

$$E = \frac{1}{2}mv^2$$

# NATIONALS IN A NUTSHELL

The National Parent Forum of Scotland Summary of Physics National 4

PHYSICS  
SCIENCES

NATIONAL  
4

3  
UNITS

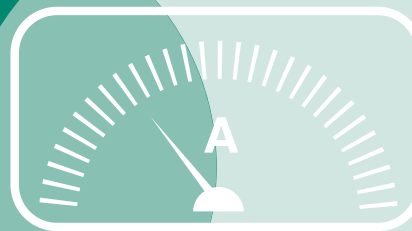
**ELECTRICITY AND ENERGY  
WAVES AND RADIATION  
DYNAMICS AND SPACE**

+  
ADDED  
VALUE  
UNIT

**ADDED VALUE UNIT: PHYSICS ASSIGNMENT**

## What skills will my child develop?

- knowledge and understanding of physics
- an understanding of the role of physics in scientific issues and relevant applications of physics in society and the environment
- scientific inquiry, investigative, analytical and evaluative thinking skills in physics and real life contexts
- the ability to use technology, equipment and materials
- problem-solving skills in a physics context
- scientific literacy, in everyday contexts, to communicate ideas and issues
- an insight into the underlying nature of our world and its place in the universe
- an understanding of the processes behind scientific advances
- information-handling skills
- drawing valid conclusions
- an understanding the importance of accuracy
- the knowledge and skills for more advanced learning in physics



## WHAT WILL MY CHILD EXPERIENCE DURING THE COURSE?

- Active and independent learning through self and peer evaluations, setting targets, making independent decisions, using feedback
- A blend of classroom approaches including experimental, practical and investigative approaches, whole class discussions and interactive teaching
- Collaborative learning: working with others in group or partner activities; intercurricular learning with other sciences, mathematics, technologies, religious and moral education; with organisations such as STEMNET
- Space for personalisation and choice: learners can choose what to observe or measure and their methodology; learners will choose the topic for their Added Value Unit (Assignment)
- Applying learning
- Embedding literacy and numeracy skills: researching, selecting, summarising and presenting information using a range of sources; evaluating; recording and interpreting data; using technology and data loggers.

## ASSESSMENT

- To gain National 4, learners must pass all Units
- Units are assessed as pass or fail by the school/centre (following SQA external quality assurance to meet national standards)
- Unit assessment (or 'evidence of learning') will ensure that learners can apply knowledge and understanding and scientific skills to an experiment or practical investigation. This may be evidenced in a portfolio of work
- The Added Value Unit (Assignment) will require learners to research a topical physics issue during approximately 8 hours of class time. Findings will be written up in timed conditions (up to two hours).

National 4 progresses onto National 5

For more detailed course information:

SQA: Physics National 4: [www.sqa.org.uk/sqa/47425.html](http://www.sqa.org.uk/sqa/47425.html)

Education Scotland: [www.educationscotland.gov.uk/nationalqualifications/index.asp](http://www.educationscotland.gov.uk/nationalqualifications/index.asp)



Curriculum for Excellence Key Terms and Features Factfile:

[www.educationscotland.gov.uk/Images/CfEFactfileOverview\\_tcm4-665983.pdf](http://www.educationscotland.gov.uk/Images/CfEFactfileOverview_tcm4-665983.pdf)



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