

Draw an atom and label each part.

Draw a timeline to represent the discovery of the atom.

Describe JJ Thomson's theory of the atom (plumb pudding).

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Particle	Relative Charge	Relative Mass
Proton		
Neutron		
Electron		

State the observations Rutherford saw in his Gold leaf experiment.

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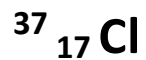
Describe what an isotope is.

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## Atomic Structure

How many protons, electrons and neutrons?



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Describe Rutherford's Gold leaf experiment.

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Explain Rutherford's conclusions about the atom based on the observations.

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Radiation Type	Symbol	What is it?	Penetrating Power	Ionising Power	Deflected by a Magnetic Field? (Y/N)

Describe the uses of each type of radiation and explain why each one is suitable.

Alpha:

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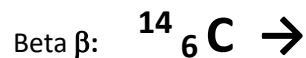
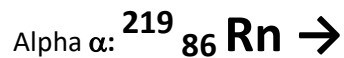
Beta:

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Gamma:

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Complete alpha and beta decay equations



Why does the emission of gamma rays not change the mass or charge of the nucleus?



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Why do some nuclei decay?

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Radioactive decay is random. What does this mean?

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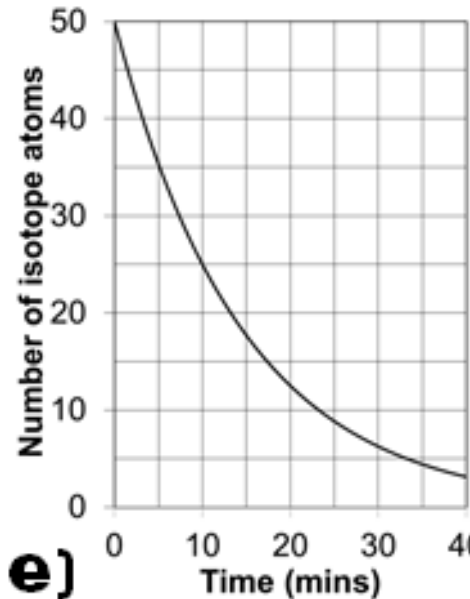
How can we measure count rate (activity) of a nuclei?

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What is half life?

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Determine the half life of an isotope from its decay curve.



What proportion of a nuclei is left after 4 half lifes?

State some sources of background radiation

Man made	Natural

What is radioactive contamination and irradiation?

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What precautions should be taken to reduce the risks of irradiation.

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Why is publishing experimental results and peer review important?

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