3 · Practical Skills in Physics I

Pearson Edexcel · International A-Level · Physics · Vocabulary in context

Word	Example
valid measurement /'vælɪd 'meʒəmənt/	A **valid measurement** measures what you really want to test.
independent variable /ˌɪndɪ'pendənt 'veərɪəbl/	The **independent variable** is the one you change.
dependent variable /dɪ'pendənt 'veərɪəbl/	The **dependent variable** is the one you measure.
control variables /kən'trəʊl 'veərɪəblz/	Keep the **control variables**, such as the temperature, the same.
apparatus	List the **apparatus** you need before you write the method.
resolution /ˌrezə'luːʃn/	High **resolution** shows small details.
hazard /'hæzəd/	Falling masses are a **hazard** to your feet.
risk /rɪsk/	Known probabilities help a manager estimate **risk**.
fundamental frequency	At the **fundamental frequency**, the string vibrates in one loop.
tension /'tenʃn/	The **tension** in the rope holds up the lamp.
pulley /'pʊli/	The rope passes over a **pulley**.
• **node** /nəʊd/	A **node** on the string does not move.

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Word	Example
linear density /'lɪnɪə 'densɪti/	A uniform rod of mass 2 kg and length 4 m has a **linear density** of 0.5 kg/m. 2 kg、 4 m 0.5 kg/m
resonant frequency	At the **resonant frequency**, the vibration is largest.
gradient /'greɪdɪənt/	The **gradient** of a distance-time graph gives the speed. –
calibration /ˌkælɪ'breɪʃn/	**Calibration** checks a thermometer against known temperatures.
zero error /'zɪərəʊ 'erə/	The meter shows 0.2 V with nothing connected: a **zero error**. 0.2 V
micrometer /maɪ'krɒmɪtə/	Use a **micrometer** to measure the thickness of a coin.
offset	A zero error adds the same **offset** to every reading.
drift	Readings may **drift** as the wire warms up.
accuracy /'ækjʊrəsi/	**Accuracy** tells you how close a result is to the true value.
precision /prɪ'sɪʒn/	Readings with high **precision** are all very close to each other.
repeatability /rɪˌpiːtə'bɪlɪti/	Good **repeatability** means you get similar readings each time.
reproducibility /rɪprəˌdjuːsə'bɪlɪti/	Good **reproducibility** means other people get the same results.
random effects /'rændəm ɪ'fekts/	**Random effects** make repeat readings slightly different.

Word	Example
systematic error /ˌsɪstəˈmætɪk ˈerə/	A scale that reads too high gives a **systematic error**.
uncertainty /ʌnˈsɜːtənti/	The length is 25.0 cm with an **uncertainty** of 0.1 cm. 25.0 cm 0.1 cm
Vernier calipers /ˈvɜːnɪə ˈkælɪpəz/	**Vernier calipers** measure the width of a block to 0.1 mm. 0.1 mm
ratchet	Turn the **ratchet** until it clicks, so you do not squeeze too hard.
parallax /ˈpærəlæks/	Look straight at the scale to avoid **parallax** errors.
light gate /laɪt geɪt/	A **light gate** measures the time when a card passes through it.
reaction-time /rɪˈækʃn taɪm/	A **reaction-time** test uses a falling ruler.
significant figures /sɪgˈnɪfɪkənt ˈfɪgəz/	The number 0.0450 has three **significant figures**. 0.0450
anomalous reading /əˈnɒmələs ˈriːdɪŋ/	Check an **anomalous reading** that does not fit the pattern.
half range /hɑːf reɪndʒ/	The **half range** is the largest repeat minus the smallest, divided by two.
best-fit line /best fɪt laɪn/	Draw a **best-fit line** through the points.
direct proportionality	**Direct proportionality** gives a straight line through the origin.
intercept /ˌɪntəˈsept/	The line crosses the y-axis at the **intercept**. y
resistivity /ˌriːzɪˈstɪvəti/	Copper has a low **resistivity**, so it makes good wires.

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Word	Example
dimensionless	sin θ is **dimensionless**: it has no unit. sin θ