Gas laws

International Baccalaureate · IB Diploma · Physics · SL · Vocabulary in context

Word	Example
pressure /ˈpreʃə/	A sharp knife puts a large **pressure** on the bread.
amount of substance /əˈmaʊnt ɒv ˈsʌbstəns/	The **amount of substance** is measured in moles.
Avogadro constant /ˌævəˈgædrəʊ ˈkɒnstənt/	The **Avogadro constant** is 6.02×10^{23} per mole. 6.02×10^{23}
molar mass /ˈməʊlə mæs/	The **molar mass** of water is 18 g/mol. 18 g/mol
absolute zero /ˈæbsəluːt ˈzɪərəʊ/	Nothing can be colder than **absolute zero**.
pressure–volume diagram	A **pressure–volume diagram** shows how a gas changes.
isotherm	An **isotherm** is a curve at one temperature.
molar gas constant /ˈməʊlə gæs ˈkɒnstənt/	R is the **molar gas constant**. R
ideal gas law /aɪˈdɪəl gæs lɔː/	The **ideal gas law** is $pV = nRT$. $pV = nRT$
ideal gas /aɪˈdɪəl gæs/	An **ideal gas** follows $pV = nRT$ exactly. $pV = nRT$
kinetic theory /kɪˈnetɪk ˈθɪəri/	**Kinetic theory** says gas particles move all the time.
root mean square speed /ruːt miːn skweə spiːd/	The **root mean square speed** of air molecules is about 500 m/s. 500 m/s

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monatomic /ˌmɒnəˈtɒmɪk/	Helium is a **monatomic** gas: its particles are single atoms.
real gas /rɪəl gæs/	At high pressure, a **real gas** does not follow pV = nRT exactly.

$$pV = nRT$$

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