

# AQA Physics GCSE

## 4.5.3 - Forces and Elasticity

### Flashcards

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Explain the relationship between the force applied and the extension of an elastic object.



Explain the relationship between the force applied and the extension of an elastic object.

The extension is directly proportional to the force applied, provided that the limit of proportionality is not exceeded.



What is meant by an inelastic (plastic) deformation?



# What is meant by an inelastic deformation?

- A deformation which results in the object being permanently stretched
- The object doesn't return to its original shape when the force is removed



State the equation relating force, spring constant and extension. Give appropriate units.



State the equation relating force, spring constant and extension. Give appropriate units.

Force = Spring Constant x Extension

Force (N), Spring Constant (N/m)

Extension (m)



What type of energy is stored in a spring when it is stretched?





What type of energy is stored in a spring when it is stretched?

Elastic potential energy.



What can extension be replaced with in the equation for spring force?



What can extension be replaced with in the equation for spring force?

Compression.

