

# Welcome to 22.01 - Recitation #1

- Please grab a snack, get up off the sofa, look at something that isn't a screen for 5 mins!
- Please turn on your video (if possible) and mute yourself.
- These slides are at: [bit.ly/2201Rec1](https://bit.ly/2201Rec1)
- **For starters: do you have any questions about the course?**

Uraninite emitting alpha particles within a cloud chamber. The alpha particles cause condensation of the supersaturated vapour, creating visible trails.




# How do you feel about the upcoming semester?

Respond at [PollEv.com/charleshirst189](https://PollEv.com/charleshirst189)

Visual settings 


Activate 


Show responses 

Lock 

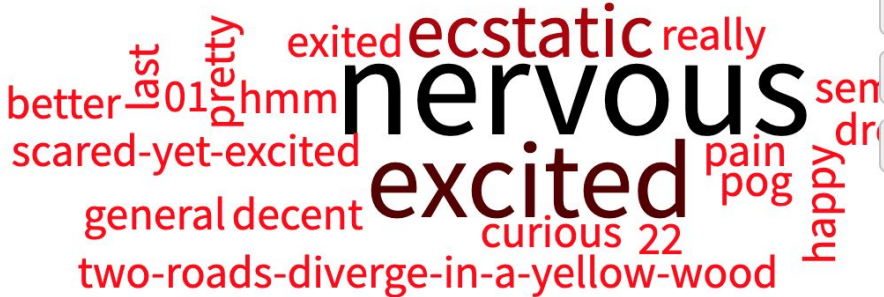
Clear responses 

Full screen 

Next 

Previous 

## How do you feel about the upcoming semester?



 Answers to this poll are anonymous

[Upgrade to enable moderation](#)




# What do you think of when you hear the word "nuclear"?

When poll is active, respond at [Pollev.com/charleshi](https://Pollev.com/charleshi)


Visual settings 

## What do you think of when you hear the word "nuclear"?

Activate 

Show responses 


1960's-aesthetic-cold-war-cave-johnson-portal-

Lock 




Clear responses 

Full screen 

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# Outline + Intended Learning Outcomes (ILOs)

Introductions (me + you)

Prior Content Knowledge: Nuclear

Behold the Table of Nuclides!

} < 30 minutes

- Draw on a map where Charlie is from!
- Share your knowledge and anti-knowledge(?) about nuclear.
- Use the Table of Nuclides to determine the source of radioactivity.



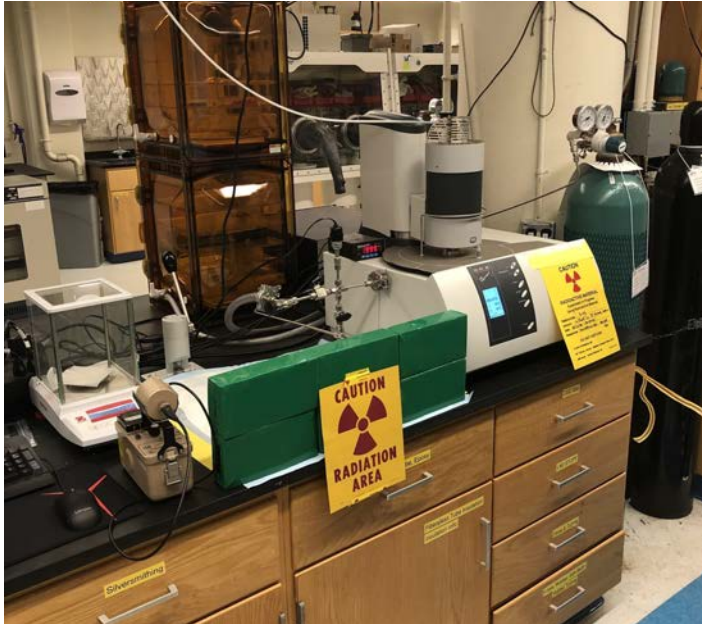
# A little bit about me...

Charlie Hirst  
(he/him/his)

Home = Settle, UK  
Degree = University of Oxford,  
Materials Science (2015)



# A little bit about me...



**NSE**

**Nuclear Science  
and Engineering**

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**COMMUNICATION LAB**

# About you...



Created by Rainbow Designs  
from Noun Project



Created by Yankeli Ahwalia  
from Noun Project

## What device are you listening on currently?

# About you...



Created by Rainbow Designs  
from Noun Project



Created by Yankhi Ahluwalia  
from Noun Project

## Do you have a tablet?





# About you...

| 1 | 2 | 3 | 4 | x |
|---|---|---|---|---|
|   |   |   |   |   |

## Which year are you?



# About you...



Created by mlison  
from Noun Project



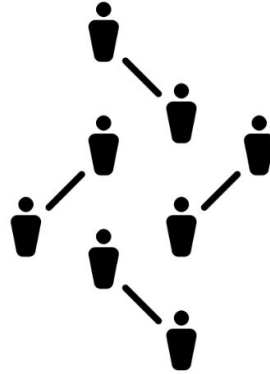
Created by Nasik Lababan  
from Noun Project

## Have you taken any course 22 classes previously?

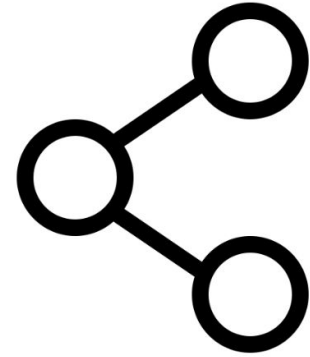
# Think-Pair-Share: prior content knowledge



**1. Think:** Reflect on the question individually. Record your thoughts on a blank piece of paper or document.



**2. Pair:** With someone around you get into groups of 2 or 3. Share your thoughts on the prompt questions.



**3. Share:** Share your insights or ideas with the large group

# Think-Pair-Share: prior content knowledge

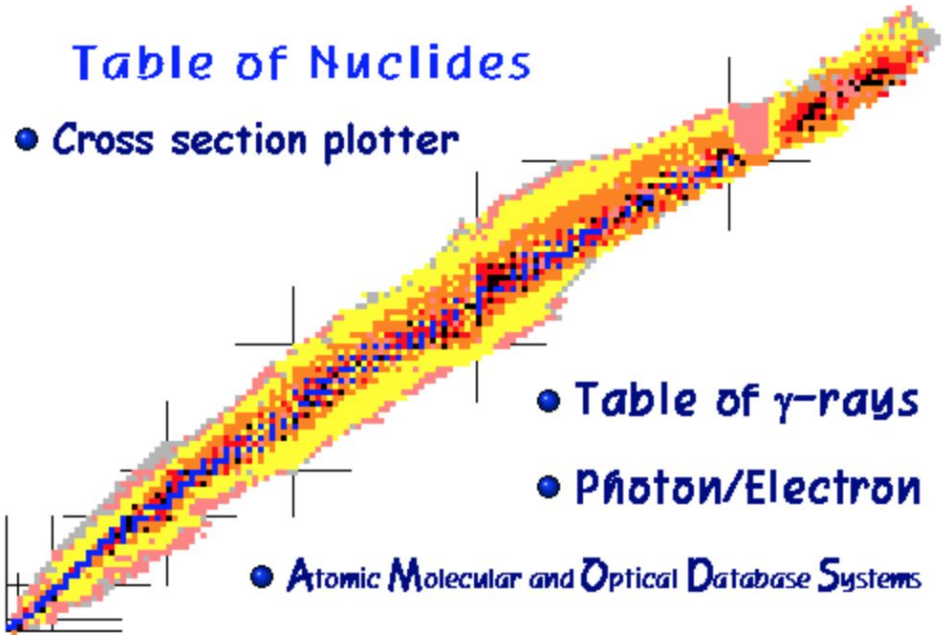
What **do** you know about nuclear science and ionizing radiation?

What **don't** you know about nuclear science and ionizing radiation? ...

... **yet!**



# Behold the Table of Nuclides!



Created by mikson from Noun Project



Created by Nasik Lababan from Noun Project

# Let's use the Table of Nuclides...

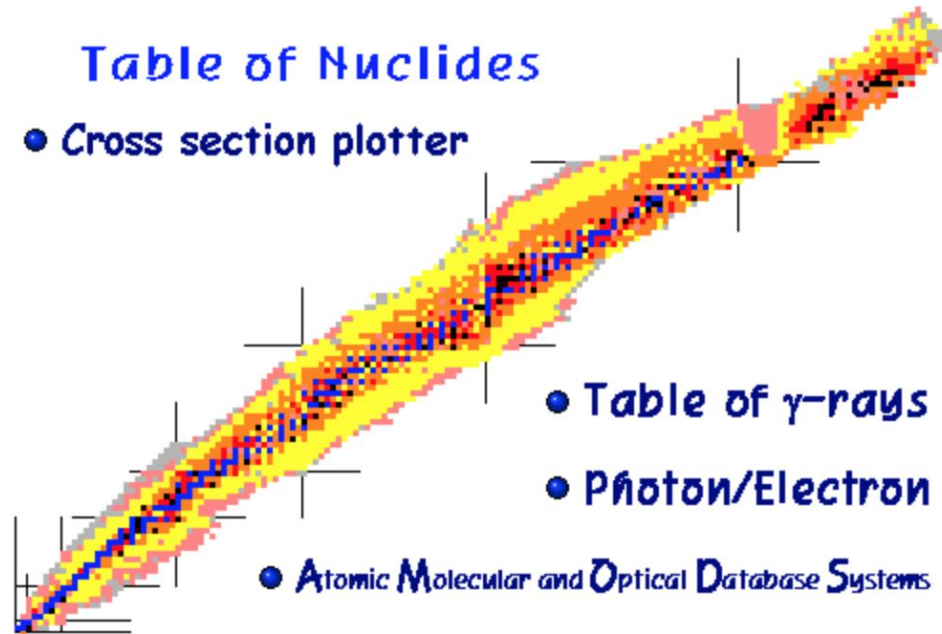
Which isotope is responsible for the alpha decay seen here?

What factors does radioactivity depend on?

Uraninite emitting alpha particles within a cloud chamber. The alpha particles cause condensation of the supersaturated vapour, creating visible trails.



# Let's use the Table of Nuclides...



Let's use the Table of Nuclides...





# Let's use the Table of Nuclides...

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- Questions?
- [cahirst@mit.edu](mailto:cahirst@mit.edu)
- Piazza
- Please grab a snack, get up off the sofa, look at something that isn't a screen for ~30 mins!

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<https://ocw.mit.edu>

22.01 Introduction to Nuclear Engineering and Ionizing Radiation  
Spring 2024

For information about citing these materials or our Terms of Use, visit: <https://ocw.mit.edu/terms>.