

# How the big bang theory models the origin and evolution...

describe how the big bang theory models the origin and evolution of the universe and analyse the supporting evidence for the theory

## Learning intention

- describe how the big bang theory models the origin and evolution of the universe and analyse the supporting evidence for the theory

## Teach and model

- describing the major components of the universe using appropriate scientific terminology and units including astronomical units, scientific notation and light-years
- constructing a timeline to show major changes in the universe which are thought to have occurred from the Big Bang until the formation of the major components such as...
- examining how stars' light spectra and brightness is used to identify compositional elements of stars, their movements and their distances from Earth

## Check understanding

- Explain the main idea in how the big bang theory models the origin and evolution... using an example.
- Show the idea in a second way: with words, a model, a diagram or symbols.
- Apply the idea to a short unfamiliar situation and justify the result.

## Teaching cautions

- Ask the student to explain their choice, not only state an answer.
- Check that key vocabulary is understood in a new example.
- Mix representations so the skill is transferred rather than copied.

## Quick lesson sequence

- Connect to prior knowledge and introduce the key vocabulary.
- Model one clear example, then solve a second example together.
- Finish with an independent check and a short student explanation.