



STUDY NOTES

EPISODE 6: LASERS

DESCRIBING HOW SOMETHING WORKS

Describing how something works using information provided in a diagram is one of the academic Writing Task 1 questions, which occasionally occurs in the IELTS test.

The diagram may be of a device, appliance, tool, gadget, machine or object such as a laser, microwave oven, electric drill, iPod, generator or clock/watch.

Regardless of the diagram, how you approach the task and the structure of your description will be the same.

Approaching the Task

Before you begin writing your description, there are a number of strategies, which are helpful to follow. Look at the following question.

Writing Task 1 – Academic Module

You should spend about 20 minutes on this task.

Lasers have many purposes, which are applicable to such settings as welding, cutting, surgery, communications, reading bar codes or information stored on CDs or DVDs.

The diagram below shows a supermarket checkout barcode scanner. Using the information in the diagram, write a report for a university lecturer describing how this laser works.

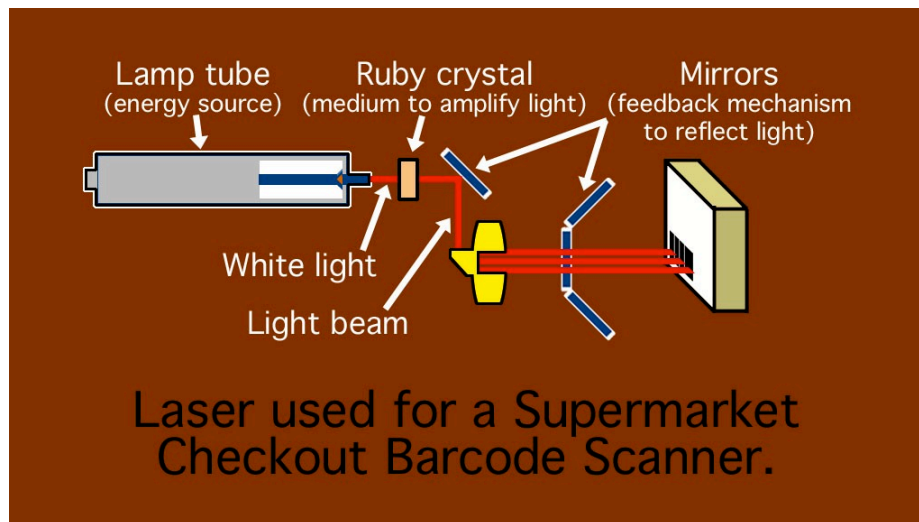
You should write at least 150 words.

STUDY TIPS

When writing the introductory paragraph of an academic IELTS Task 1 question, always paraphrase information from the question and diagram, graph or picture.

Remember to only include in your report information, which is actually provided in the diagram, graph or picture.

So, even if you may know something about the subject matter or are an expert in the



Strategies

While examining the question work through the following strategies:

- Read and identify the key words in the question
 - key words are used in the introductory paragraph

***Lasers** have many **purposes**, which are applicable to such **settings** as **welding**, **cutting**, **surgery**, **communications**, **reading bar codes** or **information stored on CDs or DVDs**.*

*The **diagram** shows a **supermarket checkout barcode scanner**. Using the information in the diagram, write a report for a university lecturer describing how this laser works.*

- Study the diagram carefully for approximately 2-3 minutes
 - read through all the vocabulary provided
 - think about how the labelled parts will help you with your description
 - think about what verbs you will use for your description
 - consider at what point in the diagram will you start your description

Structure of the description of how something works

When describing how something works, it is important to have a clear understanding of the function of each part and the steps involved in how the device, object, machine etc. operates so that it is explained logically and efficiently.

The description itself needs to be well organised and include the following information, which provides the structure for this task type.



Structure

Introduction	<ul style="list-style-type: none"> introduce the device, object, machine etc., providing background information name it or give a definition identify its function, use or purpose list the component parts of the device, object, machine etc.
Body	body paragraph 1 – description of the first component part <ul style="list-style-type: none"> topic sentence to introduce it description of the function
	body paragraph 2 – description of the second component part <ul style="list-style-type: none"> topic sentence to introduce it description of the function
	body paragraph 3 – description of the third component part <ul style="list-style-type: none"> topic sentence to introduce it description of the function
Conclusion	<ul style="list-style-type: none"> state the overall purpose of the device, object, machine etc.

Introduction

When introducing the device, object, machine etc. you might want to give some **background information** about it and also explain where it is used. In our question about the laser, key words were identified which can provide general background information. Though you can use the words from the question to write your description, it is important that you **do not copy** word for word because you will lose marks for this (copying other's work = 0). Also it is important to only use the information, which is provided in the diagram.

Paraphrasing the information from the question, the laser could be introduced as follows.

Lasers are used in all kinds of settings, which include welding, cutting, surgery, communications, and reading information stored on CDs or DVDs.

For our next sentence the actual laser would be named and its function identified. In formal writing there are a number of ways of doing this.

Language structures:



Example 1

The **diagram (illustration, picture)** is of a _____, (which is) **designed to** (do something).

Example 2

A _____ is a (**device, object, machine**), (which is) **designed for the purpose of** (do something).

Using the information from the question, the laser can be identified as follows.

The diagram is of a laser scanning device, and is designed to scan barcodes at a supermarket checkout.

Following this the component parts, which make up the laser need to be identified in a logical, orderly way. There are three parts labelled in the diagram: energy source, a medium and feedback mechanism.

In formal writing, there are a number of ways listing the parts.

Language structures:

Subject	Verb	Object (noun phrase)		
		how many?	thing	specific detail*
Lasers all	have	three	main parts (to them):	an energy source, some medium and feedback mechanism.
A laser	consist(s) of comprise(s) is/are comprised of	a number of several three two	parts. sections.	These are:
Lasers				
All lasers				

*Alternatively, each of the parts can be listed separately. For example,

First, there is the energy source, then some medium and finally, there is the feedback mechanism.

Adding to our description, we can list and provide some specific details of the component parts as follows.

There are many types of lasers but they all have three main parts. These include an energy source such as a lamp, some medium,



like the ruby crystal, which can amplify the light and also some sort of feedback mechanism like a pair of mirrors.

Body

In the body of the essay a description of how each of the device's (object's, machine's etc.) component parts functions together. Each body paragraph begins with a **topic sentence**, which introduces the specific component part and provides the focus of the paragraph. **Transition signals** are used to show which component part is being described and to show the logical transition from one part to the next.

Here is a list of some transition signals.

firstly	next	then	secondly	thirdly	finally
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After the topic sentence the function of the component part is explained.

Using the laser diagram the three component parts can be described as follows.

Body paragraph 1 – the energy source

Firstly, there is the energy source. The lamp, which is represented by the tube, shines white light onto a crystal. Pumping energy into the crystal gives off light at a particular frequency to produce a specific colour.

Body paragraph 2 – the feedback mechanism

Then there is some medium. Each time the light goes through the crystal, it is amplified, stimulating the same energy release in other parts of the crystal.

Body paragraph 3 – the medium

Thirdly, there is the feedback mechanism. Some of this light bounces backwards and forwards between the two mirrors, and passes through the crystal each time.

Conclusion



In the conclusion the overall function or purpose of the device, object, machine etc. is restated in more detail.

In summary, after many reflections, which pass through the crystal, the end result is a very strong, narrow beam of light which is just one colour.

Report describing how the laser works

Piecing the description together here is our report.

Lasers are used in all kinds of settings, which include welding, cutting, surgery, communications, reading information stored on CDs or DVDs. The diagram is of a laser scanning device, and is designed to scan barcodes at a supermarket checkout. There are many types of lasers but they all have three main parts. These include an energy source such as a lamp, some medium, like the ruby crystal, which can amplify the light and also some sort of feedback mechanism like a pair of mirrors.

Firstly, there is the energy source. The lamp, which is represented by the tube, shines white light onto a crystal. Pumping energy into the crystal gives off light at a particular frequency to produce a specific colour.

Then there is some medium. Each time the light goes through the crystal, it is amplified, stimulating the same energy release in other parts of the crystal.

Thirdly, there is the feedback mechanism. Some of this light bounces backwards and forwards between the two mirrors, and passes through the crystal each time.

In summary, after many reflections, which pass through the crystal, the end result is a very strong, narrow beam of light, which is just one colour.

(199 words)

Remember that you are required to write at least 150 words.



Listening task – Labelling a diagram

In the listening module of the IELTS test, you may be required to label a diagram, which has numbered parts. This type of question is usually found in section 3 of the test, which is a conversation between two or more people discussing an academic topic.

Here are some strategies to prepare you for the listening.

Strategies

- Read the instructions and the choice of words provided
- Study the diagram carefully
- Make sure you understand what is to be labelled
- Determine where the starting point is
- Think about what you know about the device, object, machine etc.
- Try to predict where the given words fit in the diagram
- Decide what other vocabulary is relevant to the topic

