE AQA marking standard at KS4).

Lower-stakes assessments such as checkpoint assessments at the end of a topic will be assessed using a mixture of teacher-assessment and, where appropriate, peer-assessment.

Written feedback will be given to students in the form of the marked assessments, which can include short written comments alongside annotations and marks awarded for each question. As part of the feedback process after assessments, students will be guided to complete follow-up activities either in class or as homework and they will have the opportunity to talk to their teacher about the assessment to ask further questions or for clarifications.

Marking and Feedback Codes

When providing written feedback in exercise books to ensure consistency across the school particularly for literacy the following codes should be used above the relevant word /section:

- ✓ good point
- X incorrect or wrong point
- SP spelling error which needs correction
- P punctuation error which needs correction
- GR grammatical error which needs correction
- / start a new sentence
- // start a new paragraph
- ?? the point is not clear
- WW wrong word
- ^ missing word
- [] this part needs rewording
- +1 academic achievement point

Presentation.

- All work should have a date on the right-hand side, written in full and underlined with a ruler (e.g. 12th September 2023).
- All work will have a title / heading which is underlined with a ruler.
- All work should have CW/HW written in the top left-hand margin
- Only black or blue ink should be used for writing with the exception of student responses to feedback (as indicated by individual department policies).
- All diagrams / graphs should be done in pencil.
- All work should be set out neatly.

Recording and Monitoring of Assessment

The Physics Department use shared teacher assessment spreadsheets to record data from checkpoint assessments and summative assessments such as PPEs or End of Year Examinations. These assessment sheets are kept on the Physics Department SharePoint. The data is monitored by the Head of Physics, with support from the Second in Department where appropriate.

Any additional assessment data will be kept by individual teachers and recorded in their teacher planner.