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	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 *English Language Support Programme* acknowledges the permission of Gill and Macmillan to reproduce excerpts from *Shortcuts to Success. Maths. Junior Certificate Ordinary Level* 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:

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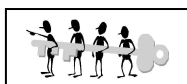
 Recording what they have learnt on the *Learning Record,* which should be distributed at the start of each unit.

 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
bar chart
class
data
distribution
exam/examination
fraction
frequency
frequency distribution table
frequency table
graph
information
mark
mean
methods
mode
number
percentage
pie chart
pupils
result
table
trend

Adverb
always
when

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

Verbs
to calculate
to illustrate
to receive
to record
to represent
to simplify
to solve

Adjectives
above
below
favourite
important
mean
modal
total

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.

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.

MATHS: Statistics

Working with words

1. Tick the correct answer
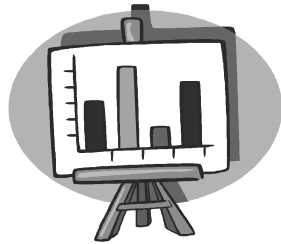
a) This is a photograph.

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

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 <u>maths</u> this word equals:
a) unkind
b) to intend to do something
c) the average

mean

In <u>maths</u> this word equals:
a) a way of doing something
b) the value that occurs most frequently
c) in fashion.

mode

In <u>maths</u> 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

_____

MATHS: Statistics

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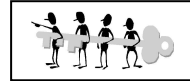
Odd One Out

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.

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!

_____

_____

_____

_____

_____

_____

_____

_____

MATHS: Statistics

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   STRILTELUA

   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! =

_____

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MATHS: Statistics

> **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 angels as a _____ of 360º

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

MATHS: Statistics

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

Multiple Choice

Read the text below and choose the best answer.

(a) The ages of 15 people were recorded as follows 14, 15, 13, 13, 15, 16, 15, 12, 15, 12, 16, 13, 14, 12, 15.
(i) Using a frequency distribution table, illustrate the above data.
(ii) Calculate the mean age of the group.
(iii) Calculate the modal age.

(b) (i) Illustrate the frequency table from part (a) by means of a bar chart.
(ii) Calculate the percentage of people who were 15 years or older.

Question 2
(a) (i) The mean of 4, 2, 1, a, 6 is 3. Calculate a.
(ii) Hence find the mode.
(b) The methods by which 24 students travel to school, are shown below:

Travel method	Walk	Car	Bus	Bicycle
Number of pupils	5	7	10	2

Illustrate the information above using a pie chart. Check your answer.

1. In Question 1, how many people's ages were recorded?
   a)   12   b)   14
   c)   15   d)   2

2. How are you asked to illustrate the data of people's ages, in part (a)?
   a)   bar chart   b)   trend graph
   c)   frequency distribution table   d)   pie chart

3. What are you asked to calculate in Question 2 (a)?
   a) a b)   2
   c)   3   d)   6

4. In Question 2 (b), do 7 pupils walk to school?
   a)   Yes   b)   No

5. Should you check your answer to Question 2 (b)?
   a)   Yes   b)   No

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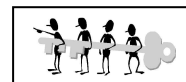
Grammar points

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 **<u>one</u>** 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.

MATHS: Statistics

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	

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**

illustrate	**illustrate**
fraction	**fraction**
frequency	**frequency**

graph	graph
number	number
total	total

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 angels as a **fraction** of 360º

- 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

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

MATHS: Statistics

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 TOTAL 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 MEAN F F Z O X X
    M L M C K G L ABOVE W H
    F L V F S A D Z P H R Z X O
    T U F T S ILLUSTRATE T
    F Q P TREND A K P N S M B Q
    E V F H R N U NUMBER 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 FREQUENCY 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 TABLE X Y O H L F C J M H S
    Q J F U E M L U ANGLE F P G U Z R Y T I
  E I G G J M FRACTION 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 CHART 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 AMOUNT C N O P Z L F
  C N T K J REPRESENT G MODE N I E I K R A V M
  T B B D U R D G FAVOURITE CALCULATE 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 MODAL Q
  T Y Q GRAPH P DISTRIBUTION I M MARK V Y B
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