

BIG TIME!

Different units of measurement are used to express time; although for the international system time should be indicated using the second, in everyday life we also use other ways.

Minutes and hours are the most frequent, as well as days, weeks and months.

For some people moving from one unit of measurement to another can be problematic, and errors in this conversion may affect the organization of a trip or the planning of a task. Let's see together how to convert time!

Overview "BIG TIME"

How to convert time?

Context
Everyday life

Cognitive processes
Managing situations
Processing information

Target group (incl. necessary prior skills and competences)

Adults and young adults;
knowledge of basic concepts of mathematics.

Content
Quantity and number

Dispositions
Flexibility
Math anxiety

Outcomes and results

Learners will be able to work with time conversions



Main information

Content	Quantity and number; Multiplication and division; Decimal numbers
Target group	Adults and young adults; Learners have knowledge of basic concepts of mathematics;
Learning intention	Numeracy for personal and private purposes
Duration	2UE
Material and resources	Picture cards, exercises
Group size	Range from 4 to 18 learners
Problem statement	Different measurements are used to express time: seconds, minutes, hours, days, weeks, months.... for some people moving from one unit of measurement to another could be problematic, and errors in this conversion may, for example, affect the organization and the planning of a trip. There are some rules to convert time and this activity is focus on these.
Working questions	<ul style="list-style-type: none"> - How is time expressed? - Which unit of measurement to express time do you use the most? - Do you know how to convert time measurements? - Have you ever had difficulty switching from one unit of measurement to another?
Learning outcomes and results	Learners will be able to work with time conversions



Working plan

Time (lessons)	Description of content/activities	Material	Methodical and didactic information ¹
45'	<p><u>1. Discover</u> The teacher introduces the topic based on the “<i>working questions</i>”.</p> <p>Based on the knowledge of the learners this phase can be conducted differently. If the learners turn out to have a good knowledge on the topic, they can explain the part related to the conversion, clearly with the assistance and support of the teacher. Otherwise, this activity can be managed through a frontal lesson.</p>	Diagrams, charts, picture cards	Explicit teaching Questioning
60'	<p><u>2. Time conversion exercises</u></p> <p>Learners are assigned exercises regarding the conversion of time into the different units of measurement. Some exercises are also based on real situations (e.g. duration of shows at the cinema/theatre, train journeys or other means of transport).</p> <p><i>[This activity can be linked to another where students are required to plan a trip (means of transport, activities, etc.) giving them material in which the relative timing is indicated with different measurement units.]</i></p>	exercises	Hands on learning

¹ for description and explanation of kinds of tasks, HITs and other background information please consult the teacher’s/user’s guide



45'	<p><u>[Potentially 2.1 time operations on Excel]</u></p> <p>If there is the possibility, at the discretion of the teacher, this topic can also be treated by inserting a bit of computer science. Learners are taught how to use spreadsheets to manage time operations.</p> <p>An activity on which to test them is, for example, the calculation of the total hours worked in a month or a certain period by simply inserting the entries and exits from work.</p>	Computers	<p>Explicit learning Collaborations Hands on learning</p>
30'	<p><u>3.Discussion</u></p> <p>The activity concludes with a moment of discussion in which learners express their impressions about the topic covered.</p>		<p>Feedback</p>



Appendix

Some examples of math tutorials:

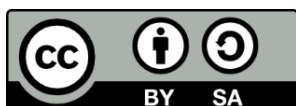
<https://www.youmath.it/lezioni/fisica/unita-di-misura/equivalenze/2874-equivalenze-misure-tempo.html#:~:text=Secondi%2C%20minuti%20ed%20ore%20rientrano,%3D%2060%20minuti%20%3D%203600%20secondi.>

<https://npronline.tech/npr-matematica/grandezze-e-misure/grandezze-e-misure-esercizi-conversione-misure-di-tempo-parte-1/>

Time measures conversion table:

Tabella conversione misure di tempo

	Secondi	Minuti	Ore	Giorni	Settimane	Anni solari	Anni civili	Anni bisestili
1 secondo (1 s)	1	0,01667	$2,778 \times 10^{-4}$	$1,157 \times 10^{-5}$	$1,653 \times 10^{-6}$	$3,169 \times 10^{-8}$	$3,171 \times 10^{-8}$	$3,162 \times 10^{-8}$
1 minuto (1 min)	60	1	0,01667	$6,944 \times 10^{-4}$	$9,92 \times 10^{-5}$	$1,901 \times 10^{-6}$	$1,902 \times 10^{-6}$	$1,897 \times 10^{-6}$
1 ora (1 h)	3600	60	1	0,0417	$5,952 \times 10^{-3}$	$1,1407 \times 10^{-4}$	$1,1415 \times 10^{-4}$	$1,1384 \times 10^{-4}$
1 giorno (solare medio)	86 400	1440	24	1	0,143	$2,737 \times 10^{-3}$	$2,739 \times 10^{-3}$	$2,732 \times 10^{-3}$
1 settimana	604 800	10 080	168	7	1	0,01916	0,01917	0,01912
1 anno solare	31 556 925	525 948,75	8765,8125	365,242	52,177	1	1,00066	0,9979
1 anno civile	31 536 000	525 600	8760	365	52,143	0,9993	1	0,9973
1 anno bisestile	31 622 400	527 040	8784	366	52,286	1,00207	1,00274	1



Some examples of exercise:

VENITE AD APPLAUDIRE PAOLA CORTELLESI
PREMIO SPECIALE DELLA GIURIA
MENZIONE SPECIALE MILOROPERA PRIMA
PREMIO DEL PUBBLICO
PREMIO DEL PUBBLICO
regia Paola Cortellesi
con Paola Cortellesi, Valerio Mastandrea, Emanuela Fanelli, Vinicio Marchioni, Giorgio Colangeli, Romana Maggiore Vergano, Francesco Centorame, Lela Vanni
(diretto da Paola Cortellesi è la sua opera prima - 118 min.)
orari del 15 novembre:
NAZIONALE 17:30 19:40 21:45
AMBASCIATORI 16:30 18:45 21:00

Considering the length of the film, if you go to the 7:40 p.m. showing at the National Cinema, what time do you expect to leave the theater?

How many minutes does it take the TN33065 train travel the Treviglio-Brescia section?

Partenze Departures/Departs/Abfahrten
MILANO LAMBRATE
11 GIU 2023 - 09 DIC 2023

0.22* TN 10911 F D S	BRESCIA 1.35 Pellegrino-Limito 0.29 - Malto 0.35 - Cassano d'Adda 0.42 - Treviglio 0.49 - Viduggiate 0.55 - Morengo-Barzano 1.00 - Romano 1.05 - Cividate-Caldio 1.11 - Chiari 1.17 - Rovato 1.23 - * NON CIRCOLA [MARTEDÌ]-[MERCOLEDÌ]-[GIOVEDÌ]-[VENERDÌ]-[SABATO] [DALL'11 GIU AL 17 GIU]	5
0.22* TN 33065 F D	BRESCIA 1.35 Pellegrino-Limito 0.29 - Treviglio 0.49 - Viduggiate 0.55 - Morengo-Barzano 1.00 - Romano 1.05 - Cividate-Caldio 1.11 - Chiari 1.17 - Rovato 1.23 - * CIRCOLA [MARTEDÌ]-[MERCOLEDÌ]-[GIOVEDÌ]-[VENERDÌ]-[SABATO] [DALL'11 GIU AL 17 GIU]	5
0.32* TN 2309 F D S	PAVIA 1.08 Milano Rogoredo 0.36 - Locate Triulzi 0.44 - Rive Emanuele 0.48 - Villanovatore 0.52 - Certosa di Pavia 0.59 - * NON CIRCOLA [SABATO]-[DOMENICA]	11
0.32* TN 2349 F D S	VOGHERA 1.32 Milano Rogoredo 0.36 - Locate Triulzi 0.44 - Rive Emanuele 0.48 - Villanovatore 0.52 - Certosa di Pavia 0.59 - Pavia 1.06 - S.Martino Cava 1.13 - Bressana Bottarone 1.19 - Pizzale Lungavilla 1.24 - * CIRCOLA [SABATO]-[DOMENICA]	11
5.35* TN 24915 S F D S	ALBAIRATE-VERME 6.24 Milano Forlanini 5.39 - Milano Porto Romano 5.46 - Milano Tibaldi 5.50 - Milano Ramallo 5.54 - Milano S.Cristoforo 6.01 - Corsico 6.05 - Cesano Boscone 6.08 - Trezzano sul N. 6.12 - Gaggiano 6.16 - * CIRCOLA [DALL'11 GIU AL 24 GIU]-[DALL'28 AGO AL 9 DIC] * NON CIRCOLA NEI GIORNI [FESTIVI]-[DALL'11 GIU AL 27 AGO]-[MARTEDÌ]-[MERCOLEDÌ]-[GIOVEDÌ]-[VENERDÌ]-[SABATO]-[DALL'11 GIU AL 24 GIU]	3
5.41 TN 2212 RE D S	MILANO CENTRALE 5.50	8

to

Km	Provenienza	Salerno	Foligno	11808	23512	11678	11680	1808	2312	21626	9524	Napoli
0	Roma Termini	12.36	12.45						12.48	12.55	13.15	
5	Roma Tiburtina								12.57	13.07		
84	Orte	13.12							13.31	13.31	13.41	
92	Orte 70-302-303	13.14							13.33	13.33		
92	Bassano in Teverina								13.44	13.44		
97	Attigliano-Bomarzo								13.45	13.45		
97	Attigliano-Bomarzo 302								13.53	13.53		
106	Aliviano								14.07	14.07		
126	Orvieto	13.44							14.16			
136	Alisona-Castel Viscardo								14.28	14.24		
148	Fabro-Ficule								14.38	14.38		
165	Chiusi-Chianciano T.	14.06							15.10	15.10		
	Chiusi-Chianciano T. 282								16.32	16.32		
	Starna								14.55	14.55		
165	Chiusi-Chianciano T.	14.08				14.32			14.55	14.55		
184	Castiglione del Lago					14.45			15.08	15.08		
194	Terontola-Cortona					14.51			15.18	15.18		
200	Terontola-Cortona 285					14.52			15.19	15.19		
211	Carnacina-Cortona					14.58			15.24	15.24		
211	Castiglione Fiorentino					15.06			15.31	15.31		
229	Arezzo	14.51				15.19			15.42	15.42		
229	Arezzo	14.06	14.20	14.53		15.20			15.43	15.43		
245	Pontico	14.32				15.32			15.52	15.52		
250	Lalerna	14.38				15.38			15.38	15.38		
255	Bucine	14.43				15.43			15.43	15.43		
263	Monteverdi-Terranuova	14.30	14.51		15.08	15.15	15.30	15.51	16.08	16.08		
263	S. Giovanni Valdarno	14.36	14.55		15.13	15.20	15.36	15.56	16.13	16.13		
279	Figline Valdarno	14.42	15.01		15.19	15.27	15.42	16.01	16.19	16.19		
281	Inchsa	14.47	15.06			15.31	15.47	16.06	16.06	16.06		
288	Rignano sull'Arno-Reggello	14.54	15.13			15.38	15.54	16.13	16.13	16.13		
292	S. Elero	14.58	15.17			15.41	15.58	16.17	16.17	16.17		
296	Pontassieve	15.02	15.22			15.45	16.02	16.22	16.22	16.22		
300	Pontassieve 272	15.03	15.23			15.46	16.03	16.23	16.23	16.23		
300	Sieda	15.08	15.28			15.51	16.08	16.28	16.28	16.28		
303	Compiobbi	15.33				15.56			16.33	16.33		
	Firenze Rovazzano					16.01			16.40	16.40		
	Firenze C.di Marte	15.18	15.43			16.05	16.18	16.43	16.43	16.37	16.37	
	Firenze C.di Marte 273	15.19	15.44			16.06	16.19	16.44	16.44	16.38	16.38	
	Firenze Statuto					16.10			16.44	16.44		
316	Firenze S.M. Novella	15.27	15.52		14.20	15.47			16.27	16.52	16.47	16.47
	Firenze Rifredi					16.17			16.47	16.47		14.50
	Firenze S.M. Novella 280	15.38	16.28		15.49	14.30	16.28		17.00	17.28	17.28	17.28
	Pisa Centrale 31	16.59	17.28			17.49	18.28	18.28	18.28	18.28	18.28	15.00
	Bologna Centrale 45					16.42	15.07		18.28	18.28	18.28	18.28
	Milano Centrale					19.15						15.31
	Venezia Mestre 45					16.21						16.42
	Venezia S. Lucia					16.33						16.42
	Destinazione						Prato					Foligno

If you take the train that leaves Rome Termini at 12:36, how long (in hours) is the trip to Florence Santa Maria Novella??!



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