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| **Subject** | **Year 8 Physics content Summer Term** | **How to support students’ learning** |
| Radioactivity | Atomic models* Recall the plum pudding model of the atom.
* Describe the experiment carried out by Rutherford
* Interpret experimental results
* Construct a model of the atom based on experimental results

Properties of alpha beta and gamma* Recall 3 types of radiation
* Recall the equipment used to measure radiation.
* Describe the features of each type of radiation
* Describe the properties of each type of radiation

Exposure to radiation (safety, risks, contamination & radiation)* Describe the difference between contamination and irradiation
* Describe safety features used when handling radiation in the laboratory
* Apply an understanding of properties of radiation to identify an unknown radiation source

Uses of radiation* Recall uses of radiation
* Describe different uses of radiation
* Explain why different types of radiation are used for different uses
 | This webpage provides a good introduction to atoms, recapping work from Chemistry in terms of the structure of the atom. [Structure of the atom - Atoms - Edexcel - GCSE Physics (Single Science) Revision - Edexcel - BBC Bitesize](https://www.bbc.co.uk/bitesize/guides/zctbdxs/revision/1)This video shows a reconstruction of the experiment Rutherford undertook: [Rutherford Gold Foil Experiment - Backstage Science - YouTube](https://www.youtube.com/watch?v=XBqHkraf8iE)This is a nice video to show the equipment (Geiger counter and Geiger-Muller tube) used to measure the count rate of a radioactive source. Here is it used to demonstrate the penetration power of the 3 types of radioactive emissions. [Demonstrating the penetrating power of alpha, beta and gamma radiation - YouTube](https://www.youtube.com/watch?v=jZLn5c580_Q)This page shows a good comparison of irradiation and contamination [Contamination and irradiation - Radiation and risk - AQA Synergy - GCSE Combined Science Revision - AQA Synergy - BBC Bitesize](https://www.bbc.co.uk/bitesize/guides/zwb3h39/revision/5) These resources suggest ways to reduce risks from radiation:[Reducing radiation risks - Radiation and risk - AQA Synergy - GCSE Combined Science Revision - AQA Synergy - BBC Bitesize](https://www.bbc.co.uk/bitesize/guides/zwb3h39/revision/8)[Time Distance Shielding - YouTube](https://www.youtube.com/watch?v=2AcqRD5TTpc) This collection of pages on BBC Bitesize discusses the uses of radiation: [Irradiation - Uses and dangers of radioactivity - Edexcel - GCSE Physics (Single Science) Revision - Edexcel - BBC Bitesize](https://www.bbc.co.uk/bitesize/guides/zp86v9q/revision/1)This video also discusses the uses of radiation: [Uses Of Nuclear Radiation | Radioactivity | Physics | FuseSchool - YouTube](https://www.youtube.com/watch?v=mYcbW5PImZI) |