Wood Technology
Computer Aided Design

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	Computer Aided Design	
All students: Activities that are suitable for **Learning Support, Language Support** and the **Mainstream Subject Class** include:	Keywords	3
	Vocabulary File	4-5
	Activating Students' Existing Knowledge	6
	Completing Sentences	12
	Multiple Choice	13
	Wordsearch	16
Learning support and Language support: Activities suitable for students receiving Learning or Language Support include:	Working with words	7
	Picture Sentences	8
	Odd One Out	9
	Wood Technology Keywords	10
	Unscramble the letters	11
	Alphaboxes	15
	Play Snap	17-20
Language support: Additional activities for Language Support:	Grammar points	14
Levels for Language Support	**A1 – B1** The language level of each activity is indicated in an information box.	
Learning focus	Using Wood Technology 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 *Wood Technology for the Junior Certificate*. Edited by Bill Gaughran. .	

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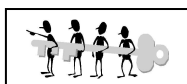
Indicates that answers may be found at the end of the unit.

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

bolt
CAD (computer aided design)
circle
computer
design
disk
drawings
facility
graphics
grid
hardware
inch
information
layer
library
line
memory
mirror
mm (millimetre)
mouse
nut
object
ordinate
package
pixels
screen

shading
snap
software
stair
surfaces
system
table
tool
zoom

Adjectives

floppy
repetitive

Verbs

aid
describe
draw
explain
give
make
produce
rotate
suggest
use
write

Vocabulary file 1

Word	Meaning	Note or example*
screen		
disk		
graphics		
hardware		
software		
memory		

* 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.

Vocabulary file 2

Word	Meaning	Note or example
zoom		
mouse		
nut		
pixels		
system		
package		

Get your teacher to check this and then file it in your folder.

Language Level: all
Type of activity: whole class
Suggested time: 10 minutes

Activating students' existing knowledge

Use a spidergram to activate students' ideas and knowledge on the key points in this chapter. See **Teachers' Notes** for suggestions.

Possible key terms for the spidergram:

Computers

Computer Graphics

Computer Games

- Invite newcomer students to provide key words in their own languages.
- Encourage dictionary use.
- Encourage all students to organise their vocabulary into relevant categories (e.g. meaning, nouns, keywords, verbs etc.).

All students should record vocabulary and terms from the spidergram in their personal dictionaries.

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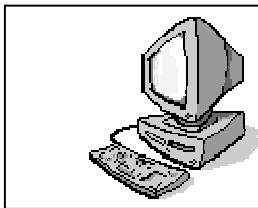| |
|---|
| **Language Level**: A1 |
| **Type of activity:** pairs or individual |
| **Suggested time:** 20 minutes |
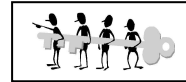
Working with word

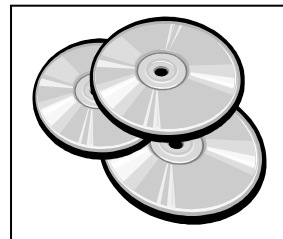## 1. Identify the following in the picture:

a) the screen

b) the mouse

c) the keyboard

2. Match the word and the picture.

Software

Hardware

3. Find these words in your textbook.

Write your own explanation for these words. Then write a note or example to help you remember. Use your dictionary if necessary.

Word	Page in textbook	Explanation	Note or example
software			
hardware			
computer programme			

 Check that these key words are in your personal dictionary.

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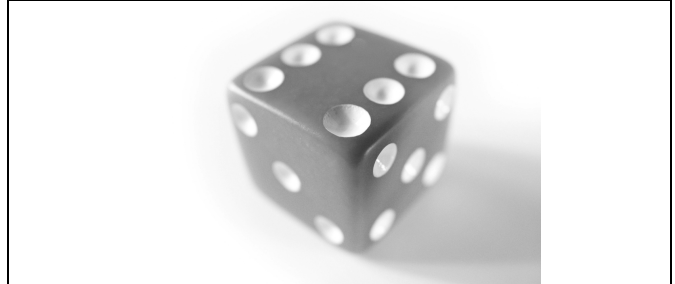**Suggested time:** 30 minutes

Picture Sentences

1. Tick the correct answer
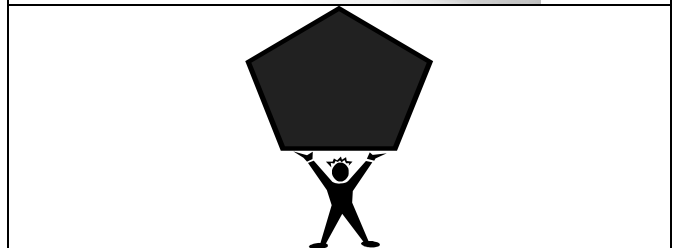
a) This is a two dimensional shape.

b) This is a grid.

c) This is a three dimensional   shape.

a) This is a two dimensional shape.

b) This is a grid.

c) This is a three dimensional   shape

a) This is a two dimensional shape.

b) This is a grid.

c) This is a three dimensional shape

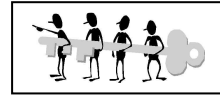2. Put these words in the correct order to form sentences.

   by using /is about/ computer graphics/ creating pictures/ a computer

_____

CAD/ is speed/ big advantage/ one/ of

_____

excellent/CAD programmes/ many /are available

_____

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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*)

computer	mouse	screen	dog
hardware	memory	ice cream	software
circle	bog	lines	graphics
bread	snap	zoom	grid

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

to edit _____

to erase_____

to trim _____

to copy _____

to zoom _____

Check that these key words are in your personal dictionary.

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

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.

  gra_ _ics   _____

s_ _ tw_ _e   _____

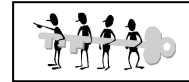in_ _rm_ _ion   _____

rep_ _it_ve   _____

2. Write as many words as possible related to **Computer Aided Design**.
You have 3 minutes!

_____

_____

_____

_____

_____

_____

Check that these key words are in your personal dictionary.

Wood Technology: Computer Aided Design

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

Unscramble the letters

1. This is something you do again and again   VEITPERETI

   Answer _____

2. This is a place where books are stored   RALYRIB

   Answer _____

3. This is an organised way of doing a particular job   SEMSTY

   Answer _____

4. When you talk about something in detail   SDECBERI

   Answer _____

Solve the secret code

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

example: IDBVD = START

XZQHWDYVI BVY WIYNWG =

_____

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

Completing sentences

Fill in the blanks in these sentences. Use words from the Word Box below.

Remember that while the computer is a very powerful design/drafting tool, it is not a substitute for sketching initial _____ ideas, and it definitely does not think for you. As the software and _____ continue to develop, harness them to suit your needs. Why not try to use a CAD package in your school to _____ some of the drawings for your project briefs? A drawing produced by _____ will always look neat and tidy. You could use it for the presentation of ideas, for working _____, for drawing charts, etc.

Remember to be patient at first: proficiency comes only with lots of practice.

Word Box

| produce | drawings | computer | design | hardware |

Check your understanding by answering the following questions:

- Can a computer help you to think?

- How can you improve at computer design?

Language Level: A2 / B1
Type of activity: individual
Suggested time: 40 minutes

Multiple choice

Read the text below and choose the best answers.

Anything that can be drawn by hand can be drawn faster and more accurately on a computer. The graphics produced will have a uniformly neat and precise appearance, regardless of who made them. Lines that should be parallel, will be exactly so, corners will be exactly square, lines will meet exactly. Drawings will be accurate in another sense: with respect to distance. If, for example, you wish to draw a line 100 mm long on a drawing board you may be accurate to ±0.25 mm. The computer's accuracy will be ±0.01 mm.

Tone of line in any drawing is very important. If construction lines are light, outlines heavy, and dimensions somewhere in between, the finished drawing will have more impact. Any drawing lacking such line tone will be confusing and untidy.

We cannot vary line tone on a computer screen, but we can use colour (up to 256 colours on some screens). For example, an unobtrusive colour like yellow could be used for construction lines, while black could be used for outlines.

1. What is the appearance of computer graphics?
    a)   invisible   b)   pretty
    c)   neat and precise   d)   sloppy

2. How do computers represent distances?
    a)   they don't   b)   respectfully
    c)   approximately   d)   very accurately

3. What happens to a drawing if it lacks line tone?
    a)   it is confusing   b)   it is more important
    c)   it has more impact   d)   it is heavy

4. Can you vary line tone on a computer screen?
    a)   Yes   b)   No

5. Is yellow a good colour for construction lines on a computer?
    a)   Yes   b)   No

Language Level: B1
Type of activity: individual
Suggested time: 30 minutes
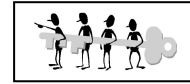
Grammar point

Prepositions
(Preposition: a word placed before a noun to show direction, place, time etc.):
1. Put a circle around all prepositions in the box below (clue – there are 15!):

computer	on	off	software	at	in	
through hardware		up	screen	down		beside
under over mouse		system		from	of edit	
opposite	erase near	along				

2. Here are sentences from your textbook, but some of the prepositions are missing. Read the sentences and fill in the missing prepositions.

- The grid can be turned ____, or left ____.

- When the grid is ____ on it will appear as a series of dots ____ the screen.

- Often the snap is set ____ the same intervals as the grid.

- Line: This allows lines ____ various length, thickness and angle to be drawn.

- Circle: Most systems allow you to draw a circle ____ the radius.

- Arc: Arcs may be drawn from one of the following pieces ____ information.

- Zoom: When doing a drawing it is a good idea to zoom ____ to the object.

3. Now it's your turn! Go to your textbook and the unit on CAD. Write out six sentences but leave a gap where the propositions should be. Swap sentences with another student and correct one another's work.

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 from the list below.

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

BOLT	FACILITY	MIRROR	SHADING
CAD	GRAPHICS	MOUSE	SNAP
CIRCLE	HARDWARE	NUT	SOFTWARE
COMPUTERS	LINES	OBJECTS	SURFACES
DISK	MEMORY	ORDINATE	SYSTEM
DRAWING	MILLIMETRE	PRODUCE	TOOL
		ROTATE	ZOOM
		SCREEN	

Play Snap

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

✂

mirror	**mirror**
design	**design**
computer	**computer**

pixels	**pixels**
information	**information**
hardware	**hardware**

disk	**disk**
produced	**produced**
shading	**shading**

repetitive	repetitive
screen	screen
explain	explain

Answer key   21

Working with words, page 7
2. hardware is the first picture, software is the second.

Picture sentences, page 8
1. b,c,a
2. Computer graphics is about creating pictures by using a computer.
One big advantage of CAD is speed.
Many excellent CAD programmes are available.

Odd one out, page 9
1. dog, ice-cream, bog, bread

Keywords, page 10
Graphics (noun), software (noun) information (noun) repetitive (adjective)

Unscramble the letters, page 11
Repetitive, library, system, describe.
Secret Code: computers are useful

Completing Sentences, page 12

Remember that while the computer is a very powerful design/drafting tool, it is not a substitute for sketching initial **design** ideas, and it definitely does not think for you. As the software and **hardware** continue to develop, harness them to suit your needs. Why not try to use a CAD package in your school to **produce** some of the drawings for your project briefs? A drawing produced by **computer** will always look neat and tidy. You could use it for the presentation of ideas, for working **drawings**, for drawing charts, etc.
Remember to be patient at first: proficiency comes only with lots of practice

No, a computer does not think for you.
You can improve by having lots of practice.

Multiple Choice, page 13

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

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Grammar point, page 14

1. Prepositions: on, off, at, in, through, up, down, beside, under, over, from, of, opposite, near, along

2.

- The grid can be turned **on**, or left **off**.
- When the grid is **on** it will appear as a series of dots **on** the screen.
- Often the snap is set **at** the same intervals as the grid.
- Line: This allows lines **of** various length, thickness and angle to be drawn.
- Circle: Most systems allow you to draw a circle **from** the radius.
- Arc: Arcs may be drawn from one of the following pieces of information.
- Zoom: When doing a drawing it is a good idea to zoom **in** to the object.

Word Search, page 16

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