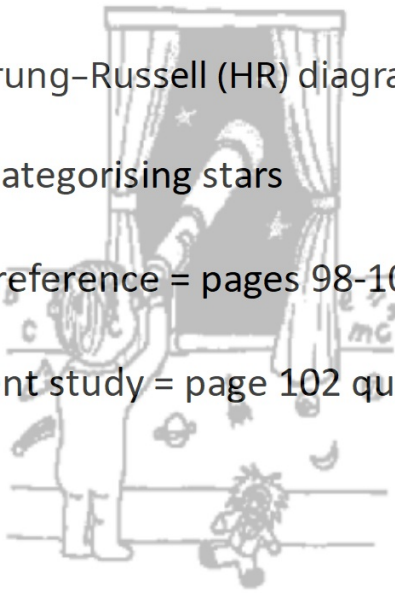
STAR CLASSIFICATION

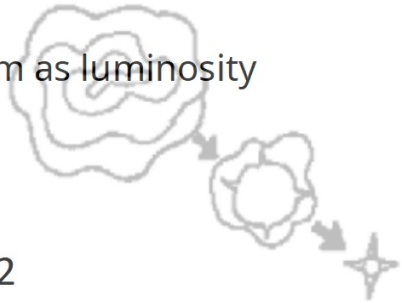
OCR A LEVEL PHYSICS H556
Module 5: Newtonian world and astrophysics
5.5 Astrophysics and cosmology
5.5.1 Stars
g) Hertzsprung–Russell (HR) diagram as luminosity

Outline = categorising stars

Text book reference = pages 98-102

Independent study = page 102 questions





twinkle, twinkle, little star,
how I wonder what you are

up above the world so high,
a contracting ball of hot
hydrogen gas ...

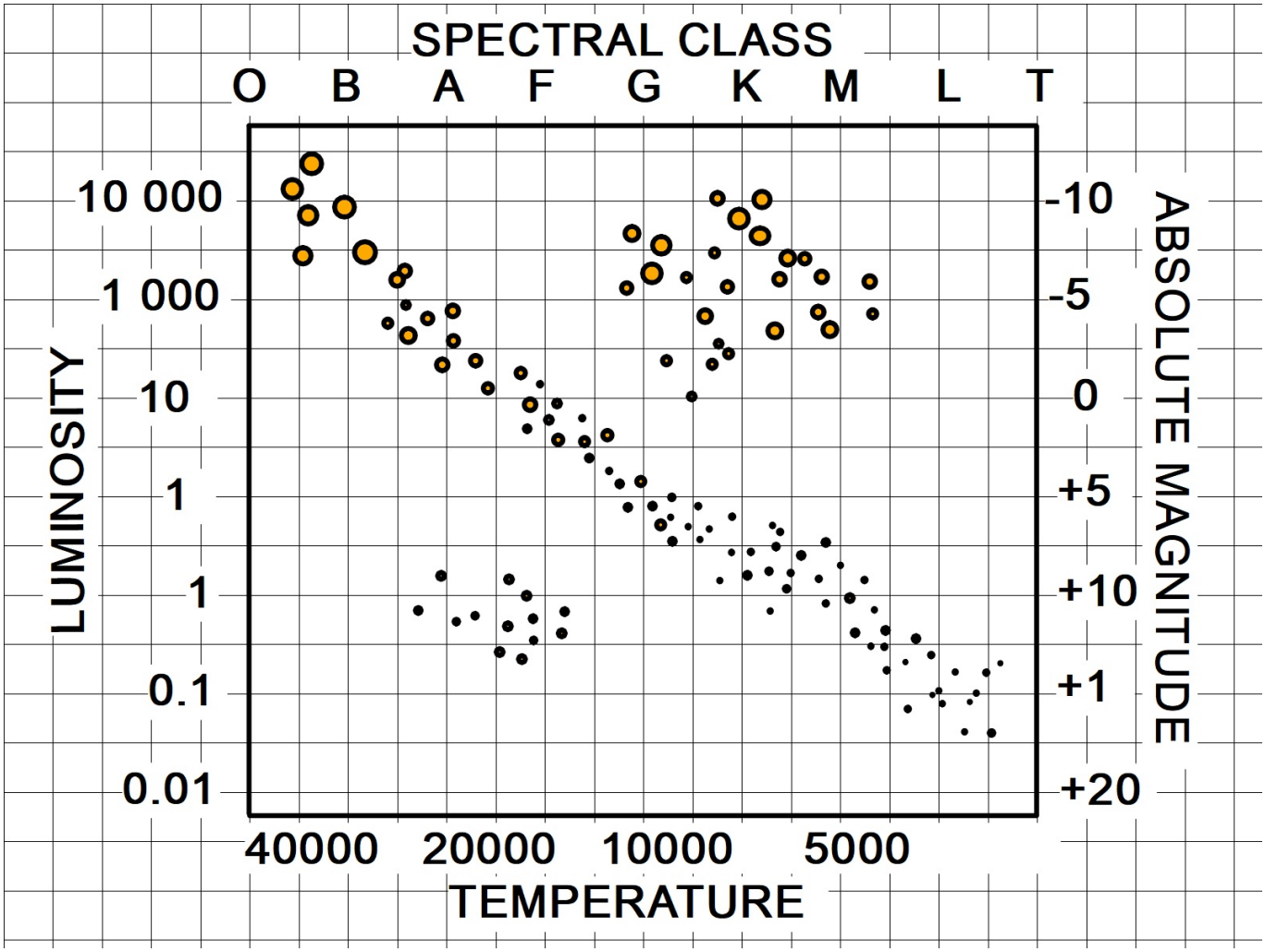
What is this lesson all about?

- Understanding that stars can be very different
- Classifying stars
- Grouping stars
- Lifecycle
- Mapping the evolution of a star
- Why are some brighter than others?

STAR CLASSIFICATION

Hertzsprung-Russell diagrams

- Classify stars
- Group stars
- Mapping the evolution of a star
- Compare brightness
- Compare size
- Compare likely time for lifecycle to be complete



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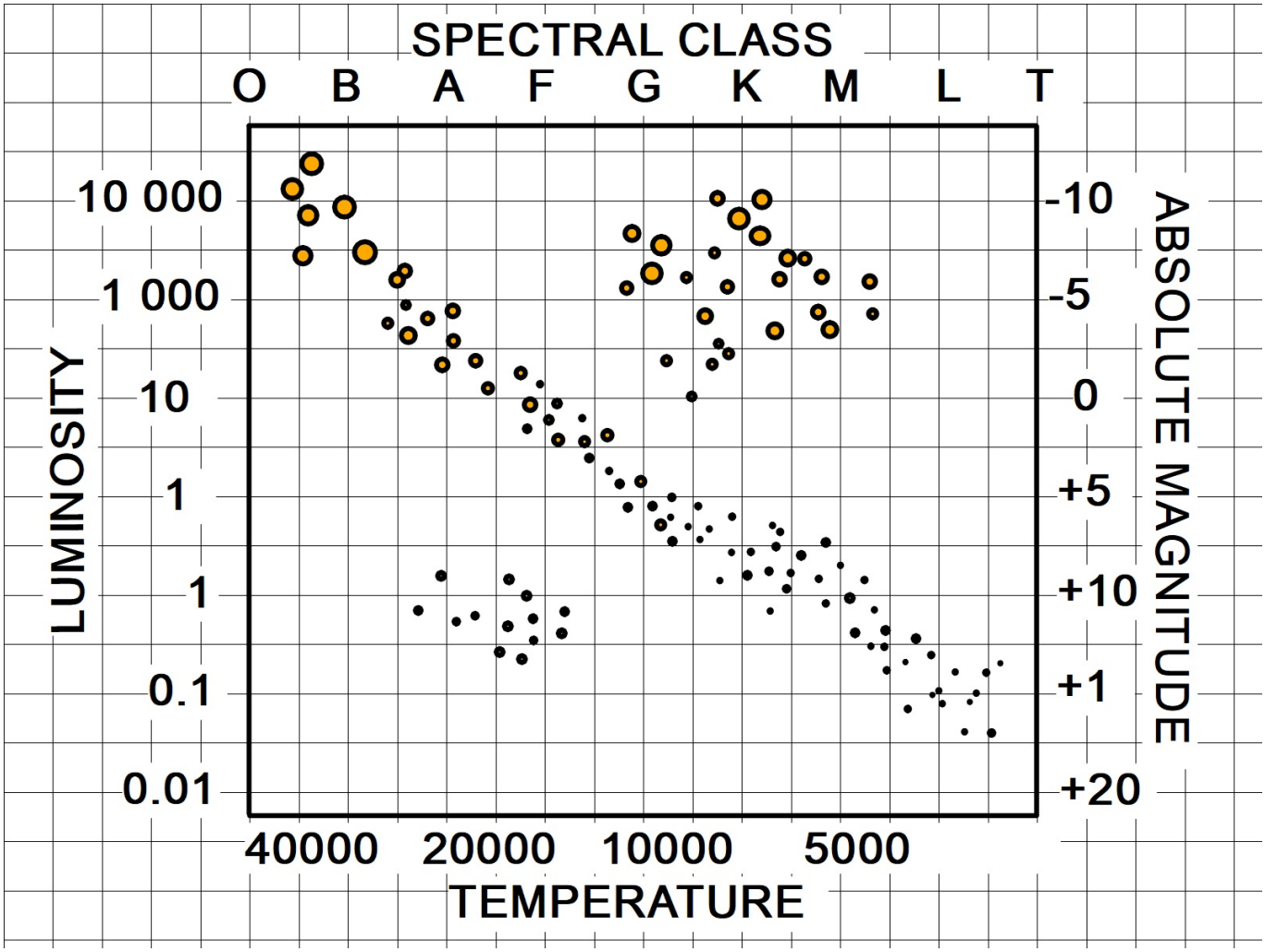
Annotating Hertzsprung-Russell diagrams

- Main phase
- Red Giants <-- label these on the diagram
- Red super-giants
- White dwarfs
- Shortest life
- Longest life
- Brightest?



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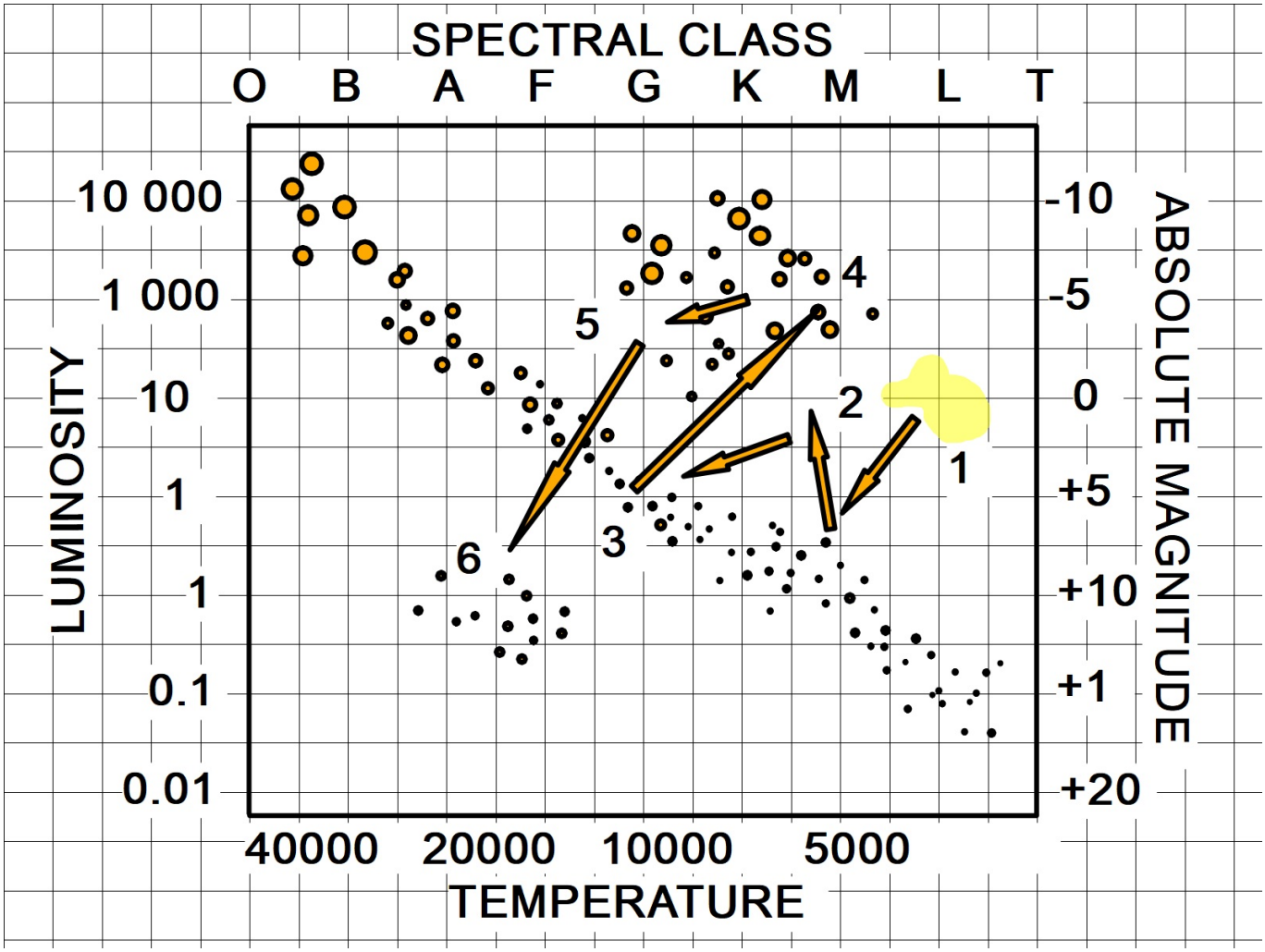
Mapping star lifecycles

The diagram follows the lifecycle for a star similar to the Sun

- 1 =
- 2 =
- 3 =
- 4 =
- 5 =
- 6 =



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Independent study

- Page 102 questions from your text book

Further thoughts?