

Flux and Luminosity

- 1) Which value, flux or luminosity, do you think:
 - a) tells us how bright an object will appear from Earth?

 - b) tells us about the object's actual brightness?

- 2) Star A appears four times as bright as star B when viewed from Earth. Why might this be so?

- 3) Consider the following debate between two students.

Student 1: I think star A must be more luminous than star B in order to appear brighter.

Student 2: I disagree. Star A must be closer than star B in order to appear brighter.

Do you agree or disagree with either or both students? Why?

Two stars are equally far away from us, but star C appears four times as bright as star D.

- 4) How do their fluxes compare?

- 5) How do their luminosities compare?

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Star E appears four times as bright as star F, but they are too far away to measure their distances.

6) Based on what you've learned so far, why can't you determine their distances?

Through other means, you discover that star E is as luminous as star F.

7) What must be different about star E and star F?

8) How do star E and star F compare in regards to this value?