Astronomy and cosmology

A-Level Physics · Vocabulary in context

Word	Example
luminosity /ˌluːmɪˈnɒsɪti/	The **luminosity** of a star is its total power.
power /ˈpaʊə/	A 60 W lamp has a **power** of 60 watts. 60 W 60
energy /ˈenədʒi/	Food gives your body the **energy** it needs to move.
radiant flux intensity /ˈreɪdɪənt flʌks ɪnˈtensɪti/	The **radiant flux intensity** falls with distance from the star.
inverse-square law /ɪnˈvɜːs skweə lɔː/	The **inverse-square law** says double the distance gives a quarter of the intensity.
standard candle /ˈstændəd ˈkændl/	A **standard candle** is a star of known brightness.
Cepheid variables /ˈsefiɪd ˈveərɪəblz/	**Cepheid variables** help us measure distances to galaxies.
Type Ia supernovae /taɪp wʌn ˈeɪ ˌsuːpəˈnəʊviː/	**Type Ia supernovae** all have about the same peak brightness.
parallax /ˈpærəlæks/	Look straight at the scale to avoid **parallax** errors.
light years /laɪt jɪəz/	The star is 4 **light years** away. 4
blackbody /ˈblækbɒdi/	A **blackbody** absorbs all the light that hits it.
wavelength /ˈweɪvleŋθ/	The **wavelength** is the distance from one crest to the next.
temperature /ˈtemprɪtʃə/	The thermometer shows the water's **temperature**.

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← **Wien's displacement law** /viːnz dɪˈspleɪsmənt lɔː/	**Wien's displacement law** says hotter stars look bluer.
x^2 **Stefan–Boltzmann constant** /ˈstefən ˈbɒltsmən ˈkɒnstənt/	σ is the **Stefan–Boltzmann constant**. σ
Stefan–Boltzmann law /ˈstefən ˈbɒltsmən lɔː/	The **Stefan–Boltzmann law** gives the power of a star.
spectral lines /ˈspektrəl laɪnz/	**Spectral lines** show which elements are in the star.
→ **redshift** /ˈredʃɪft/	The **redshift** shows the galaxy is moving away.
↘ **recession** /rɪˈseʃn/	The galaxy's speed of **recession** is 2000 km/s. 2000 km/s
← **blueshifted** /ˈbluːʃɪftɪd/	Light from a galaxy coming towards us is **blueshifted**.
Doppler effect /ˈdɒplə ɪˈfekt/	The **Doppler effect** makes a passing car's sound change pitch.
Hubble's law /ˈhʌblz lɔː/	**Hubble's law** says far galaxies move away faster.
Hubble constant /ˈhʌbl ˈkɒnstənt/	The **Hubble constant** links a galaxy's speed to its distance.
Big Bang /bɪg bæŋ/	The universe began with the **Big Bang**.
cosmic microwave background /ˈkɒzmɪk ˈmaɪkrəʊweɪv ˈbækgraʊnd/	The **cosmic microwave background** is left over from the Big Bang.
supernovae /ˌsuːpəˈnəʊviː/	**Supernovae** are huge star explosions.

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