

**GENERAL CERTIFICATE OF SECONDARY EDUCATION A333/01/RB
TWENTY FIRST CENTURY SCIENCE**

PHYSICS A

Ideas in Context and Unit P7 (Foundation Tier)

RESOURCE BOOKLET

JUNE 2008

To be opened and given to candidates upon receipt



INSTRUCTIONS TO CANDIDATES

- This booklet contains one article.
- Take this article away and read it through carefully.
- Spend some time looking up any technical terms or phrases you do not understand.
- For the examination on **Monday 12 May 2008** you will be given a fresh copy of this article, together with a question paper.
- You will **not** be able to take your original copy into the examination with you.

This document consists of **3** printed pages and **1** blank page.

Should We Build New Nuclear Reactors?



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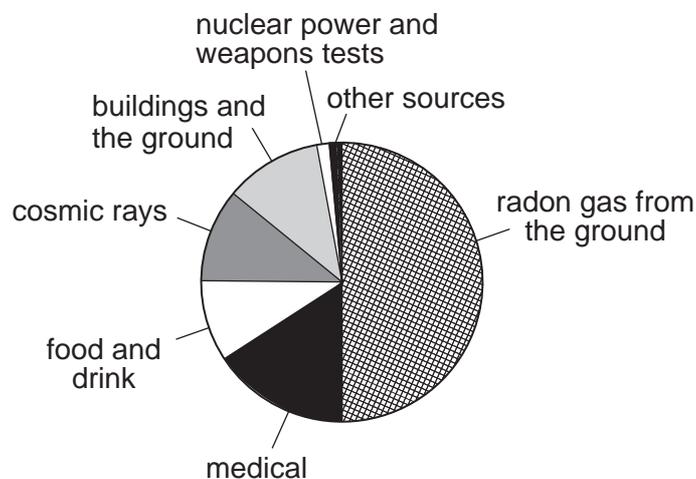
The government is considering the future of nuclear power in the UK. The UK relies on nuclear power for 20% of its electricity, but by 2023 only one of the existing power stations will still be working and will only supply about 7%.

No new reactors have been built since the 1980s because there have been problems with accidents, high decommissioning costs and the problem of nuclear waste. These problems have reduced political and public enthusiasm. But, with soaring oil and gas prices, dwindling domestic fossil fuel reserves and pressure to tackle climate change, many argue that a new generation of reactors has to be considered.

As well as producing electricity, nuclear reactors also produce radioactive materials. These are used in medicine to treat cancer, track chemicals in the body and sterilise surgical instruments. Radioactive materials are also used to sterilise food and are used in smoke detectors.

The main risk from nuclear power is exposure to radioactivity. The ionising radiation produced is harmful to living cells. This can be a hazard to health, and exposure to too much radiation is very dangerous. However, we are all exposed to 'background radiation' all the time.

Sources of exposure to radiation



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