































## Hubble time

In the case of constant expansion rate, the Hubble time gives the age of the Universe:

$$t_{\rm H} = \frac{1}{H_0} \approx 14 \; {\rm Gyr}$$

In more realistic scenarios, the expansion rate changes over time, but the currently favoured age of the Universe is still pretty close – around 13–14 Gyr.

















## **General Relativity**

- 4D space-time
- Mass/energy curves space-time
- Gravity = curvature
- Pocket summary:
  - Mass/energy tells space-time how to curve
  - Curved space-time tells mass/energy how to move













