

Higher Level Maths

Statistics

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	Higher Level Statistics	
All students: Activities that are suitable for Learning Support, Language Support and the Mainstream Subject Class include:	Keywords	3
	Vocabulary File	4-5
	Completing Sentences	11
	Multiple Choice	12
	Wordsearch	15
Learning support and Language support: Activities suitable for students receiving Learning or Language Support include:	Working with words	6
	Picture Sentences	7
	Odd One Out	8
	Maths Keywords	9
	Unscramble the letters	10
	Alphaboxes	14
	Play Snap	16-19
Language support: Additional activities for Language Support:	Grammar points	13
Levels for Language Support	A1 – B1 The language level of each activity is indicated in an information box.	
Learning focus	Using Maths textbooks and accessing curriculum content and learning activities.	
Acknowledgement	The <i>English Language Support Programme</i> acknowledges the permission of Gill and Macmillan to reproduce excerpts from <i>Shortcuts to Success. Maths. Junior Certificate Higher Level</i> by Mark Halpin.	

Note: The categorisation of activities is indicative only and should not prevent teachers from using any activities that are considered suitable for a particular group of students.

Making the best use of these units

Learning Record

A copy of the Learning Record should be distributed to each learning support and language support 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.

Introduction of a topic or activity should ensure that students understand **what** they are doing and **why**. Many students will have some difficulty in understanding both the language in the activity and the instructions/purpose for carrying out the activity.

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 learning/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:



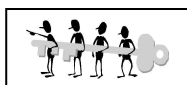
Developing a **personal dictionary** for different subjects, topics, and other categories of language, on an on-going basis. This prompt is a reminder.



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 for different subjects and topics. This file will be an invaluable **learning resource** in supporting mainstream learning.



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

Don't forget that many of the activities in these units are also suitable as **homework** tasks or for **self-study**.

Keywords

The list of keywords for this unit is as follows

Nouns

amount
angle
area
axis
bar chart
chart
class
curve
data
distribution
exam/examination
fraction
frequency
frequency distribution table
frequency table
graph
group
height
histogram
information
interval
mark
mean
median
methods
mode
number
ogive
percentage
pie chart
pupils
quartile
rectangle
result
table
trend

width

Verbs

to calculate
to group
to illustrate
to prefer
to receive
to record
to represent
to simplify
to solve

Adjectives

above
below
cumulative
curved
favourite
important
interquartile
mean
modal
smallest
total

Adverb

always
when

Other

above
definitely
hence = so = therefore
by means of
in terms of
in the following example

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Vocabulary file 1

Word	Meaning	Note or example*
total		
received		
calculate		
frequency		
illustrate		
number		
angle		

*You may wish to write a sentence or phrase, make a note of the page in your textbook where this word appears or, if English is not your first language, provide a translation into your language.



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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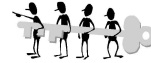
Vocabulary file 2

Word	Meaning	Note or example
amount		
mean		
method		
trend		
to represent		
percentage		
result		



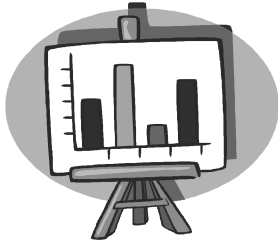
Get your teacher to check this and then file it in your folder so you can use it in the future.

Language Level: A1
Type of activity: pairs or individual
Suggested time: 20 minutes

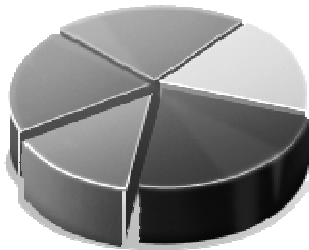


Working with words

1. Tick the correct answer



- a) this is a photograph
- b) this is a bar chart
- c) this is an advertisement
- d) this is a pie chart



- a) this is a photograph
- b) this is a bar chart
- c) this is an advertisement
- d) this is a pie chart

2. Tick the best answer.

Statistics is about

- a. presenting facts and figures
- b. presenting ideas
- c. presenting people

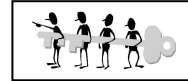
3. Tick the best answer.

Bar charts and pie charts are used

- a. for food and drink
- b. for presenting information
- c. for symbols

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Language Level: A1
Type of activity: pairs or individual
Suggested time: 30 minutes



Sentences

1. Tick the correct answer, you can use your dictionary

In maths this word equals:

- a) unkind
- b) to intend to do something
- c) the average

mean

In maths this word equals:

- a) a way of doing something
- b) the value that occurs most frequently
- c) in fashion.

mode

In maths this word means

- a) the direction of figures
- b) fashionable
- c) to bend

trend

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

commonly bar charts are used

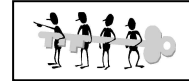
making suitable bar charts are for comparisons

can vertical bar charts be horizontal or

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

total modal car mean

number pie blue chart

table gardening distribution frequency

calculate illustrate represent chicken

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 illustrate _____

to record _____

to represent _____

to solve _____



Check that these key words are in your personal dictionary.

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Language Level: A2 / B1
Type of activity: individual
Suggested time: 20 minutes



Maths Keywords

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

fa__ur_te _____

fre__e_cy _____

rep__sen__ng _____

ca__ul_te _____

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

NAME: _____ DATE: _____

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Language Level: A1 / A2
Type of activity: pairs or individual
Suggested time: 20 minutes



Unscramble the letters

1. A part of a number CANTRIFO

Answer _____

2. The way something is spread out or shared BUTRONITIIDS

Answer _____

3. Explain something using a picture STRILTELU A

Answer _____

4. Something you like best of all VOFAITURE

Answer _____



Solve the secret code

English=	A	C	E	F	H	I	N	P	R	S	T	U
Code=	B	X	Y	V	G	Q	K	O	L	D	M	W

example: (code) OLQKXY = PRINCE (English)

OQY XGBLMD BLY VWK! =

NAME: _____ DATE: _____
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Language Level: A2/B1
Type of activity: pairs or individual
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. Draw a vertical bar chart to _____ this information.
2. Represent these figures by a bar chart. Express each of the following angles as a _____ of 360°
3. Calculate the _____ in each of the sectors.
4. _____ the size of the angle x in sector A.
5. Use the trend _____ to answer the following questions.
6. Find the _____ of each of this array of numbers.
7. _____ was the mean price of the cars?
8. Copy and complete the _____ table shown below.
9. _____ that 4 is the mean of the following frequency distribution.
10. Draw a bar chart to _____ the data.

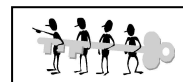
Word box:

angle	frequency	fraction	what	illustrate
represent	graph	mean	calculate	verify

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Language Level: A2/B1
Type of activity: individual and pairs
Suggested time: 30 minutes



Grammar points

Comparison of adjectives

1. Study these sentences from your maths textbook

What is the difference in temperature between the hottest and the coldest months?

Find the greatest number of matches that could have ended in a draw.

2. In statistics we compare facts and figures. Work with a partner and fill in the grid below. Study the examples first.

adjective	comparing (2)	superlative (more than 2)
wet	wetter	The wettest
expensive	More expensive	The most expensive
tall		
cheap		
modern		
old		
exciting		
rich		
poor		
important		
numerous		
high		

3. Can you work out the rule for comparing adjectives. Write up the rule then check it in the answer key.

short adjectives:

longer adjectives

4. Go to the unit on statistics in your maths textbook. Give yourself ten minutes to find as many examples as possible of comparison and superlative of adjectives. See who in the class found the most!

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

Do you understand all these words?



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



Word Search

Find the words in the box below.

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

ABOVE	FAVOURITE	MEAN	REPRESENT
AMOUNT	FRACTION	MODAL	TABLE
ANGLE	FREQUENCY	MODE	TOTAL
CALCULATE	GRAPH	NUMBER	TREND
CHART	ILLUSTRATE	PIE	
DISTRIBUTION	MARK	PUPILS	

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Play Snap

Make Snap cards with 2 sets of the same keywords. See *Notes for teachers* for ideas about how to use the cards.



favourite	favourite
amount	amount
represent	represent

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illustrate	illustrate
fraction	fraction
frequency	frequency

NAME: _____ DATE: _____
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graph	graph
number	number
total	total

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mean	mean
pie chart	pie chart
calculate	calculate

Answer key

Working with words, page 6

1. b,d
2. a.
3. 2. b

Sentences, page 7

1. c,b,a
2. Bar charts are commonly used.
Bar charts are suitable for making comparisons.
Bar charts can be vertical or horizontal.

Odd one out, page 8

Car, blue, gardening, chicken

Key words, page 9

Favourite (adjective), frequency (noun and adjective), representing (verb), calculate (verb)

Unscramble the letters, page 10

Fraction, distribution, illustrate, favourite
Secret code: pie charts are fun

Completing Sentences, page 11

- Draw a vertical bar chart to **represent** this information.
- Represent these figures by a bar chart. Express each of the following angles as a **fraction** of 360°
- Calculate the **angle** in each of the sectors.
- **Calculate** the size of the angle x in sector A .
- Use the trend **graph** to answer the following questions.
- Find the **mean** of each of this array of numbers.
- **What** was the mean price of the cars?
- Copy and complete the **frequency** table shown below.
- **Verify** that 4 is the mean of the following frequency distribution.
- Draw a bar chart to **illustrate** the data.

Multiple choice, page 12

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1c,2c,3a,4b,5a

Grammar points, page 13

2.

adjective	comparing (2)	superlative (more than 2)
wet	wetter	The wettest
expensive	More expensive	The most expensive
tall	taller	The tallest
cheap	cheaper	The cheapest
modern	More modern	The most modern
old	older	The oldest
exciting	More exciting	The most exciting
rich	richer	The richest
poor	poorer	The poorest
important	More important	The most important
numerous	More numerous	The most numerous
high	higher	The highest

3. Short adjectives: add **er** and **est** to the end of the adjective

Longer adjectives: put **more** and **most** before the adjective

NAME: _____ DATE: _____
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Word Search:

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