

Output Devices



Printers & Screens

Objectives of today's class

- to learn about different types of output devices
- to learn useful words & phrases to talk about printers and display screens
- to understand how different types of displays work and what are the differences between them
- learn how to make recommendations / give suggestions
- review formal / informal emails



Students, follow the instructions on the slide

INPUT DEVICES

ANSWER THE QUESTIONS BELOW

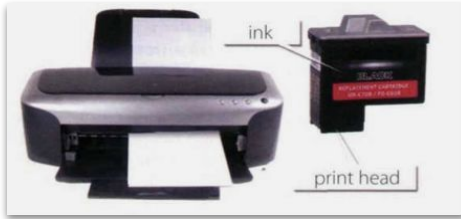
- 1 What are some of the most commonly used output devices today?
- 2 Can you name different types of the output devices your mentioned before? What are the differences between them?
- 3 How much do you know about how these devices work?



Students, draw anywhere on this slide!

PRINTERS

Look at the pictures below. Using the description below each image, try to guess the type of printer it illustrates.



1 _____
(the resolution of images goes up to 2,400 dots per inch)



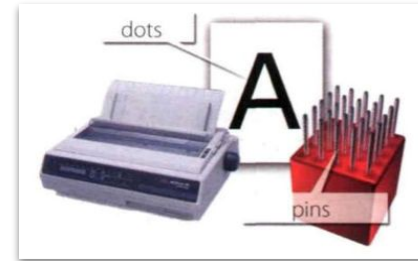
2 _____
(provides high quality output: a resolution of 1,200-2,400 dpi)



3 _____
(provides the highest resolutions, more than 3,000 dpi)



4 _____
(provides high quality for linework)



5 _____
(the resolution depends on the number or pins)



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PRINTERS

Find the words in the text with the following meaning:

1. designs and images used in magazines, books, etc. _____
2. output quality, measured in dots per inch _____
3. a particular colour within the colour spectrum _____
4. an ink powder used in laser printers and copiers _____
5. set of characters that can be resized (enlarged or reduced) without distortion _____
6. a rectangular pattern of black lines of magnetic ink printed on an object so that its
details can be read by a computer system _____
7. a surface that carries a reproduction of the image, from which the pages are printed _____
8. in-between, middle _____



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CONNECTORS & LINKERS

Put the words in *italics* from the article in the appropriate column in the table below. Can you add other linkers to the list as well?

GIVING EXAMPLES	LISTING / SEQUENCING	GIVING REASON / CAUSE



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VOCABULARY

Fill the gaps in the sentences below with an appropriate word from the box below.

<i>cartridge</i>	<i>collate</i>	<i>via</i>	<i>out</i>	<i>cover</i>	<i>reload</i>	<i>feed</i>
<i>double-sided</i>	<i>replacement</i>	<i>out of</i>		<i>mono</i>	<i>jammed</i>	<i>print-heads</i>

- 1 When the ink runs out, you have to change the _____.
- 2 _____ cartridges can be ordered online.
- 3 To change the cartridge, you have to lift the _____.
- 4 The printer is connected to the computer _____ a USB cable.
- 5 The printer is _____ paper. _____ the paper tray.
- 6 I think some paper is _____ inside the printer.
- 7 My printer keeps getting jammed. I think there's a problem with the paper _____.
- 8 Shall I print this _____ in colour or black and white?
- 9 "Black and white" is also known as _____.
- 10 If there's a problem with the print quality, perhaps the _____ need cleaning.
- 11 Can your printer do _____ printing?
- 12 To _____ means to put all the pages in the correct order.



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DISPLAYS SCREENS & TECHNOLOGIES

How much do you know about display screen technologies? Answer the questions below.

- 1 What different types of display screen technologies and panels are you familiar with?
- 2 How much do you know about how they create and image?
- 3 What are the advantages / disadvantages of each?



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DISPLAYS SCREENS & TECHNOLOGIES

Different monitors use different technologies to create the image. The pictures below illustrate some of the most common ones. Can you identify them?

LCD

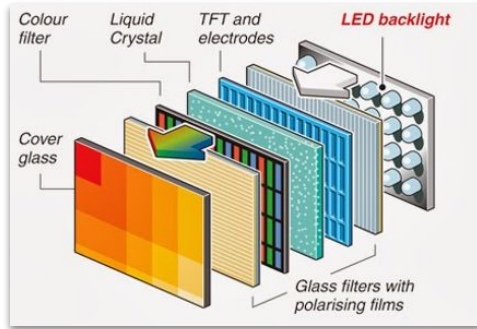
LED

Plasma

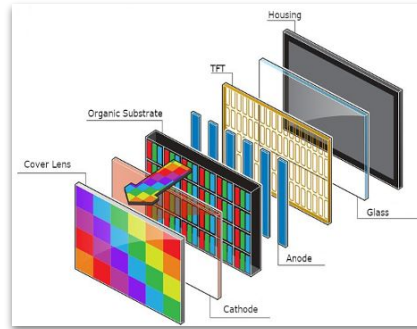
OLED

CRT

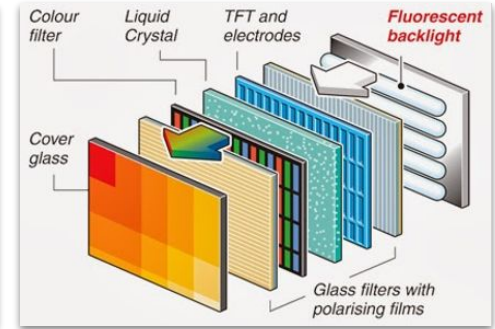
A



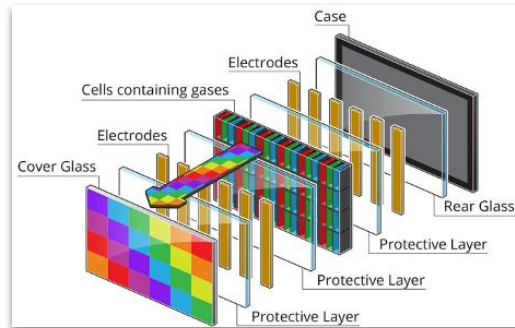
B



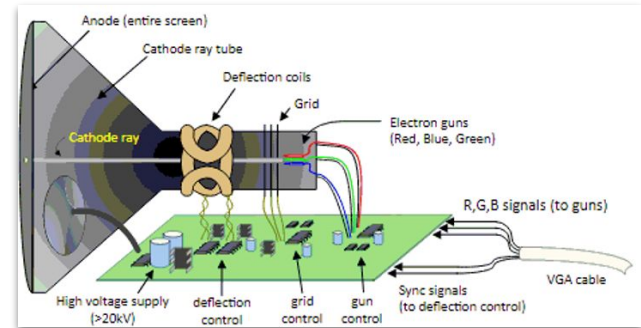
C



D



E



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DISPLAYS SCREENS & TECHNOLOGIES

In A-E below, you can find a brief description of how each of the display screens discussed before works.
Identify the type of display they describe.

- _____
- a. This type of screen is composed of two parts: the actual liquid crystal display and a light source at the back of the screen (called backlight). The crystals block light in different quantities to create the image.
- _____
- b. Thin-film LED displays that don't require a backlight to function. The material emits light when stimulated by an electrical current, which is known as electroluminescence.
- _____
- c. Also called *gas charge display*, this type of display contains noble, non-harmful gases.
- _____
- d. A flat panel display that uses an array of light-emitting diodes (LEDs) as a source of light behind the screen.
- _____
- e. This type of screen contains millions of tiny red, green and blue phosphor dots that glow when struck by an electron beam that travels across the screen and creates a visible image.



Students, draw anywhere on this slide!

How is the performance of a display screen measured?

Can you name a few properties that describe the quality and performance of a monitor?

Brainstorm a few ideas.



Students, write your response!



VOCABULARY

The list below contains some words that can be used to talk about display screens. Match the terms to the correct definitions on the right.

resolution	_____	a.	the process of removing magnetism from a monitor;
aspect ratio	_____	b.	the time it takes for a pixel to change colour from one colour to another;
colour depth	_____	c.	a treated glass panel or plastic sheet that is placed over a monitor screen to reduce glare;
anti-glare filter	_____	d.	a technology used in LCD displays, in which the brightness of each pixel is directly controlled;
degaussing	_____	e.	the amount of light produced by a monitor, usually measured in cd/m^2 ;
refresh rate	_____	f.	the width of the screen divided by its height;
response time	_____	g.	a panel or filter placed over a display, used to protect data on the screen;
active matrix	_____	h.	an LCD technology that uses a grid of vertical and horizontal wires to display an image on the screen each pixel is controlled by an intersection of two wires in the grid;
passive matrix LCD	_____	i.	the maximum number of pixels in the horizontal and vertical directions of the screen;
brightness	_____	j.	determines how many times a display can refresh itself in a second;
privacy filter	_____	k.	the number of bits used to hold a colour pixel; this determines the number of colours a monitor can display;



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LISTENING

You will hear a short recording about the advantages and disadvantages of different display panels. Listen to the recording and complete the gaps in the table below with **NO MORE THAN THREE WORDS**.

PANEL TYPE	ADVANTAGES	DISADVANTAGES
1 _____ IPS, short for	<ul style="list-style-type: none">• good 2 _____• vibrant colours• allows for the best and most accurate 3 _____• great contrast ratios	<ul style="list-style-type: none">• limited with regards to 4 _____ and refresh rates• IPS panels with high refresh rates tend to be expensive
TN or twisted nematic panels	<ul style="list-style-type: none">• offer the highest 5 _____ and lowest response times• The cheapest to manufacture	<ul style="list-style-type: none">• the 6 _____ can leave something to be desired• the colours tend to appear 7 _____• poor viewing angles, no HDR support
8 _____	<ul style="list-style-type: none">• offer 9 _____ and viewing angles similar to IPS• better contrast ratio than on IPS• can reach 10 _____ response times and 144 Hertz refresh rate	<ul style="list-style-type: none">• tend to have problems with 11 _____ and backlight bleeding



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LISTENING

Now listen to the second part of the recording and decide whether the following sentences are **TRUE** or **FALSE**.

The refresh rate of the monitor determines the maximum FPS you can achieve.

TRUE / FALSE

The difference between a 144 Hertz and a 240 Hertz monitor is very noticeable.

TRUE / FALSE

Interpolation techniques increase the refresh rate of monitors.

TRUE / FALSE

Low response times often lead to motion sickness.

TRUE / FALSE

Overall, response time is more important than refresh rate.

TRUE / FALSE




Students, draw anywhere on this slide!

Ready to test your knowledge?

Go to kahoot.it and follow the instructions.



Students browse: kahoot.it

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Discuss the questions below:

1. How often do you have to write personal / professional emails?
2. How much time do you usually spend on writing and dealing with emails?
3. How much effort do you make to ensure that your emails are well constructed and in error-free?
4. How formal / informal are your email correspondences?
5. What are the qualities of a good email?
6. What useful phrases do you know? Do you have your own personal collection of such phrases?



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WRITING EMAILS

You're an expert in display screen technologies, working as a support technician at a large company manufacturing and selling monitors. You have recently got an email from a prospective client. Read the email and answer the questions that follow:

Dear Mr Well,

I found your email address on the monitorsforeveryone.com website. I am contacting you to enquire about the different types of monitors your company has on offer. I manage a team of professional graphic designers and I am looking for monitors that would satisfy the designers' needs. Given the fact that we are a small company, our budget is somewhat limited. Nonetheless, I would like to make sure that we buy the best possible monitors we can afford.

As a result, I would be grateful if you could inform me about the different types of monitors your company sells, and I would appreciate it if you could provide some information on what the advantages and disadvantages of each model would be. A comparison in terms of price, quality and performance would be welcome. Also, could you perhaps recommend a particular model for us?

I am looking forward to hearing from you soon.

*Yours sincerely,
Sarah Lied.*

- 1. Is this a formal / informal email?**
- 2. What information should you provide when responding to this email?**



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WRITING EMAILS

We write formal emails when we want to be polite, or when we don't know the reader very well. A lot of work emails are formal. We write informal emails when we want to be friendly, or when we know the reader well. A lot of social emails are informal.

Decide whether the expressions below are formal or informal.

FORMAL

INFORMAL

☐☐

Thank you very much for your cooperation on this matter.

☐☐

It'll be great to see you again after so long!

☐☐

Hope this advice will be of some help for you.

☐☐

Would it be possible to get together over lunch sometime soon?

☐☐

I sympathise completely with your predicament, but unfortunately no further action can be taken at this time.

☐☐

I am writing in reply to your letter requesting information about our products.

☐☐

I would be most grateful if you could offer some advice ...

☐☐

I'll be more than happy to put you up for a few days.

☐☐

I look forward to receiving the information requested.

☐☐

I'm looking forward to seeing you both on Saturday.



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WRITING EMAILS

Which phrases are an appropriate way to end a formal email? Tick all that apply.

- ☐ Yours truly,
- ☐ For your information
- ☐ For attention of:
- ☐ To whom it may concern
- ☐ With many thanks and best wishes
- ☐ With best regards,
- ☐ Yours sincerely,
- ☐ Best wishes,
- ☐ Yours faithfully

Which phrases are an appropriate way to end an informal email?

- ☐ Regards,
- ☐ Hi again,
- ☐ Bye for now,
- ☐ CC
- ☐ See you soon,
- ☐ Cheers,
- ☐ Rgds,
- ☐ With best wishes,
- ☐ How are you?



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LANGUAGE WORK

Giving instructions, advice and making recommendations

GIVING INSTRUCTIONS

We often use the **imperative** to give instructions.

Ensure your desks are clear.

Avoid using old monitors.

We can make instructions stronger by adding *always* and *never*.
Never use a flash drive without checking it first.

Instructions can be turned into rules by adding *must* and *mustn't*.
You mustn't use a flash drive without checking it first.

GIVING ADVICE

We can use the modal verb **should/ought to**:

Your navigation system should be based on text links.

To make your advice more persuasive, you can add the reason for your advice. For example:
(I think) you should buy a laser printer, because the print quality is excellent.

RECOMMENDATIONS

To make recommendations, we can also use structures like:

I think (that) In my opinion	+ we should + bare infinitive + it's a good idea + to-infinitive + it's best + to - infinitive	<i>I think it's best to use open source software.</i> <i>In my opinion, we should use open source software.</i>
I recommend I'd recommend	+ gerund + that we + clause + noun (phrase)	<i>I recommend using open source software.</i> <i>I recommend that we use open source software.</i> <i>I'd recommend open source software.</i>



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LANGUAGE WORK

Rewrite the following sentences using the clue given.

Reboot your PC to see if the problem recurs.

SHOULD

Use your PC's on-board diagnostic and repair tools.

RECOMMEND

Record the details of the problem so you can describe it accurately.

GOOD IDEA

Note your system's model name and serial number.

ADVISE

Keep a record of hardware and software you've installed along with any changes you've made to settings.

STRONGLY RECOMMEND



Students, draw anywhere on this slide!

LANGUAGE WORK

Rewrite the following sentences using the clue given.

If you think hardware may be at fault, figure out how to open the case.

SHOULD

Visit the vendor's website and check the FAQ's.

BEST THING

Have your system up and running and be near when you call

GOOD IDEA

When you reach a technician, tell him or her if you may have caused the problem.

BEST THING



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USEFUL PHRASES & PRACTICE

Working with a partner, brainstorm a few ideas in response to the email from the previous slide. Which displays would you include and what advantages / disadvantages would you mention?

In the table below, you can find a few useful phrases to use when writing emails:

TO BEGIN LETTERS:	ADVICE / SUGGESTION:	TO END LETTERS:
I am writing in reply / response to your letter requesting advice about ...	It might / would be useful / to your advantage (if you were) to ...	I hope that these suggestions will (prove to) be of some assistance / have been useful / of use.
Thank you for your letter requesting advice about ...	I feel / believe (that) the / your best course of action would be ...	I hope / trust that you'll accept / follow this advice...
I hope the following advice / suggestions will be of (some) help to you ...	I would like to offer one or two suggestions concerning ...	I would be pleased / happy to offer any additional advice you may require. Please don't hesitate to contact me should you have any further questions / requests / problems.

Write your email.



Students, draw anywhere on this slide!

That's all for today! Thank you for your attention. I wish you all a **Merry Christmas and a **Happy New Year!** Enjoy the holidays and see you in the new year :)**

As always, feel free to rate today's lesson and leave a message if you prefer:



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If you have any further feedback, opinion or question you can leave a note here:



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