

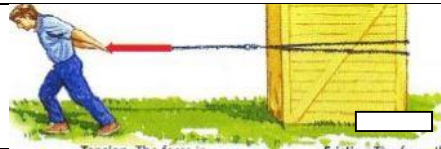
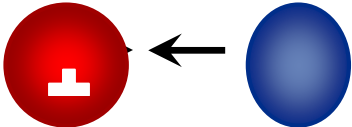
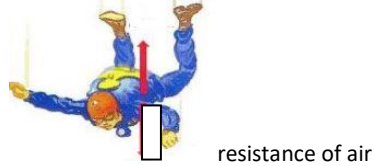
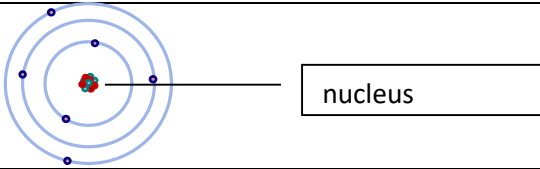
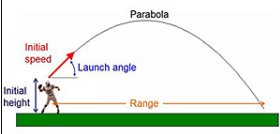


Physics - Dictionary

word	definition	examples	Slovak
physics	1. your school subject, 2.+chemistry+biology+mathematics= science		
physicist	the scientist who deals with physics		
measure- <i>verb</i>	to use a tool (balance) to get mass (m) in number and unit		
measurement - <i>noun</i>	the act when we measure		
physical quantity	a property of a body or an effect	mass m, time t, speed v....	
unit of p.quantity	unit is expression of size	metre, kilogram, watt...	
calculate- <i>verb</i>	to work with numbers, we can use a calculator		
prefix	a part of a word that we add in front of the word	kilo-, mili-, mega-, mikro-,	
scientific notation/ form	a way of recording numbers	4.5×10^6 , 1.8×10^{-3} , ...	

word	definition	examples	Slovak
including		(there are many units) i. those above = those above are in a group of units	
range		r. of students is from (ages 14) to (18)	
basic unit	main unit	metre, second, kilogram, Kelvin, ampere	
to affect	to have influence/effect on sth		
to pull pull, <i>n</i>			
to attract, <i>v</i>	to pull towards each other		
to resist resistance <i>n</i>			
attempt, <i>n</i>	trying doingsth		
alloy, <i>n</i>	material made from more metals	bronze	
rate	in some time intervals		
accuracy, <i>n</i> accurate, <i>adj</i>			
nucleus, <i>n</i>	the central part of an atom		
to occur	to be in certain place		
mass <i>m</i>		measured in kilograms, grams, tons	
time <i>t</i>		measured in seconds, minutes, hours, days	
length <i>l</i> , <i>s</i>		measured in metres, kilometres,...	
volume <i>V</i>		measured in cubic metres, litres	
speed <i>v</i>		measured in metres per second	

Slovak	English	definition	examples
trajektória	trajectory	line described by a moving body	
dráha	distance	length of trajectory	
hmotný bod	mass point		
rýchlosť	speed		
okamžitá rýchlosť	instant speed		
vector rýchlosti	velocity		
pohyb	motion		
priamočiary	straight-lined		
krivočiary	curve-lined		
posuvný pohyb	translating / translation		
rotovanie	rotating/ rotation spinning/ spin		
obiehanie	orbiting	trajectory is closed curve	
kmitanie	oscillating/ oscillation		
vlna/vnenie	wave		
(ne)rovnomerný	(un)steady		
plocha/obsah	area		
zrýchliť/zrýchlenie	accelerate/acceleration		
spomaľiť/ spomalenie	decelerate/deceleration		
smer	direction		
dotyčnica	tangent		

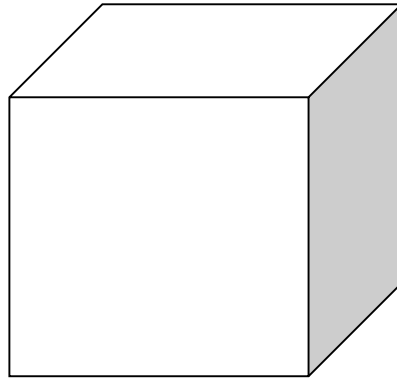
Units for measuring volume V

basic unit $1\text{m}^3 = 1$ cubic metre

other units: cubic decimetre/centimetre/ millimetre/kilometre, litre, hectolitre hl, decilitre dl, centilitre cl, millilitre ml

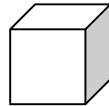
$$1 \text{ litre} = 1\text{dm}^3$$

$$1\text{ml} = 1\text{cm}^3$$



$$a = 1\text{m} = 10\text{dm} = 100\text{cm} = 1000\text{mm}$$

$$V = a.a.a = a^3 = 1\text{m}^3 = 10^3\text{dm}^3 = 10^6\text{cm}^3 = 10^9\text{mm}^3$$



$$a = 1\text{mm} = 10^{-1}\text{cm} = 10^{-2}\text{dm} = 10^{-3}\text{m}$$

$$V = 1\text{mm}^3 = 10^{-3}\text{cm}^3 = 10^{-6}\text{dm}^3 = 10^{-9}\text{m}^3$$

$$V = 1\text{cm}^3 = \underline{\hspace{1cm}} \text{mm}^3 = \underline{\hspace{1cm}} \text{dm}^3 = \underline{\hspace{1cm}} \text{m}^3$$

$$V = 1\text{dm}^3 = \underline{\hspace{1cm}} \text{mm}^3 = \underline{\hspace{1cm}} \text{cm}^3 = \underline{\hspace{1cm}} \text{m}^3$$

1) 3500dm^3 (m^3 , dl) =

2) 2l =

3) 50hl (m^3) =

4) 78000cm^3 (dl) =

Scientific notation

Zápis čísla pomocou mocniny desiatky:

$a \cdot 10^n$, a – reálne číslo, $1 \leq a < 10$, n - celé číslo

Príklady:

$150\,000\,000 = 1,5 \cdot 10^8$ znamená prvu platnou číslicou nasleduje 8 rádo

$0,000156 = 1,56 \cdot 10^{-4}$ znamená, že prvá platná číslica je na 4. mieste z desatinnou čiarkou

operácie s mocninami

$$10^a \cdot 10^b = 10^{a+b} \qquad 10^a : 10^b = 10^{a-b} \qquad 10^0 = 1$$

$$15000\text{mm} \cdot 0,001\text{m} = 1,5 \cdot 10^4 \cdot 10^{-3}\text{m} = 1,5 \cdot 10^{4+(-3)}\text{m} = 1,5 \cdot 10^1\text{m}$$

$$0,007\text{ kg} \cdot 1\,000\,000\text{ mg} = 7 \cdot 10^{-3} \cdot 10^6\text{mg} = 7 \cdot 10^{-3+6}\text{mg} = 7 \cdot 10^3\text{mg}$$

$$25\,000\text{g} : 10000\text{cm}^3 = 2,5 \cdot 10^4\text{g} : 10^4\text{cm}^3 = 2,5 \cdot 10^{4-4}\text{g} \cdot \text{cm}^{-3} = 2,5 \cdot 10^0\text{g} \cdot \text{cm}^{-3} = 2,5\text{g} \cdot \text{cm}^{-3}$$

Slovak	definition	examples	Term, phrase
platná číslica			Significant figure
pokus			experiment
postup			process
meradlo			equipment
odmerný valec			measuring cylinder
posuvné meradlo s nóniom			Vernier callipers
mikrometrické meradlo			micrometer screw gauge
teplomer			thermometer
nezávislá premenná		time	independent variable
závislá premenná		temperature	dependent variable
chyba - náhodná	-nepostrehnuteľné vplyvy okolia, ktoré nevieme predvídať, odhaliť, odstrániť	prievan, záchvev budovy	Error – random
chyba – systematická	-opakované pri každom meraní, dajú sa nájsť aj odstrániť	Primeraní hmotnosti kvapaliny neodvážeme nádobu	Error - systematic
Aritmetický priemer	$\bar{l} = \frac{l_1+l_2+l_3}{\dots}$	pre súčet a rozdiel $z=x \pm y$: pre súčin $z=xy$: pre podiel $z=\frac{x}{y}$; $\bar{z} =$	average
absolútna odchýlka	$\Delta l = \bar{l} - l_i$	Rozdiel priemeru a jednotlivého merania pre súčet a rozdiel $z=x \pm y$: $\Delta z = \Delta x + \Delta y$ pre súčin $z=xy$: $\Delta z = \bar{x} \Delta y + \bar{y} \Delta x$ pre podiel $z=\frac{x}{y}$: $\Delta z = \frac{\bar{x} \Delta y + \bar{y} \Delta x}{\bar{y}^2}$	Total deviation
relatívna odchýlka	$\delta l = \frac{\Delta l}{\bar{l}} 100\%$	pre súčet a rozdiel $z=x \pm y$: $\delta z = \frac{\Delta z}{\bar{z}} = \dots\dots\dots$ pre súčin $z=xy$ a pre podiel $z=\frac{x}{y}$: $\delta z = \delta x + \delta y$	Relative deviation
správna hodnota	$\langle \bar{l} - \Delta \bar{l}, \bar{l} + \Delta \bar{l} \rangle$	Zápis výsledku merania	Correct value

