

Galaxy  
glider

START

## (b) Expansion

When objects move away from you, the wavelength you perceive will be longer

→

As the universe aged, the rate of expansion has increased

→

The universe is over 13.4 billion years, and it might always look the way it does today

This phenomenon is known as redshift



→

Start animation

→

TRATZ

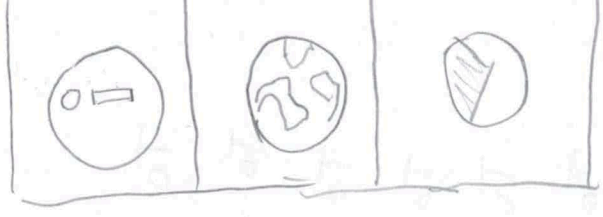
(c)

Main  
Screen

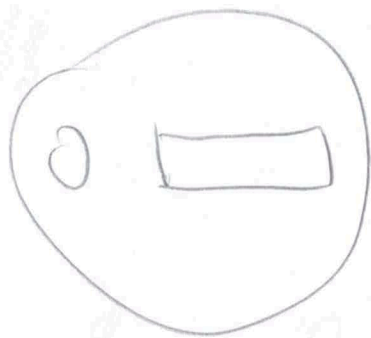
100

Present

7.5  
billion  
years



Back



To pan left to right use



and



To pan up - to down use



and



To spin clockwise use



To spin counterclockwise use



To pause the animation, click



To select a Galaxy to re-center to, click



To understand your orientation



Choose

Galaxy

→ Current

Gal 1

Gal 2

Gal 3

...

GO

(ε)  
Galaxy  
Selector  
(will bdd  
Chosen selection)



penning up  
will allow  
users to  
see sky