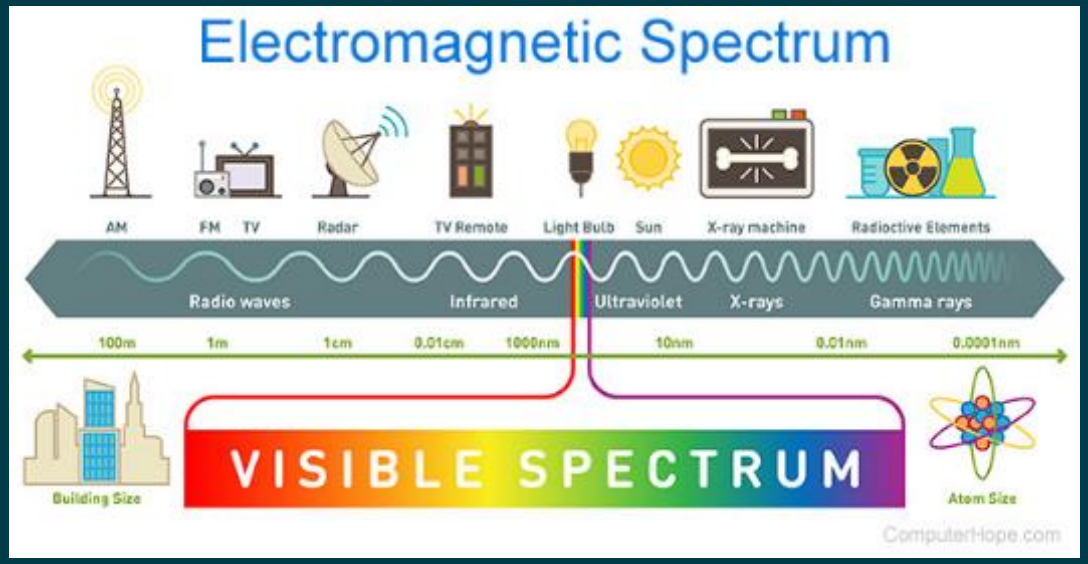

Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin
I-LOFAR
Telescopes
Throughout the Ages
Science
Foundation
Ireland
sfi
For what's next
Ireland
esero

What light can we capture?

Traditional telescopes as we might understand them use visible light

BUT what about when it's cloudy or if we want to observe during the day



Credit: computerhope.com

Like in an airport we use x-rays to look into something we can't see. When we collect different forms of EM radiation, we can create a clearer image of space.

One way to see into space is with radio waves that aren't blocked out by our atmosphere

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How has our view of space changed throughout history?

In groups arrange the pictures in chronological order

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Answers

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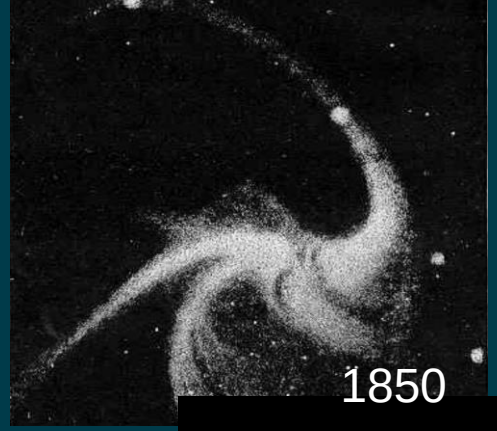
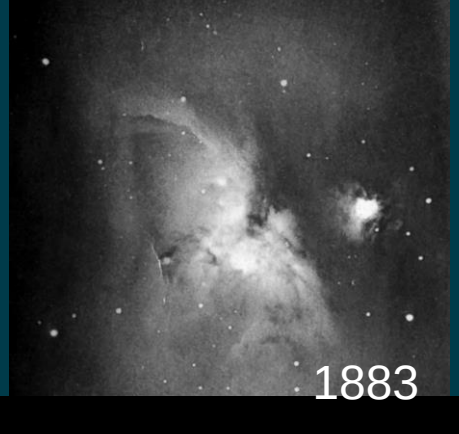
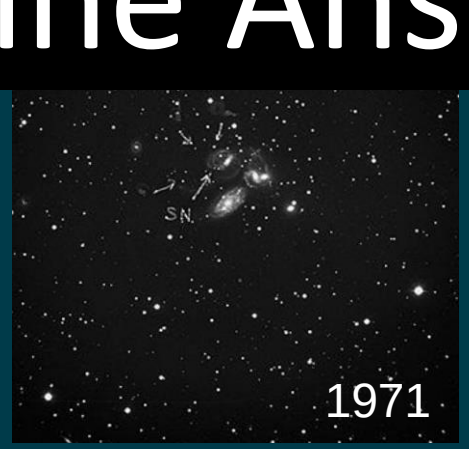
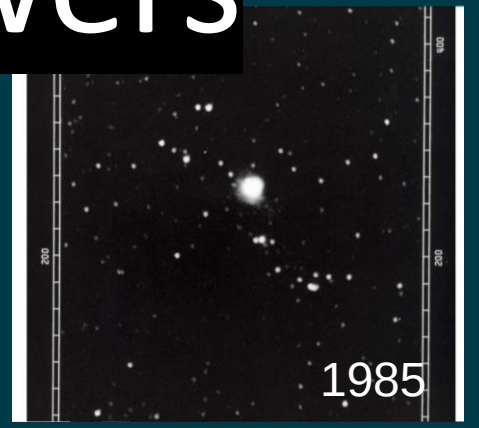
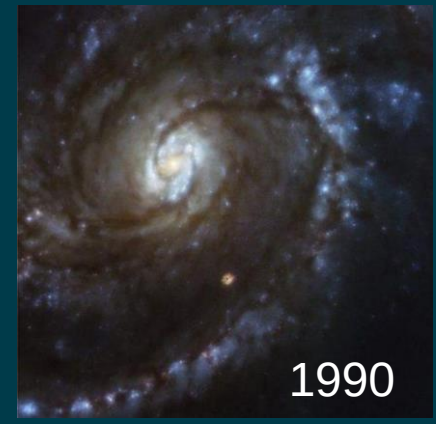
Timeline Answers

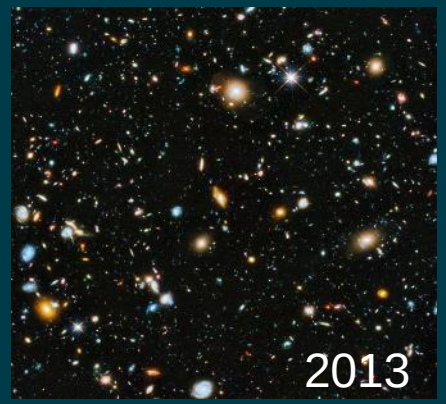


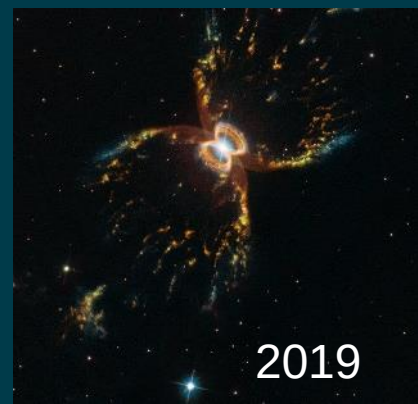










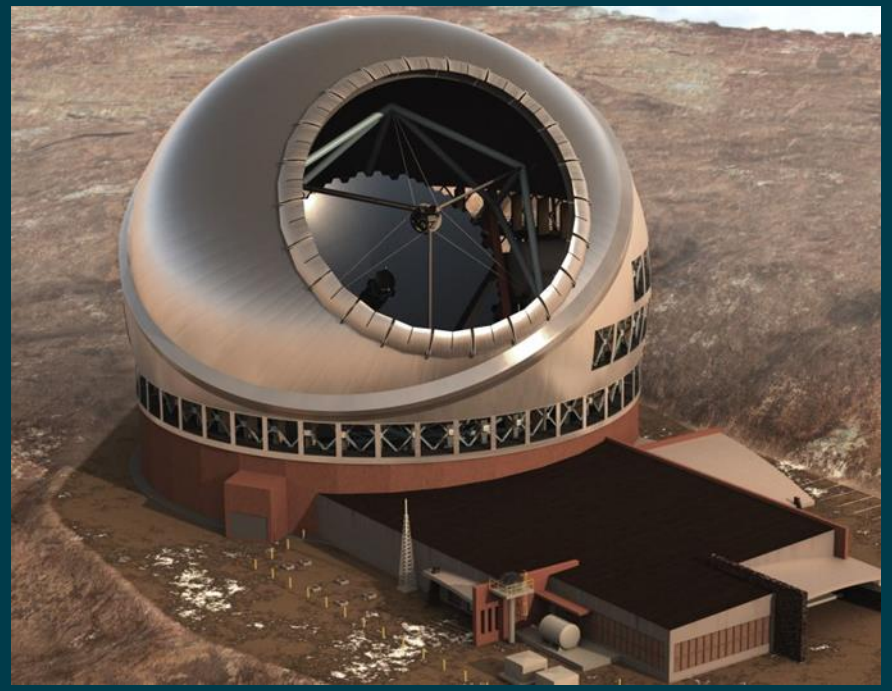


Making better telescopes

How do we improve upon previous telescopes?

- Materials
- Size
- Magnification capabilities
- Longevity & maintenance
- Position
- Type of EM radiation

Can we just keep making bigger and bigger telescopes?



The largest optical telescope is Gran Telescopio Canarias in Spain, built in 2009.

10.4m aperture

Physical Limitations

After the collapse of a 91.4m radio telescope in West Virginia.

Beyond a certain size, we can only have stationary telescopes which limits the accuracy and scope of what we can study.

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What might we discover with future telescopes?

Telescopes in Ireland

- Ireland is involved in telescopes such as, ESO (European Southern Observatory), EST (European Solar Telescope), JWST (James Webb Space Telescope)

- Ireland does have its own history of astronomy, in Birr, Offaly, within 300m there are two excellent examples of telescopes from different periods of time.

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Irish Astronomy

Ireland’s largest Radio Telescope, I-LOFAR, which is connected to other telescopes all around Europe.

The Leviathan from the 1840’s is an optical telescope that was once the largest in the world for 70 years.