

Mathematics Numeracy Application of Number

Level 2



Learning Resource 10
Money and Time

Contents

Convert between Currencies	MSS1/L2.1	Page	3 - 4
Date Formats	MSS1/L2.2	Page	5 - 7
Units of Time	MSS1/L2.2	Page	8
Using Measuring Instruments	MSS1/L2.2	Page	9 - 10

Learning Objective

Convert between Currencies

Learners should be taught to calculate with sums of money and convert between currencies; and understand that exchange rates of currencies are not fixed, but vary on a daily basis. Learners should also be taught to understand the difference between the selling and the buying rate of currency.

Information

Currency exchange rates are not fixed, they can vary from day to day.

Current exchange rates are displayed in banks, daily papers and can be found on the Internet. There are two different rates.

- **Selling Rate:** The rate the bank **sells you** the foreign currency.
- **Buying Rate:** The rate the bank **buys from you** the foreign currency.

The buying back rate is always higher because the bank will take a profit.

Banks and Travel Agents generally take a commission.



Examples

	Bank Selling Rate	Bank Buying Rate
Euro €	£1 = 1.32	£1 = 1.38
U.S. dollar \$	£1 = 1.96	£1 = 2.10

A couple changed £200 into Euros to go on holiday.

$$£200 \times 1.32 = 264 \text{ Euros}$$

They returned with 50 Euros and exchanged these into £'s.

$$50 \text{ Euros} \div 1.38 = £36.23$$

Exercise 1

Use a calculator for this exercise.

1) Use the above bank selling rate to convert the following amounts into US Dollars. Rounded to the nearest dollar.

- a) £150 b) £260 c) £350 d) £620

2) Use the above bank buying rates to convert the following amounts into £'s.

- a) \$600 b) €550 c) \$450 d) €80

Exercise 2

Convert Between Currencies

Use a calculator for this exercise.

Answer the following questions using this table.

Bksb Bank		
Country	Bank Selling Rate £ =	Bank Buying Rate £ =
Danish Kroner (DKK)	9.38	9.60
Euro €	1.32	1.38
US Dollar \$	1.96	2.10

- 1) Ben and Lydia are going to Majorca. They have saved £500 and want to exchange this for Euros.
 - a) How many Euros will they purchase?
 - b) They returned from holiday with 65 Euros and changed them back to Pounds Sterling. How much will they receive?

- 2) Breanna was going to visit her friend in Denmark. She changed £80 into Danish Kroner.
 - a) How many Kroner did she obtain?
 - b) Unfortunately, the trip was cancelled and Breanna had to change the Kroner back into Pounds Sterling. How much did she receive?
 - c) How much did Breanna lose in these transactions?

- 3) Harry wants to buy a new camera and has been researching the cameras available in America.



Smylaxy Cameras

Premium	\$280
Special	\$380
Exclusive	\$520
Supreme	\$770

Using the bank buying rate from the above table, calculate the cost in Pounds Sterling of the Smylaxy cameras.

Premium	£ _____
Special	£ _____
Exclusive	£ _____
Supreme	£ _____

Learning Objective**Date Formats**

Learners should be taught to calculate, measure and record time in different formats; understand dates and times written in different formats; know how to use measuring instruments; know the relationship between units of time, e.g. sec, min, hr, day, week, month, year.

Information

There are several different ways of writing the date. The month can be written in full or in a shortened form and can sometimes be a number.

In some countries the month comes before the day. e.g. 14/10/56 would be 10/14/56

In the UK the date is written day/month/year.

Examples

The first day of January 2008 can be written as:

1st January 2008	1 January 2008	01/01/2008
1 Jan 2008	01.Jan.08	1 Jan 08
01.01.08	01/01/08	1.1.2008

Exercise 3

1) What is today's date? Write it in four different ways.

2) Change these dates into the format '1st January 2008'

a) 10/09/80 b) 22.4.2008 c) 8 Mar 03

3) Use the calendar on the next page to find the following dates. Give your answer in the format 'dd/mm/yyyy', for example, 08/03/2008.

- The first Monday in October.
- The second Sunday in March.
- The last Wednesday in December.

2008

January 2008						
Su	M	Tu	W	Th	F	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

February 2008						
Su	M	Tu	W	Th	F	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	

March 2008						
Su	M	Tu	W	Th	F	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

April 2008						
Su	M	Tu	W	Th	F	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

May 2008						
Su	M	Tu	W	Th	F	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

June 2008						
Su	M	Tu	W	Th	F	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

July 2008						
Su	M	Tu	W	Th	F	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

August 2008						
Su	M	Tu	W	Th	F	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

September 2008						
Su	M	Tu	W	Th	F	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

October 2008						
Su	M	Tu	W	Th	F	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

November 2008						
Su	M	Tu	W	Th	F	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

December 2008						
Su	M	Tu	W	Th	F	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Exercise 4

Date Formats

Use the calendar on the previous page to answer these questions.

1) You are flying out to your holiday destination on Friday 25th July 2008, returning 10 days later. On which day and date will you return?

2) You are taking exams the first and second Monday in May and the last two Fridays in June. What will the dates be? Write in 4 different ways.

Monday _____ _____

Friday _____ _____

3) How many days are there between the 7th of January 2008 and 22nd of August 2008?

4) Today's date is 19.1.08; Gemma is getting married in 231 days' time. What date does she marry?

5) On which day of the week do the following dates fall?

- a) 2nd May 2008
- b) Christmas Day
- c) Your birthday 2008

6) 17th June 2008 is a Tuesday; write down the dates of the next three Tuesdays.

7) You take four books from the library on 18th January 2008; two of the books are on a 2-week loan and the other two books a 4-week loan. When are the books due back at the library?

- a) two week loan: _____
- b) four week loan: _____



Information

Units of Time

Units of Time

60	seconds	=	1	minute
60	minutes	=	1	hour
24	hours	=	1	day
7	days	=	1	week
12	months	=	1	year
52	weeks	=	1	year
365	days	=	1	year
366	days	=	1	leap year
100	years	=	1	century
1000	years	=	1	millennium

Exercise 5

- 1) Connor has been taking exams and has to wait 28 days for the results. How many weeks is that?

- 2) A child born 23/4/08 has to go for a check-up at 18 months of age. What month will this be?

- 3) Complete the following.
 - a) 3 weeks = _____ days
 - b) 2 millenniums = _____ years
 - c) 4 years = _____ weeks
 - d) 5 centuries = _____ years

- 4) The current St Paul's Cathedral was finally finished in the year 1710. If it survives to the next millennium, how old will it be?

- 5) At the fun run the first runner came in at 35 minutes and 22 seconds and the last runner finally finished at 2 hours, 5 minutes and 17 seconds. What is the difference between the first finishing runner and the last?

- 6) Which units of time would you use to measure the following?
 - a) Watch a football match
 - b) Cook a soft boiled egg

Information

Using Measuring Instruments

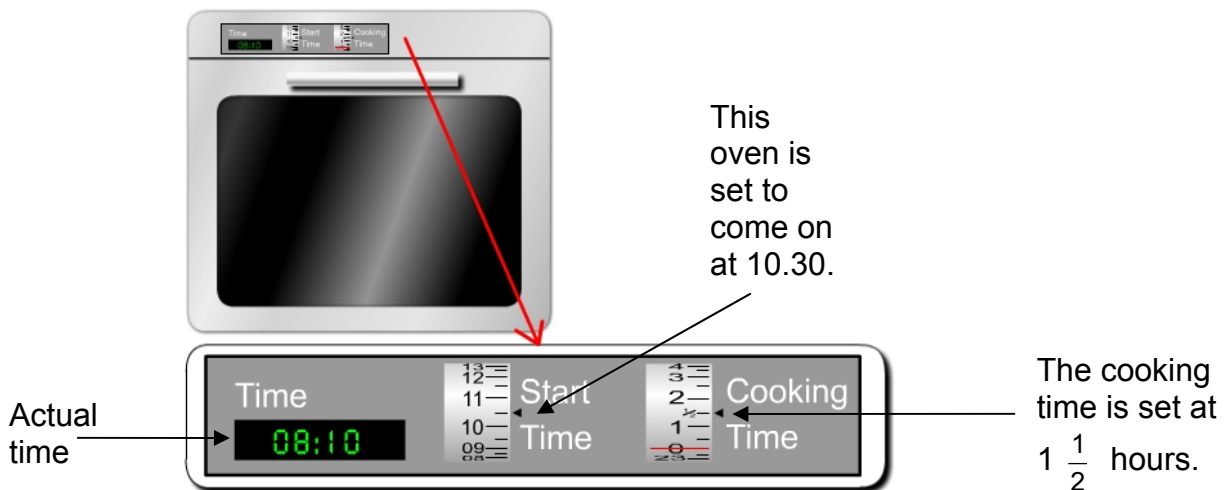
Measuring instruments on various appliances, clocks and watches use a 12 or 24 hour clock, with either an analogue or a digital display.

Appliances often use timers, generally using a 24 hour digital clock. Some timers can switch on and off at preset times. Recorders connected to a television can be set to record a programme while you are out or even when you are watching another channel.



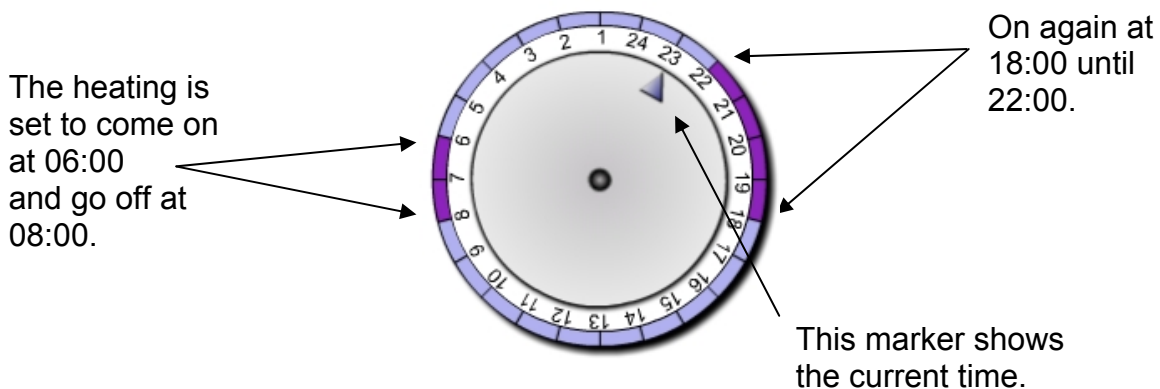
Examples

An oven can be controlled by an automatic timer. When the timer is pre-set, the oven will automatically turn on and remain on for a pre-selected cooking time.



This central heating system programmer is set to turn on and off at certain times.

This timer has been pre-set.



Exercise 6

Using Measuring Instruments

- 1) Rosina is making a lasagne and needs to set her **digital** oven timer. The lasagne takes 45 minutes and needs to be ready for 5 p.m. Complete the digital timer display with the relevant times.

Start	<input type="text"/>	:	<input type="text"/>
Finish	<input type="text"/>	:	<input type="text"/>

- 2) Deepak wants to set his video to record some of his favourite television programmes. Complete the following **24 hour** video timer displays with the following information.

- a) Channel 1 starts at 9.25 a.m. This program is on for 1 hour 30 minutes.

Channel	Start Time	End Time
<input type="text"/>	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>

- b) Channel 5 starts at $\frac{1}{4}$ past 3 in the afternoon and is on for 45 minutes.

Channel	Start Time	End Time
<input type="text"/>	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>

- c) Channel 4 starts at $\frac{1}{2}$ past 9 in the evening. It is on for 45 minutes.

Channel	Start Time	End Time
<input type="text"/>	<input type="text"/> : <input type="text"/>	<input type="text"/> : <input type="text"/>

- 3) Use 24 hour clock time to complete the following.

- a) A meal takes 55 minutes to cook and needs to be ready for 6 p.m.
Start cooking _____

- b) A meal takes $1\frac{1}{2}$ hours to cook and you want it to be ready by 19:30.
Start cooking _____

- c) You have planned to have a meal at 12:15 and it needs to be in the oven for 1 hour 25 minutes.
Start cooking _____