

2 nd grade (E.S.O.) UNIT 3: THE INTERNET (CLASS ACTIVITIES)					
1 NAME AND SURNAMES:					Group:
2 NAME AND SURNAMES:					
/Date	Signatures		Day/Date	Signatures	
1/	Name1:	Name2:	2/	Name1:	Name2:

Computer Devices and Networks

1. Label the pictures below with their name: DVD, modem/router, monitor, mouse, laser printer, scanner, RAM memory modules, microprocessor, ROM memory, hard disk (hard drive), speakers, motherboard and Bluray/DVD drive, flash memory and system unit.

			
			
			ROM memory
			
			

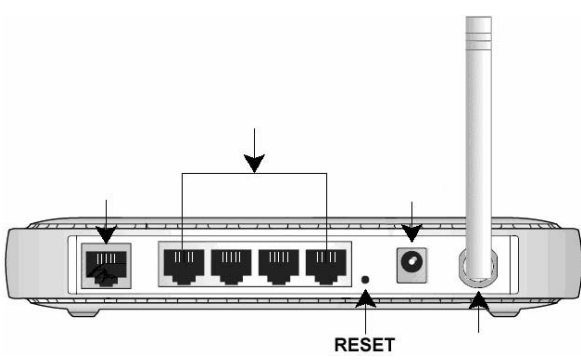

2. Classify the 15 devices above into the correct group:

- ⊙  System Unit:
- ⊙  Storage devices:
- ⊙  Peripherals:

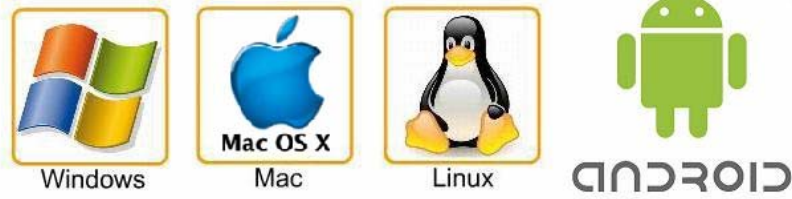
3. Label the ports and cables below with their name: RJ45 cable, VGA port, USB ports (2.0 and 3.0), audio cables (RCA), USB cable, PS/2 (mouse and keyboard), audio cables (minijack), optical audio cables, HDMI port

			
			
	RJ-45 port		
			

4. **ADSL Router.** Label the parts of a router with these words: ADSL Internet, LAN, Power and Wireless and identify the two devices you need for a wired connection:

	
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5. Which operating system (from the examples above) is installed in the devices below?

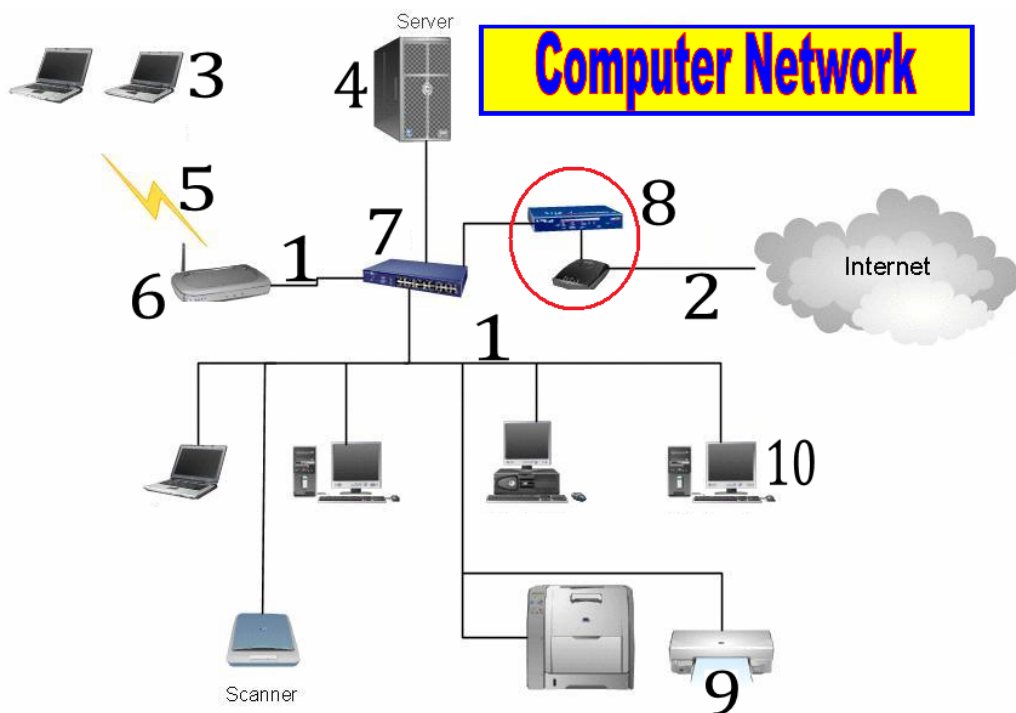


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6. **Networking.** A computer network is two or more **electronic devices** (computers, printers, mobile phones....) connected together (using cables or wireless connection) so that they can **exchange data** (share files and applications) and **resources** (printers...). The computer that provides resources to other computers on a network is known as a **server**. In the network the individual computers, which/access shared network resources, are known as **clients**, workstations or nodes.



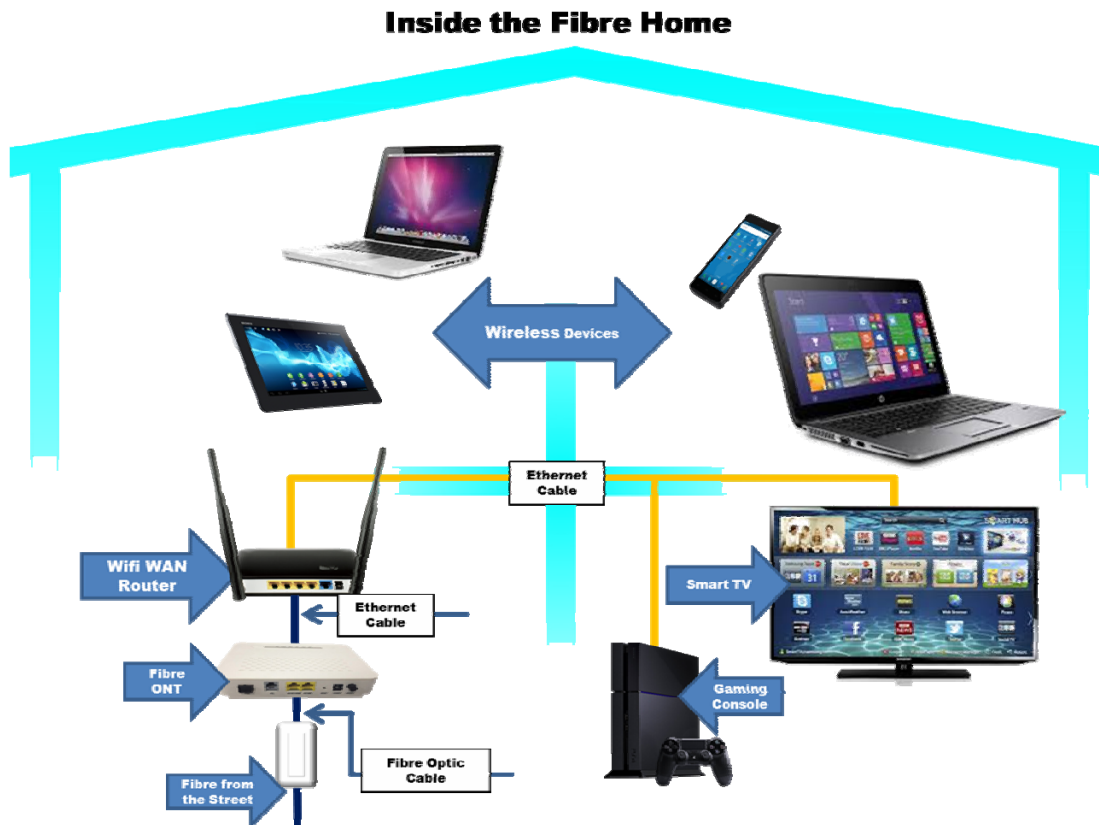
Identify the components of a network by labelling the numbers below



LAN (Local Area Network)

- A Local Area Network interconnects computers in a limited area such as a home, school, computer laboratory, or office building.
- Cables (wires) or low-power radio (wireless) are used for the connections in a LAN.

7. LANs. Look at the picture below and answer the questions:



- ☐ What does LAN stand for (meaning):
- ☐ List the 5 devices we can use to access the internet:
- ☐ What 2 different types of connections do we have in this network?
- ☐ List 2 devices that use a wired connection:
- ☐ List 3 devices that use a wireless connection:
- ☐ Indicate the device that connects the devices to the internet:
- ☐ List the 2 different cables we use in this network:

WLAN (Wireless LAN)

- A LAN that uses radio signals to connect computers is called **WLAN** (wireless local area network). One commonly used type of radio signals is called WiFi.
- A **wireless switch** with one or two antennas usually sticking out the back of the switch, is used for **sending and receiving data** to and from the computers in WLAN.
- The range of wireless connection is around 50 meters.
- Computers and other devices capable of sending and receiving data wirelessly can become part of a WLAN, when they are within range.

8. Complete the text below about WLANs:

☞ A WLAN is a LAN that uses _____ to connect computers. WLAN stands for _____ local area _____.

☞ A wireless switch with one or two _____ usually sticking out the back of the switch is used for _____ and _____ data to and from the computers in WLAN.

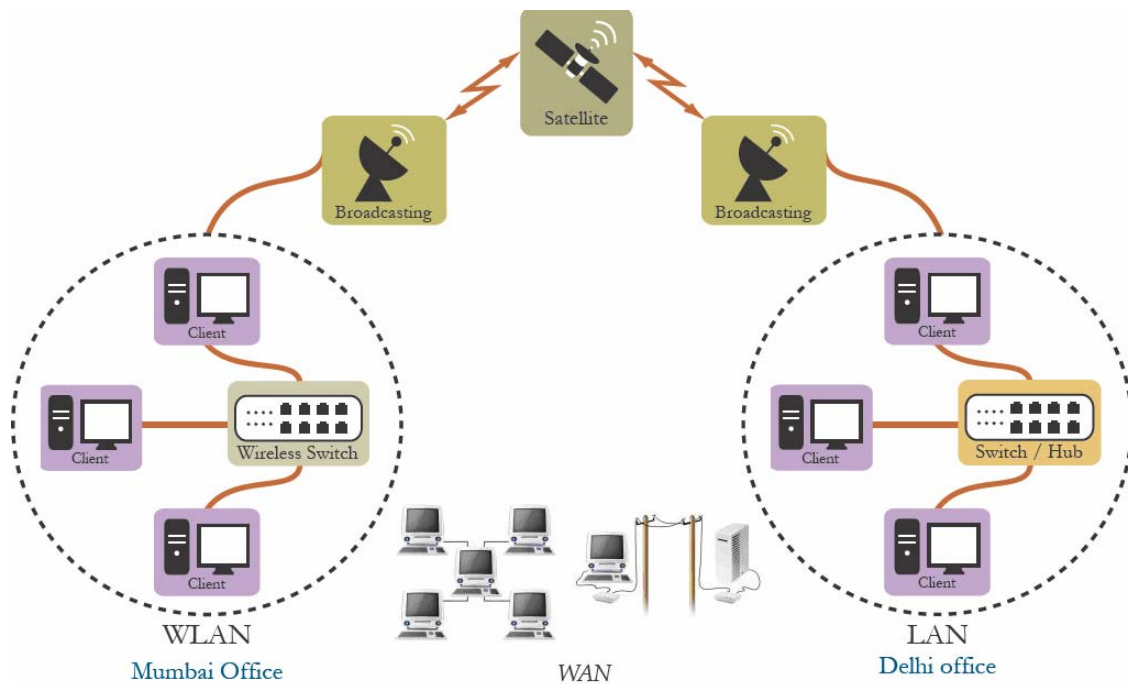
☞ The range of wireless connection is around ____ meters.

WAN (Wide Area Network)

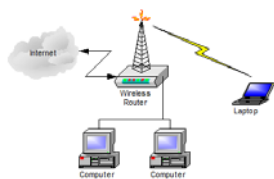
- A Network which is geographically spread over large areas with links between computers is called a WAN (wide area network).
- The long distance connections are done using technologies such as optical fibre cables, satellite radio links or microwave radio links.

9. Complete the text below about WLANs:

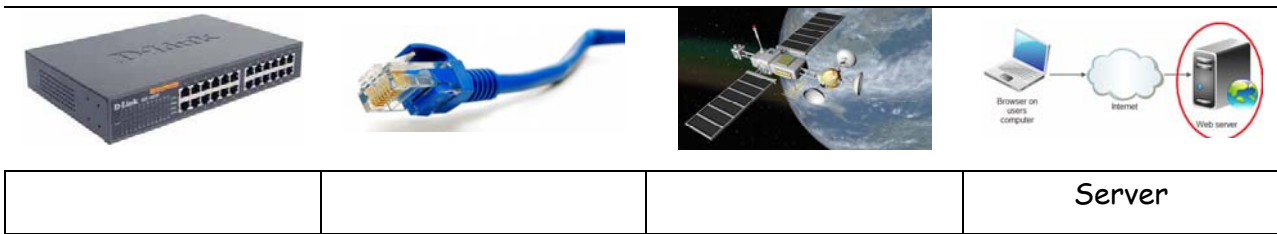
☞ WANs (_____ Area Networks) are used to connect LANs together (networks of bank cash dispensers, the internet...). The long distance connections are done using technologies such as optical _____, satellite radio links or microwave radio links.



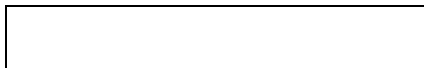
☞ Identify the following components:



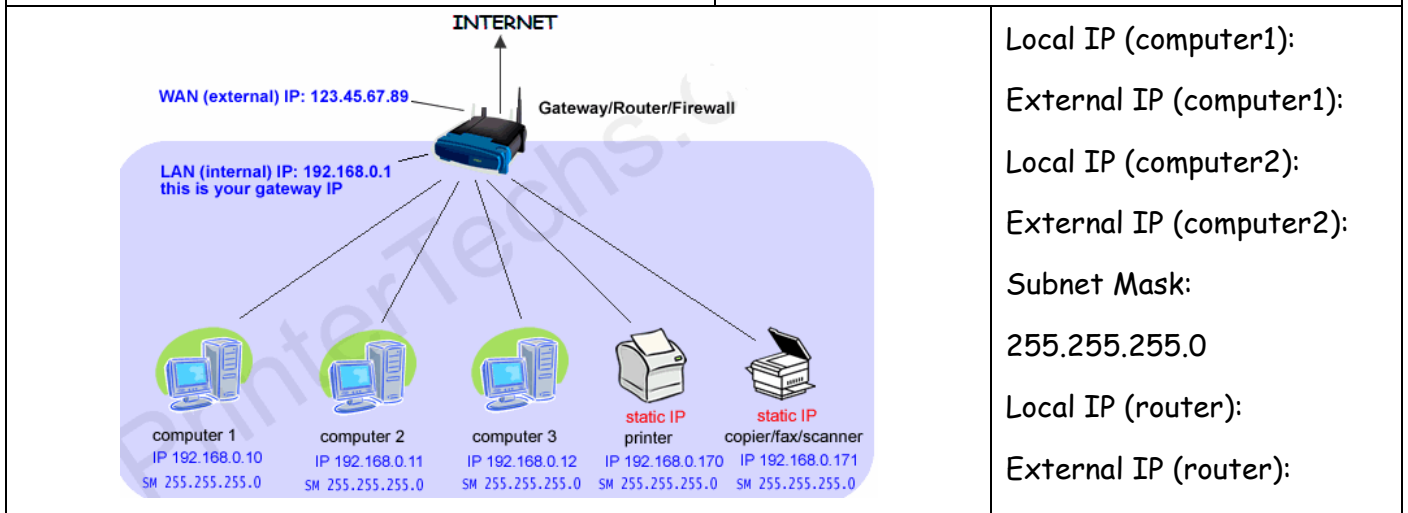
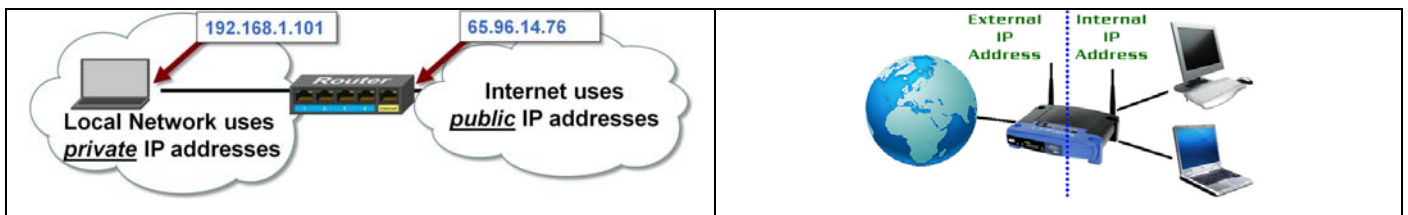
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Server



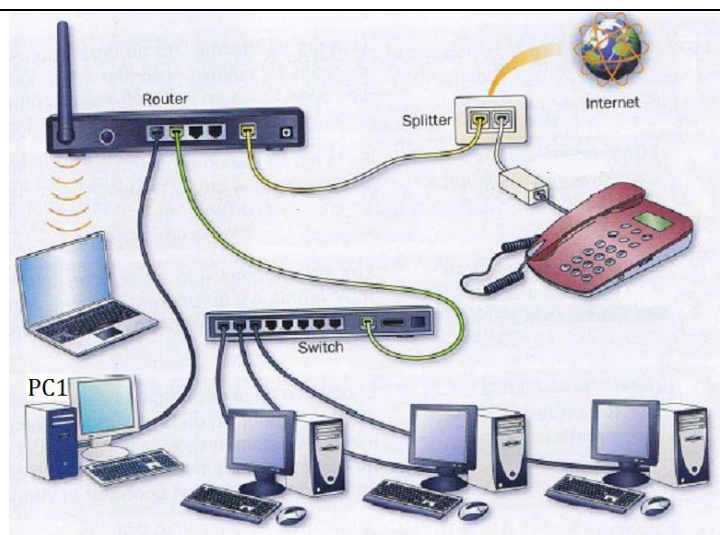
10. Complete the diagram below with the proper information:



Local IP (computer1):
 External IP (computer1):
 Local IP (computer2):
 External IP (computer2):
 Subnet Mask:
 255.255.255.0
 Local IP (router):
 External IP (router):

11. In the diagram below assign the IP addresses to the router and PC1, PC2 and Laptop:

Router (local IP):
 Router (external IP): 123.45.67.89
 PC1 (local IP): 192.168.1.15
 PC1 (external IP):
 PC2 (local IP):
 PC2 (external IP):
 Laptop (local IP):
 Laptop (external IP):
 Subnet Mask: 255.255.255.0

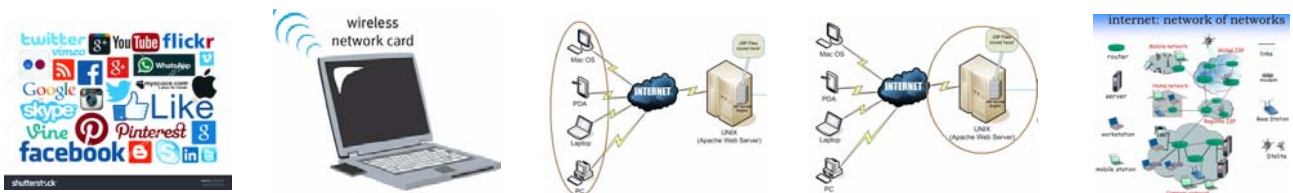


The Internet

/Date	Signatures		Day/Date	Signatures	
3/	Name1:	Name2:	4/	Name1:	Name2:

12. Complete the text below with these words: wireless, servers, networks, clients, resources

The Internet is simply a **network of** _____. It is the actual (real) physical network that spans (covers) the entire globe. It is made up of computers, _____ devices (laptops, tablets, mobile phones, etc.), cables, routers, switches, satellites... Everything that can be accessed on/from the internet is known as _____. On the internet the individual devices that access the resources are known as _____. These resources are simply stored on some devices usually known as _____. **Servers** are computers with huge storage and processing capabilities.



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13. Read the text below and label the pictures with the words in bold.

The Internet is a collection of standalone (independent, separate) computers (and computer networks in companies, schools, and colleges) and other digital devices all freely **linked together**, mostly using the telephone network. The connections between the computers are a mixture of **old-fashioned copper cables**, **fibre-optic cables** (which send messages in pulses of light), wireless radio connections (which transmit information by radio waves), and **satellite links**. When a user connects to the Internet to access information and services, he or she is considered to be **online**.

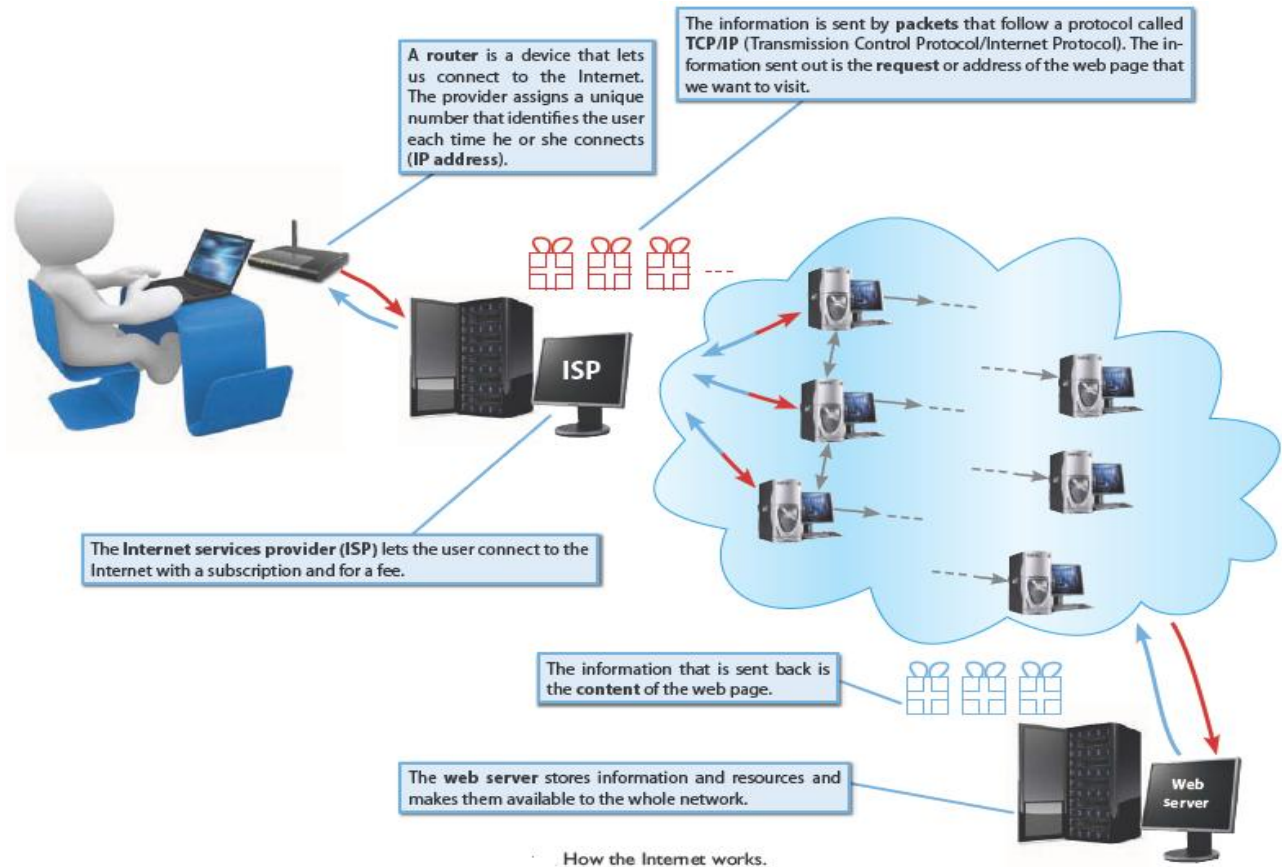


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14. What do I need to connect to the internet? Identify the things you need to access a website by labelling the pictures below:



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- ◉ What you need to connect to the internet is: a digital device (a _____), _____ and an Internet _____ (Movistar or Vodafone, for example).
- ◉ When I am online, I can access a _____ (World Wide Web, www), send messages through e-mail or a messenger app (_____), download or upload files using FTP utilities, etc.
- ◉ ISP stands for _____ and it is the company that lets _____.
- ◉ The **World Wide Web (the web)**, is a subset (division) of the internet that includes a vast **collection of documents** that include text with pictures, sound, animation, and video. These documents, called **web pages**, are grouped in web sites all over the world. A website, or site, is a collection of related web pages managed by an individual or organization.

◉ If I want to access the web (www) I need a _____,  , 

◉ Identify the following websites:



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15. **Internet:** collection of documents (files). Identify the files below and indicate (✓) the file type of the files with a name:

Period

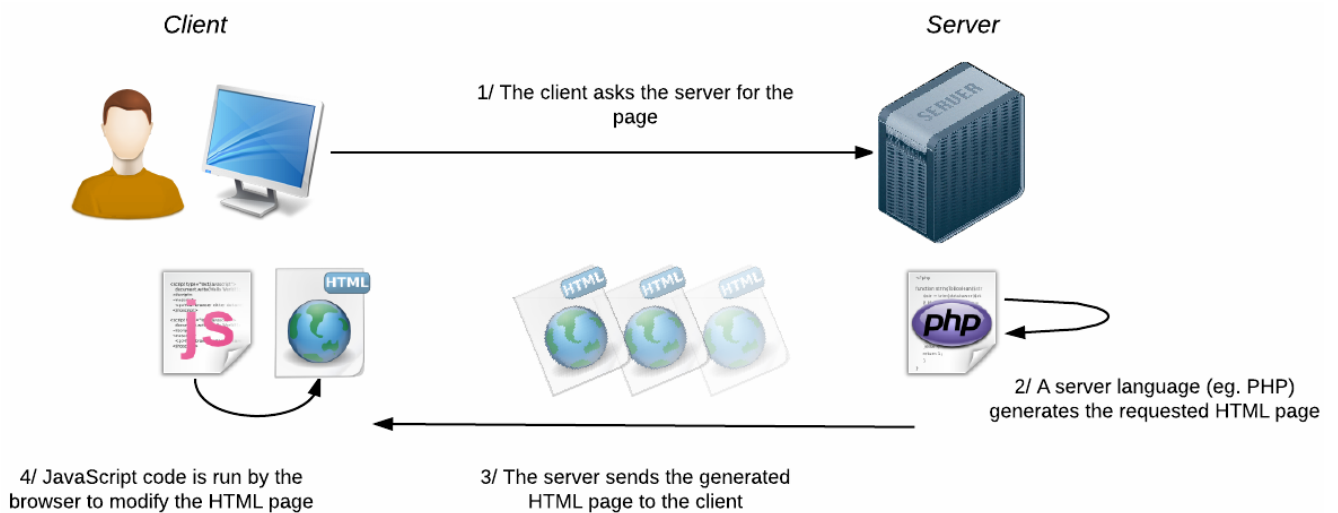
Name of the File

File Extension

 PDF file		

	Video 	Audio 	Image 	Webpage 	Flash animation
pepe.avi					
pepe.bmp					
pepe.html					
pepe.jpg					
pepe.m4a					
pepe.mkv					
pepe.mp3					
pepe.mp4					
pepe.ogg					
pepe.png					
pepe.swf					
pepe.wav					
virus.jpeg					

16. **HTML files (web pages).** Answer the questions below the picture (circle the answer):



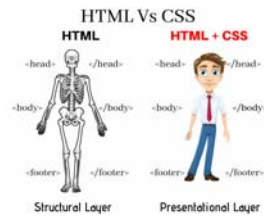
- What does the word **client** refer to? a user a computer a browser
- What is a **server**? a waiter a powerful computer a PC
- What is **PHP**? an html page a programming language
- What **device** runs the browser? the server the internet client's device
- What **device** stores the webpage? the server the internet client's device
- What **device** displays the webpage? the server the internet client's device
- What is **JavaScript**? a browser a programming language
- What **device** runs JavaScript? the server the internet client's device

17. Internet: **web pages**. What is a web page? Label the pictures below with these words: HTML, web page or CSS.

```

<html>
<head>
<title> Unit 4: Electricity </title>
<meta name="author" content="Maxi" />
</head>
<style>
h1 {
color:blue;
font-family: cambria;
font-size: 300%
}
h2 {
color:green;
font-family: cambria;
font-size: 200%
}
p {
font-family: cambria;
font-size: 150%
}
li {
font-family: comic sans ms;
font-size: 100%
}
#elem{
color:red;
font-weight:bold;
}
</style>
<body>
<h1 align="center"> Electric Circuits</h1>
<h2 align="left"> Circuit diagram of an electric circuit</h2>

```



Electric Circuits

Circuit diagram of an electric circuit

In order to use **electricity** we need to create a complete path (way) through which **electrons** can flow (travel). This complete path is called an **electric circuit**.

Electric components and their symbols




- Power Supply
- Control Devices
- Load Devices
- Conductor

The blog of Technology, Programming and Robotics

Visit my blog to know more about electric circuits and to practice with them

- Technology, Arduino, Robot
- TPR (1st year)

	Webpage: HTML+CSS	
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 HTML Hypertext Markup Language Document structure, content and overall layout	 CSS Cascading Style Sheets Look and feel: fonts, styles, colours	 JS Javascript Behaviour and interactivity
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18. **HIGHLEVEL** Match the key words with their description:

- | KEY WORD | DESCRIPTION |
|----------------|---|
| World Wide Web | ○ A device that lets us connect to the Internet: |
| Website | ○ The address of a Web page: |
| Web Page | ○ A collection of pages about related topics or information and accessed from the same or related servers: |
| Web Server | ○ A computer that holds web pages or other files and allows access to these by others over a network or the internet: |

- Web address ⊙ A text document which usually contains instructions to tell the browser how to display the page. The document is usually written in HTML:
- Router ⊙ Software that displays the content of web pages or lets us access multimedia files:
- Browser ⊙ A collection of pages of information stored on servers and accessed via the Internet:

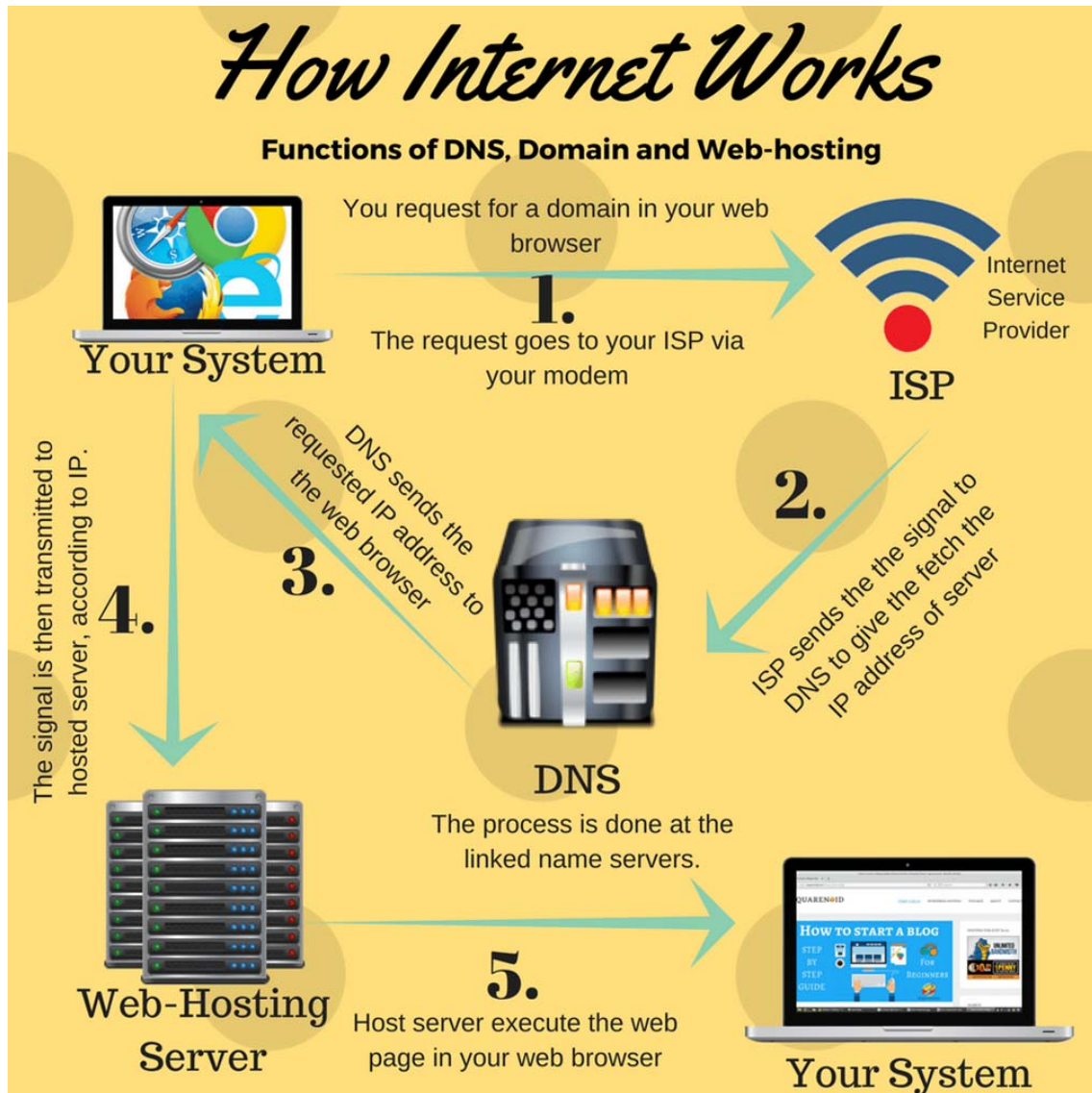
The World Wide Web


19. Read the text and label the pictures with words from the text:

The **World Wide Web (WWW)** is a **virtual network** of **web sites** connected by **hyperlinks** (or "**links**"). Web sites are stored on **servers** on the internet, so the WWW is a part of the internet.
 A **web site** (site) is a group of **webpages**.
 DNS, or **Domain Name Server**, is a system used to convert a **computer's host name** into an **IP address** on the Internet

			
web address or URL (Uniform Resource Locator)			
			
192.168.1.101	65.96.14.76	google.com	
			
com	weather.htm	tecnologiasmaxi.blogspot.com	WWW http:
type			

20. How the internet works. Have a look at the picture and answer the questions below:



- What program are you using to access the internet? a laptop a browser
- What thing lets you access the internet? my ISP my WiFi connection
- Where do you usually write **www.ggogle.com**?  **www.google.com/**
- Where do you usually write **www.ggogle.com**? address bar web address
- What thing converts **www.google.com** ⇒ **173.194.36.51**? ISP DNS WHS
- What is **173.194.36.51**? A computer's host name An IP address A local IP
- What is the IP for the WHS? **www.google.com** **173.194.36.51**
- What type of file does the WHS send you? html file a video file an audio file
- What software displays (in your device) the content of **www.google.com**? a browser
- What type of computer is the WHS a server a laptop a normal PC
- What type of computer is a DNS a server a laptop a normal PC