

Lesson Plan: Cosmic Calendar

Duration: 35-40 mins

Learning objectives:

1. Discuss the age of the Universe on a timescale we can visualise.
2. Describe the events that occurred on the cosmic timescale.
3. Understand at a better level how old the Universe is.

Links to Junior Cycle Science Curriculum:

- ❑ E&S 2, Building Blocks

Activity	Procedure	Materials	Time
The age of the Universe	<ul style="list-style-type: none"> Discuss the age of the Universe and how this can be condensed down into one calendar year. Focus on the students' understanding of how this would look. 	Powerpoint attached (Slide 2)	5
The calendar	<ul style="list-style-type: none"> Describe how the activity will work. Allow the students to guess when the events on the event sheet occurred (they are in order of when they occurred from top to bottom) by cutting these images out and using blue-tac to stick them on the calendar on the date when they think they occurred. 	Calendar sheets, blue-tac, scissors	15
Cosmic Calendar	<ul style="list-style-type: none"> After the students have guessed when these events occurred, describe when events actually occurred and compare this to their guesses. Discuss how this may look a lot different to what they expected. 	Powerpoint attached	10
Year 2	<ul style="list-style-type: none"> Describe future events that are hypothesised to occur in the next 13.8 billion years. 	Powerpoint attached	5
Class discussion	<ul style="list-style-type: none"> Did you expect humans to pop up so late on the calendar? Does it help you understand how old the Universe is compared to all of human history? 		5

Further study after class	<ul style="list-style-type: none">• Carl Sagan's Cosmic Calendar	Video by Nat Geo on Year 1: https://www.youtube.com/watch?v=Bl-s4tqR8Bc&t=1s	2
---------------------------	--	--	---