Fluids

AP Physics 1 · Vocabulary in context

Word	Example
fluid /ˈfluːɪd/	Air and water are both a **fluid**.
density /ˈdensɪti/	Iron has a higher **density** than wood, so it sinks in water.
ideal fluid /aɪˈdɪəl ˈfluːɪd/	An **ideal fluid** has no friction and cannot be squeezed.
incompressible /ˌɪnkəmˈpresəbl/	Water is almost **incompressible**: you cannot squash it.
viscosity /vɪˈskɒsɪti/	Oil has a higher **viscosity** than water.
pressure /ˈpreʃə/	A sharp knife puts a large **pressure** on the bread.
perpendicular /ˌpɜːpənˈdɪkjʊlə/	The wall is **perpendicular** to the floor.
scalar /ˈskeɪlə/	Mass is a **scalar** because it has no direction.
pascals	Pressure is measured in **pascals**.
depth /depθ/	The pressure grows with **depth** under water.
gauge pressure /geɪdʒ ˈpreʃə/	A tyre gauge shows **gauge pressure**: pressure above the air around it.
atmospheric pressure /ˌætməsˈferɪk ˈpreʃə/	**Atmospheric pressure** is the push of the air around us.
absolute pressure /ˈæbsəluːt ˈpreʃə/	**Absolute pressure** is gauge pressure plus air pressure.

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Pascal's principle	**Pascal's principle** says pressure spreads equally through a fluid.
buoyant force /ˈbɔɪənt fɔːs/	The **buoyant force** pushes a boat up.
Archimedes' principle /ˌɑːkɪˈmiːdiːz ˈprɪnsɪpl/	**Archimedes' principle** says upthrust equals the weight of water pushed away.
apparent weight	Your **apparent weight** changes in a moving lift.
continuity /kɒntɪˈnjuːɪti/	The **continuity** equation says water flows faster in a narrow pipe.
conservation of mass /ˌkɒnsəˈveɪʃn ɒv mæs/	In a pipe, **conservation of mass** means what flows in must flow out.
volume flow rate /ˈvɒljuːm fləʊ reɪt/	The **volume flow rate** is how much fluid passes each second.
Bernoulli's equation /ˈbɜːnaʊliz ɪˈkweɪʒn/	**Bernoulli's equation** says faster fluid has lower pressure.
conservation of energy /ˌkɒnsəˈveɪʃn ɒv ˈenədʒi/	**Conservation of energy** means energy is never made or destroyed.
streamline	A **streamline** is everywhere tangent to the local velocity.
Torricelli's result	**Torricelli's result** gives the speed of water leaving a hole in a tank.
equilibrium /ˌiːkwɪˈlɪbrɪəm/	The book is in **equilibrium** because the forces balance.