

Evolution of Galaxies

- in groups consider a problem astronomers are still working on.

Do elliptical galaxies evolve into spirals?

OR

Do spiral galaxies evolve into ellipticals?

First: Consider these clues:

① Ellipticals don't rotate:

- their shapes are due to random orbits about their centres

round \leftarrow E0: isotropic orbits \equiv "equal in all directions"
flattened \leftarrow E7: anisotropic orbits \rightarrow different in different directions

• But spiral (disk) galaxies spin

② Sc have the most fuel (gas) for star formation and ellipticals have the least

③ Ellipticals have old stars while spirals have both

④ More spirals exist than ellipticals

then

• Which premise would you support? why? (use the clues)

• Can you think of a way to convert ellipticals into spirals?

• Can you think of a way to convert spirals into ellipticals?

\rightarrow (Pick one to describe)