# UNIT 4

## A Dental Laboratory

## A A visit to a dental laboratory

**1.**

OPERATOR: 131, post 28, may I help you?

MRS E: Hello.... Could you please give me the telephone number of IKA Kallitheas?

OPERATOR: Certainly Madam, hold on a second, please. It is 9581118.

MRS E: Thank you, could you also give me the address?

OPERATOR: Yes, of course. It is 11 Socratus, Davaki Square, Kallithea.

MRS E: Fine, thank you very much.

**2.** After a while...

MRS E: Hello, is this IKA Kallitheas?

OPERATOR: Yes, can I help you?

MRS E: I'd like to visit your Dental Laboratory. Could you tell me what your opening hours are, so that I can make an appointment?

OPERATOR: We work on an almost 24-hours basis.

MRS E: Which do you think would be the most suitable time for me to come? I'd like to take some photographs of your dental laboratory and its equipment.

OPERATOR: In that case, around 2 o'clock would be the best time.

MRS E: Do you happen to know which bus I could take? I'll use the underground first.

OPERATOR: Well, get off at Kallithea station. Then take bus number 219.

MRS E: Thank you very much. You have been very helpful. Good bye.

OPERATOR: Good bye.

**3.** Some time later ...

MRS E: Excuse me, I am looking for IKA Kallitheas. I thought it was somewhere near ...

A PASSER-BY: Well, its not quite as close as you think. Why did you get off at this stop?

MRS E: I wasn't sure, somebody told me to get off, and jumped out of the bus when it stopped without thinking.

A PASSER-BY: You will have to walk a bit. This is Davaki square in front of you. That

over there is Davaki street. Go right down Davaki street until you come to the first traffic lights. There's a zebra crossing there, the telecommunications building is exactly opposite the cinema at the corner. Cross the street. Then continue straight ahead. Cross again, then take the second street on your right. That's where IKA Kallitheas is. A big building, you can't miss it.

MRS E: Thank you very much. That's very kind of you.

PASSER-BY: You're welcome. Good luck !

## Task 1

Here are some useful ways to ask for directions and some useful expressions to use when you give directions. Complete the sentences any way you like.

**Asking for directions**

A. Excuse me ! Where is .....?
B. Do you know where.....?
C. How do I get to .....?
D. I am looking for.....?
E. Can you tell me the way to .....?
F. Where is.....?
G. Could you direct me to.....?

**Giving directions (Useful phrases)**

Keep going. Carry on until you come to ...
Take the first turning on the right ...
Follow ... then cross over to the other side of the road.
It is next to ...
It is opposite the underground station. Go back the way you came, then ...
I don't know. I don't live here.

## Task 2

The phrases in the box below come from text A. Go back to the text and look for them.

| | |
|---|---|
| a) I thought ... | b) why did you get off ... |
| c) I wasn't sure ... | d) nobody told me ... |
| e) I jumped out of ... | g) when it stopped ... |

Is the action that the speaker is describing, happening at the moment of speaking? If the time let's say is 2 o'clock, when she met the passer-by, isn't it certain that she got off the bus before 2 o'clock? All actions must have happened before 2 o'clock and were completed by the time she met the passer-by.

**RULE 1.**

When we refer to actions that took place and were completed in the past, we use the formula which in grammar is called Past Tense. There are past time indicators like, a minute ago, last month, yesterday etc. that help us to know that we are referring to past events, situations, states of mind. Sometimes, past time indicators are not necessary as we can guess that it is past. If for example we are in October and something happened at Easter which is celebrated in April or May, we know it is past. "I met Peter at Easter" does not need any other time indicator.

## Task 3

The verbs jumped and stopped show us how we form the Past Tense. Also thought and was tell us how we form the Past Tense. Can you draw any rule? What do I do in the first case, what do I do in the second? What do you do with the verbs that follow? What is their past tense? Try first. Do it in pairs. Student A works on his own. Student B does the same. Then, discuss your work. Next, go to the vocabulary section and check what you have done.

| Student A | | Student B | |
|---|---|---|---|
| look | | work | |
| get | | sleep | |
| help | | take | |
| visit | | play | |
| make | | go | |
| do | | stand | |
| come | | complete | |
| write | | fill | |
| speak | | open | |
| be | | know | |

## Task 4

Try to write the Rule for forming the Past Tense. To help you we tell you that there are two main categories of verbs that form the past tense in two different ways.

**RULE 2.**

## Task 5

Study the sentence 'Why did you get off ...' .Can you write the rule of forming questions with past tense verbs? Remember: in questions both categories of verbs follow the same strategy.

**RULE 3.**

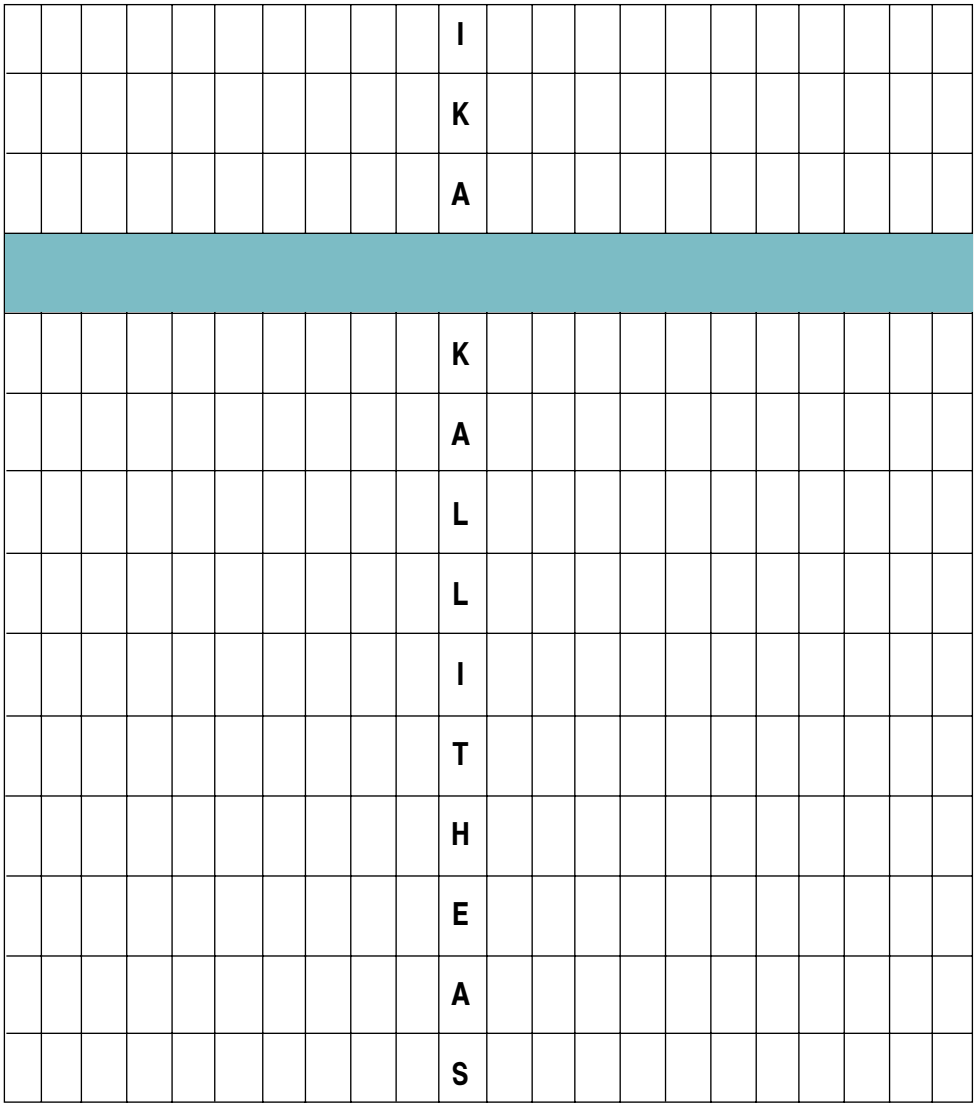
## Task 6

The answer to the passer-by' s question is: ''I did not get off at the right stop because ...''. What do you do when you want to say that you did not do something?

**RULE 4.**

## Task 7

You must be tired by now. Here is a cross-word puzzle similar to the one in Unit 2. Any word is correct, but one letter of the word you will put in the crossword must be one of the letters contained in the word down «ΙΚΑ ΚΑLLITHEAS». The words can also come from sections B and C that follow. You cannot use a word twice.



## B Features of dental laboratory equipment: a trimmer

**(A dental technician assistant in IKA Kallitheas speaks to Mrs E)**

Welcome to our dental laboratory. It is our pleasure to have you with us and show you around. You can take any pictures you like from various angles and ask any questions on anything that interests you. Because our laboratory is in use, we did not have time to clean and tidy everything up.

Here is a piece of important equipment in our laboratory. It is called model trimmer. It is used for trimming all kinds of teeth models from the most simple to the most complicated ones. As you can see it is a robust construction and it has got a long life service. It is wear-resistant with a flat grinding surface which makes the best use of the grinding wheel. The water supply is adjustable so that good grinding-wheel grip and good dust removal are ensured. The work table is made of stainless steel, and it is vertically adjustable too. The grinding wheel can be reversed or changed quickly while one can do right-hand or left-hand grinding. Although our model trimmer looks robust, it can be unscrewed easily because there are cross-slotted nuts at all junction points. The tray for models is quite large. Like the work table, it is also made of stainless steel. Most importantly, our trimmer has high-operator safety, for example, it has got a waterproof safety switch. As you can realize this model trimmer cost IKA Kallitheas a lot of money.


**Figure 4.1**

## Task 1

Match the two columns related to the characteristics of a model trimmer to make meaningful sentences.

| | | | | | |
|---|---|---|---|---|---|
| 1 | The work table is made of stainless steel | a | it can be easily unscrewed because it has got nuts. | 1 | |
| 2 | A trimmer is a robust construction | b | it cost IKA Kallitheas a lot of money. | 2 | |
| 3 | Although the trimmer looks robust | c | so that good grinding wheel grip is certain. | 3 | |
| 4 | The grinding wheel can be reversed and changed | d | in other words it has got a waterproof safety switch. | 4 | |
| 5 | The tray for models is quite large and like | e | and it is vertically adjustable too. | 5 | |
| 6 | Because our trimmer has all these fantastic characteristics | f | the water supply of the trimmer is adjustable. | 6 | |
| 7 | The water supply of the trimmer is adjustable | g | from the most simple to the most complicated ones. | 7 | |
| 8 | So that good dust removal is achieved | h | and it has got a long life service. | 8 | |
| 9 | Our trimmer has high-operator safety | i | the work table is also made of stainless steel. | 9 | |
| 10 | A timmer is used for trimming teeth models | j | while one can do right-hand or left-hand grindings. | 10 | |

## Task 2

The words simple and complicated in the sentence above "It is used for trimming all kinds ....ones" are opposites. The word dirty is the opposite of clean and untidy the opposite of tidy. Sometimes opposites are totally different words, and sometimes you make them by adding words (or particles) in front or at the end of the adjective. Below, there are two lists of adjectives and a box with "adding words". Group 1, works on list 1. Group 2, works on list 2. Then discuss your work in class.

| List 1 | List 2 |
|---|---|
| friendly | pleasant |
| old (person) | pretty |
| bad | kind |
| careful | easy |
| clever | useful |
| polite | strong |
| large | tall |
| complete | same |
| suitable | helpful |
| right (directions) | first |
| past | necessary |
| similar | important |
| full | harmless |
| real | natural |
| healthy | relevant |

| |
|---|
| in- , un - , -less, dis- , ir- , im- |

| | |
|---|---|
| ... MRS E: | Before we continue, would you mind if I take a picture of the full view of your dental laboratory? |
| DENTAL TECHNICIAN ASSISTANT: | Not at all, go ahead. |
| MRS E: | I'd also like to focus on certain parts of the laboratory, would that be all right? |
| Dental Technician Assistant: | Please, feel free to take any pictures you like in any |

order you wish. Would you prefer us to demonstrate certain items in a special order?

MRS E: No, thank you. I am afraid I am not an expert in dental laboratory matters. I just think it would be better if we started with the most general and then continue in more detail.

DENTAL TECHNICIAN ASSISTANT: As you wish. It would be a pleasure for us to help you.

MRS E: Much obliged. Thank you in advance.

## C More on dental laboratory equipment: a minor incident

This is what Mrs E's camera captured. She did a very tidy job at the start. She kept notes on every object she photographed.
Then ...

**Figure 4.2**

Look at a clear view of the dental laboratory of IKA Kallitheas with all the necessary equipment and the "products'' of our dental technicians and their assistants on the left side.

**Figure 4.3**

These are the cupboards where most of our laboratory items are nealthy stored when they are not in use. We will show you some of them later on.

**Figure 4.4**

That is the chair and the desk with a working surface where our technicians sit and work. In the drawers, our members of stuff keep their smaller instruments.

**Figure 4.5**

That device attached on the working surface has a double purpose. It provides support to the hand while delicate work is in progress. It is also used to collect pieces of litter in order not to dirty the floor, or make it slippery.

**Figure 4.6**

The most basic instrument in any dental laboratory is the straight hand-piece, which is shown by the young lady. It is built-in a flexible shaft. It is driven by an electric motor at its base. Different kinds of burs, abrasive stones and diamonds, are fitted on it which do grinding, cutting, shaping, trimming, tearing down all kinds of dental materials.

**Figure 4.7**

Another basic tool in a dental laboratory is a burner. It is called a Bunsen burner. It produces strong flame, you can melt anything, boil or whatever you wish. Would you like to see it in action?

**Figure 4.8**

MRS E: Well, the flame is too weak, how can it do all the jobs you've mentioned? The flame is almost transparent.

DENTAL TECHNICIAN: There! Can you see it?… Mind your hair lady! It could catch fire!

MRS E: Sorry, it didn't look so dangerous.

DENTAL TECHNICIAN: It is. We had an accident here last year. You see, most of our materials are inflammable and could easily explode.

MRS E: Really?

DENTAL TECHNICIAN: And some of them are poisonous.

MRS E: Oh dear! It all looked so harmless when I came in.

DENTAL TECHNICIAN: It is, if certain precautions are taken. This burner for example is very safe. The technician can match the volume of the flame to the volume of the metal to be soldered.

## Task 1

After this minor incident Mrs E got a bit upset. Although she continued taking photographs, she forgot to take notes for each of them. As she is not an expert in dental laboratory matters, she became desperate. She did not know how to describe the pictures. She called the dental laboratory technicians, told them what had happened and tried to take notes down by phone. However, the result could not naturally be as good as it would have been if she had done the description of the pictures on the spot. Form two groups and then halve the pictures and the descriptions. Each photograph has a box underneath. Each description has a letter of the alphabet over it. Put the relevant letter in the box of the picture it belongs to. Then, exchange your information with the group of your classmates who have been working on the other half of the pictures and descriptions, and complete what is missing.

**Group 1 (odd numbers)**

1

**Group 2 (even numbers)**

2

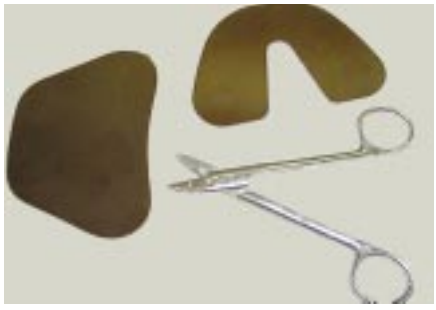
3

4

5


6


7



8

9

10

11

12

13

14

15

16

17

18

19

20

**Descriptions**

**a**

This is a plain or simple articulator. The models of jaws are mounted on it. However, it does not help the technician to mark the exact anatomical position of jaws.

**b**

This mechanism is called anatomical articulator. Dental technicians mount the models of the jaws in order to record vertically and horizontally their correct position in the mouth at rest.

**c**

A water-bath unit is used for soaking plaster models. Most of the times it is equipped with a thermostat.

**d**

A muffle is a metal flask where models in ceramic are placed, before they are inserted in a furnace. It protects ceramic from coming into direct contact with the source of heat, when put in a furnace.

**e**

Heat-cured acrylic.
Suitable for dentures and orthodontic appliances.

**f**

Cold or self-cured acrylic. Suitable for temporary crowns, denture repairs and impression trays.

**g**

Trimming scissors, and base material for both jaws upper and lower used in full dentures and partial dentures.

**h**

Separating varnish is necessary to be spread on a cast. In this way, the layers of materials added on to it do not stick together, and it is easy to separate them.

**i**

With this instrument, that looks like a saw, teeth in a cast are separated and can be removed and worked upon in isolation.

**j**

The final product of a full denture of the upper jaw is proudly shown to us by Eva, a dental technician assistant.

**k**

This is base material for the upper jaw. The technician moulds it to the model of the denture, and trims it to the exact outline of the intended denture.

**l**

This is base material for the lower jaw. The technician moulds it to the model of the denture, and trims it to the exact outline of the intended denture.

**m**

This is dental wax.
It is used for modelling and waxing up casts.

**n**

It is necessary, sometimes for some patients to prepare individual trays, to take a perfectly accurate final impression. This is a polymerization unit for such tray.

**o**

A cast of a partial denture, its metal structure (framework) and a pair of pliers.

**p**

A partial denture with its metal framework and wax rims before the patient has tried it. The dentist will record the normal relation of both jaws.

**q**

A full denture with its occlusion rims (base-plate and wax rims). It will be sent to the surgery where the patient will try it on, and the correct relationship of his or her jaws will be recorded.

**r**

On the bottom sheet one can see models of full and partial dentures. Wax and bases for the occlusion rims have not been added yet. On the top shelf, models are ready to be tried by patients. Some finished dentures on the far right are kept in jars in a liquid. A Bunsen burner stands on the glass working surface.

**s**

Face masks used to filter the air the technician breaths in. They keep dust and germs from entering the mouth and nostrils.

**t**

Plastic gloves to protect the technician's hands from allergies and infections. The skin surface does not also get scratched while cutting, grinding, etc.