Maths

Arithmetic

It is not necessary to carry out all the activities contained in this unit.
Please see *Teachers' Notes* for explanations, additional activities, and tips and suggestions.

Theme	**Arithmetic**
Levels	**A1 – B1**
Language focus	Key vocabulary, word identification, sentence structure, extracting information from text, writing text, grammar.
Learning focus	Using Maths textbooks and accessing curriculum content and learning activities.
Activity types	Matching, word identification, structuring sentences and text, cloze, multiple choice, reading comprehension, categorising vocabulary, recording learning, developing a learning resource.
Acknowledgement	**Extracts from *Shortcuts to Success. Maths. Junior Certificate Ordinary Level*. Mark Halpin.** Gill & Macmillan. We gratefully acknowledge Gill & Macmillan for the right to reproduce text in some of these activities.
Learning Record	A copy of the Learning Record should be distributed to each student. Students should: 1. Write the subject and topic on the record. 2. Tick off/date the different statements as they complete activities. 3. Keep the record in their files along with the work produced for this unit. 4. Use this material to support mainstream subject learning.

NAME: _____ DATE:_____
MATHS: Arithmetic

Making the best use of these units

- **At the beginning of the class,** make sure that students understand **what** they are doing and **why**. *'We are doing the exercise on page (12) to help you to remember key words / to help your writing skills / to help with grammar'* etc.

- You can create your **personal teaching resource** by printing these units in full and filing them by subject in a large ring binder.

- **Encourage students** to:

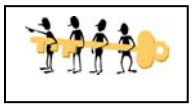
  - Bring the relevant **subject textbooks** to language support class. It does not matter if they have different textbooks as the activities in these units refer to vocabulary and other items that will be found in all subject textbooks. These units are based on curriculum materials.
  - Take some **responsibility for their own learning** programmes by:

Developing a **personal dictionary** for different subjects, topics, and other categories of language, on an on-going basis. This prompt is a reminder.

Recording what they have learnt on the ***Learning Record,*** which should be distributed at the start of each unit.

Keeping their own **files** with good examples of the work produced in language support for different subjects and topics. This file will be an invaluable **learning resource** in supporting mainstream learning.

- Don't forget that many of the activities in these units are suitable as **homework** tasks, for **self-study,** or for use in the **subject classroom** with the agreement of the subject teacher.



Indicates that answers may be found at the end of the unit.

Keywords

The list of keywords for this unit is as follows:

Nouns
answer
calculator
compound interest
end
error
estimation
example
factor
HCF (Highest Common Factor)
index
interest
LCM (Lowest Common Multiple)
multiple *(noun)*
notation
principal
problem
questions
start
type
value

Verbs
to amount to
to calculate
to check
to complete
to earn
to estimate
to evaluate
to express
to simplify
to use

Adjectives
approximate
common
compound
correct
decimal
equal
exact
lowest
prime

Adverb
again

Other
hence = so = therefore

Symbols
= equals
+ plus
€ euro/euros
% percent/percentage

Vocabulary file 1

This activity may be done in language support class or in the mainstream subject classroom.

Word	Meaning	Word in my language
number		
factor		
earned		
calculate		
evaluate		
simplify		
estimate		

Get your teacher to check this and then file it in your folder so you can use it in the future.

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Vocabulary file 2

This activity may be done in language support class or in the mainstream subject classroom.

Word	Meaning	Word in my language
calculator		
estimation		
problem		
approximate		
compound		
decimal		
prime		

Get your teacher to check this and then file it in your folder so you can use it in the future.

NAME: _____ **DATE:**_____
MATHS: Arithmetic

Level: A1 **Type of activity:** pairs or individual	**Focus:** vocabulary, spelling, dictionary **Suggested time:** 10 minutes

Working with words

1. Tick the correct answer

5:3	☐ a) this is geometry ☐ b) this is ratio ☐ c) this is a percentage ☐ d) this is an equation
5(2x-1) = 35	a) this is geometry ☐ b) this is ratio ☐ c) this is a percentage ☐ d) this is an equation

2. Tick the best answer.
Ratio is used to compare

a. quantity
b. quality
c. ideas

3. Tick the best answer.
Equations always involve

a. money
b. diagrams
c. symbols

NAME: _____ DATE:_____
MATHS: Arithmetic

Level: A1 **Type of activity:** pairs or individual	**Focus:** vocabulary, basic sentence structure **Suggested time:** 30 minutes

Picture Sentences

1. Tick the correct answer

a) This is the US dollar.
b) This is the Japanese yen.
c) This is UK sterling.

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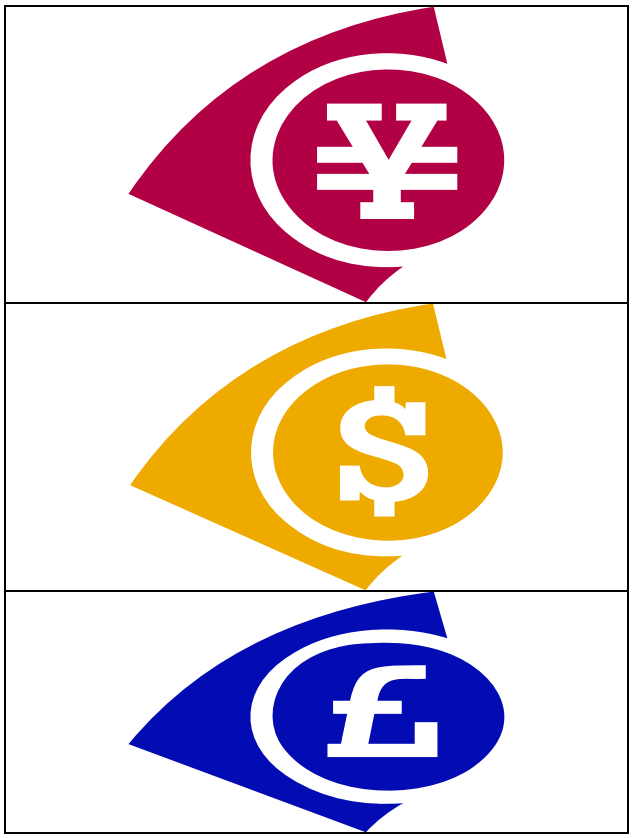

2. Put these words in the correct order to form sentences.

$200 to euros change

_____

certain €1 a = day $1.31 on

_____

you many how would get euros $100 for?

_____

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NAME: _____ DATE:_____
MATHS: Arithmetic

Level: A1 / A2
Type of activity: pairs or individual

Focus: word identification, vocabulary, dictionary use
Suggested time: 20 minutes

Odd One Out

1. Circle the word which does not fit with the other words in each line.

Example: ***apple*** ***orange*** ***banana*** ***taxi***

lowest car multiple common

number shower prime multiple

notation decimal music index

estimate approximate exact dog.

2. Find these words in your textbook. Then put them in short sentences in your own words. Use a dictionary if necessary.

to calculate _____

to check _____

to complete _____

to estimate _____

to simplify _____

Check that these key words are in your personal dictionary.

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NAME: _____ **DATE:**_____
MATHS: Arithmetic

Level: A2 / B1
Type of activity: individual

Focus: key vocabulary
Suggested time: 10 minutes

Maths Keywords

1. Fill in the missing letters of the keywords listed below.
On the line next to the keywords, write down whether this word is a noun, an adjective or a verb.

com_ _und _____

si_ _li_y _____

no_ _ti_n _____

ap_ _ox_ma_e _____

2. Write as many words as possible related to **arithmetic / this unit**.
You have 3 minutes!

_____

_____

_____

_____

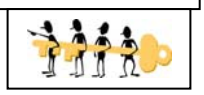
_____

_____

NAME: _____ DATE:_____
MATHS: Arithmetic

Level: A1 / A2
Type of activity: pairs or individual

Focus: key vocabulary, spelling
Suggested time: 20 minutes



Unscramble the letters

1. Money paid regularly, at a special rate, to pay for a loan
STRINETE

Answer _____

2. Something that belongs to more than one person or thing
OMCMNO

Answer _____

3. When you make something easier MIYSIFPL

Answer _____

4. The solution to a Maths question WARNSE

Answer _____

Solve the secret code

English=	A	D	E	F	I	N	O	S	T	U	X	A
Code=	B	Z	Y	H	G	Q	R	K	L	W	J	B

example: (code) HGQZ = FIND (English)

GQZYJ QRLBLGRQ GK HWQ =

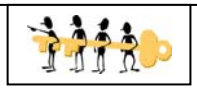
_____

NAME: _____ DATE:_____

MATHS: Arithmetic

Level: A2/B1
Type of activity: pairs or individual

Focus: vocabulary, sentence structure, reading comprehension
Suggested time: 30 minutes



Completing sentences

The sentences on this page are all instructions from your textbooks. Fill in the blanks in these sentences. Use words from the Word Box below.

1. How _____ dollars would you get for €650?
2. Calculate the _____ as a percentage of the cost price.
3. 9 metres of cloth cost €13.05. _____ is the cost of five metres of the same cloth?
4. _____ €480 in the ratio 5:3.
5. How much does it _____ one adult and two children to travel from Dublin to Cork?
6. €4,800 is _____ among John, Anne and Mary. John gets half of the money. Mary gets one third. How much does Anne get?
7. The price of a holiday is _____ by 6% to €1,537. What was the original cost of the holiday?
8. VAT at 21% is added to a bill of €102. _____ the total bill.
9. €10,000 was _____ for one year and amounted to €10,110 at the end of the year. Calculate the rate of interest per annum.
10. What sum of money will earn €37.50 interest if it is invested at 3% per _____ for one year?

Word box:

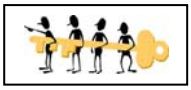
increased	many	annum	divide	calculate
what	cost	divided	profit	invested

NAME: _____ DATE:_____

MATHS: Arithmetic

Level: A2 / B1
Type of activity: individual

Focus: topic information, reading comprehension
Suggested time: 30 minutes



Multiple Choice

Read the text and choose the best answer.

With compound interest, the interest earned in year 1 is added to the principal in year 1 to give the principal at the start of year 2 and so on.

Example 1

€300 is lodged for two years at 4% compound interest. Calculate how much it amounts to at the end of that time.

Year 1

Start of year 1 = €300
Interest Earned
4% of €300 = €12
End of year 1 = €300 + €12
= €312

Year 2

Start of year 2 = €312
Interest earned
4% of €312 = €12.48
End of year 2 = €312 + €12.48
= €324.48
Therefore, at the end of the second year there is €324.48 in the bank.

1. With compound interest, what is the interest earned added to?
   a) your bank account b) the principal
   c) nothing d) your bill

2. How long is €300 lodged for?
   a) one year b) 4 years
   c) two years d) two months

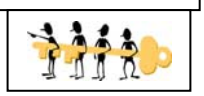
3. What is the percentage of compound interest?
   a) 2% b) 4%
   c) 300% d) 12%

4. Should you calculate the amount of money at the end of the second year?
   a) Yes b) No

5. Should you increase the rate of compound interest?
   a) Yes b) No

NAME: _____ DATE:_____
MATHS: Arithmetic

Level: B1 **Type of activity:** individual and pairs	**Focus:** identifying and using prepositions **Suggested time:** 40 minutes



Grammar points

Prepositions

1. Study the use of prepositions in the examples below.

A sum of money is invested <u>for</u> a year.
A sum of money is invested <u>in</u> a bank.
A sum of money is invested <u>at</u> 4% per annum.

2. Read the following questions from your text book and insert the missing prepositions.

- What sum of money will earn €46 interest if it is invested __3% per annum __ one year?
- If you invest €4,000 __ one year __ 7% you get 7% of €4,000 and add it on to €400.
- €350 is invested __ one year __ 6% per annum. Find the amount __ the end of the first year.
- If you invest €500 __ a building society __ 6% per annum you will have €500 x 1.06 i.e. €530
- John invested €7500 __ 6.5% per annum compound interest. What does the investment amount to __ the end of three years?

3. Now it's your turn. Go to your maths textbooks and the unit you are studying now. Rewrite 5 sentences without the prepositions. Swap sentences with another student and practise using prepositions.

NAME: _____ DATE:_____
MATHS: Arithmetic

Levels A1 and A2

Alphaboxes

Using your textbook, find **one** word beginning with each of the letters of the alphabet. Write the word in the relevant box. You could also write the word in your own language.

a	b	c
d	e	f
g	h	i
j	k	l
m	n	o
p	q	r
s	t	u
v	w	xyz

NAME: _____ **DATE:**_____

MATHS: Arithmetic

Word Search

Level: All levels

Find the words in the box below.

```
                F H C F U
              R E X A M P L E
            E X A C T   P Y E
          A N S W E R     H A P
        D E C I M A L       X Q N
        D I N D E X N       R L O W E S T
    Z P Y D H I G H E S T S I M P L I F Y Q
    S E S T I M A T E L C M U L T I P L E S L
S N O T A T I O N M A P P R O X I M A T E A
W V A L U E C A L C U L A T E V A L U A T E
D C O M P O U N D R F I N T E R E S T C S F
E N D C A L C U L A T O R G Q N U M B E R I
  C O M M O N U N M U L T I P L E B A R S
    E A R N             J P P P
      J A                 J E
```

ANSWER
APPROXIMATE
CALCULATE
CALCULATOR
COMMON
COMPOUND
DECIMAL
EARN
END
ESTIMATE
EVALUATE
EXACT
EXAMPLE
HCF
HIGHEST
INDEX
INTEREST
LCM
LOWEST
MULTIPLE
MULTIPLES
NOTATION
NUMBER
SIMPLIFY
VALUE

NAME: _____ DATE:_____
MATHS: Arithmetic

Play Snap:

Do up Snap cards with 2 sets of the same keywords on them, shuffle them and let your students play cards.
Get the students to write the words for you.

factor	**factor**
notation	**notation**
compound	**compound**

NAME: _____ DATE:_____

MATHS: Arithmetic

prime	**prime**
index	**index**
express	**express**

NAME: _____ DATE:_____

MATHS: Arithmetic

calculate	**calculate**
lowest	**lowest**
interest	**interest**

NAME: _____ DATE:_____

MATHS: Arithmetic

value	value
earned	earned
decimal	decimal

Answer key

Working with words, page 6
1. b, d
2. a
3. c.

Picture sentences, page 7
1. b, a, c
2. Change €200 to euros.
On a certain day €1 = 1.31.
How many euros would you get for $100?

Odd One Out, page 8
Car, shower, music, dog

Maths key words, page 9
Compound (adjective and noun), simplify (verb), notation (noun), approximate (adjective)

Unscramble the letters, page 10
Interest, common, simplify, answer
Secret Code: index notation is fun

Completing Sentences, page 11
1. many
2. profit
3. what
4. divide
5. cost
6. divided
7. increased
8. calculate
9. invested
10. annum

Multiple Choice, page 12
1b, 2c, 3b, 4a, 5b

Grammar points, page 13

- What sum of money will earn €46 interest if it is invested **at** 3% per annum **for** one year?
- If you invest €4,000 **for** one year **at** 7% you get 7% of €4,000 and add it on to €400.
- €350 is invested **for** one year **at** 6% per annum. Find the amount **at** the end of the first year.
- If you invest €500 **in** a building society **at** 6% per annum you will have €500 x 1.06 i.e. €530
- John invested €7500 **at** 6.5% per annum compound interest. What does the investment amount to **at** the end of three years?

Word Search:

F H C F U
R E X A M P L E
E X A C T P Y E
A N S W E R H A P
D E C I M A L X Q N
D I N D E X N R L O W E S T
Z P Y D H I G H E S T S I M P L I F Y Q
S E S T I M A T E L C M U L T I P L E S L
S N O T A T I O N M A P P R O X I M A T E A
W V A L U E C A L C U L A T E V A L U A T E
D C O M P O U N D R F I N T E R E S T C S F
E N D C A L C U L A T O R G Q N U M B E R I
C O M M O N U N M U L T I P L E B A R S
E A R N J P P P
J A J E