UNIT 9
POLLUTION

Vocabulary

- **Types of pollution**
- **Environmental effects**

Grammar and functions

- **Expressing degree**
- **Graphs and Figures: the language of illustrations**
- **Revision of grammar structures**

ORAL PRACTICE

1. Give examples of how we pollute our air, land and water
2. How can we protect the environment?
3. Are you a green person?
4. What effects are attributed to global warming?
5. Describe the greenhouse effect. How can it be reduced?

LISTENING1: ENVIRONMENTAL POLLUTION

1- What is environmental pollution? **CONTAMINATION OF THE AIR, LAND AND WATER** caused by **HUMAN PRODUCTS**.

2- Which are the main sources of pollution?

a. **CHEMICALS** released by industrial processes
b. **EXHAUST from gasoline-powered vehicles**
c. **REFUSE** and **GASES emitted by factories**
d. **Sewage and GARBAGE disposed of by cities**
e. **PESTICIDES** used in agriculture

3- Greater awareness of health and environmental hazards has created pressure for laws that control what? **THE AMOUNT OF RELEASED POLLUTANTS**

4- Which two actions are mentioned that can help reduce pollution?

a. **CONSERVATION EFFORTS** such as recycling
b. **NEW TECHNOLOGIES** allow industry to release fewer pollutants

5- Even when the long-term effects of pollution are not yet precisely known, what do scientists believe is a threat to life on the planet? **GLOBAL WARMING - the heating of the earth's atmosphere AS A RESULT OF THE GREENHOUSE EFFECT** - is a threat to most forms of life on the **PLANET**.

Noun	ADJ	NOUN
POLLUTION -	polluting product	pollutant(s)
CHEMISTRY-	chemical product	chemical(s)
Tecnique -	technical English	technician
Science -	scientific work	scientist

To release – emit – give off - emission

To dispose of (false friend) – eliminate – dump – get rid of (*usually waste*)

Global warming-acid rain-climate change

THE greenhouse effect-THE ozone layer

Threat – threaten - threatening

TRANSLATION

Industrial and domestic pollution **HAVE INCREASED/RISEN/GROWN/GONE UP IN THE LAST 50 YEARS** (han aumentado en los últimos 50 años). Industrial air pollution includes the so-called "greenhouse gases", **LIKE/SUCH AS CO2/CARBON DIOXIDE** (como el dióxido de carbono) and chlorofluorocarbons, which add to the greenhouse effect. **IN ADDITION TO/BESIDES/AS WELL AS THESE GASES** (Además de estos gases), we must not forget sulphur dioxide and nitrogen oxides, **WHICH RESULT IN/GIVE RISE TO/BRING ABOUT/LEAD TO ∅ ACID RAIN** (que dan como resultado la lluvia ácida). The largest single cause of industrial air pollution is the electricity industry, **SINCE/AS/BECAUSE ALL FOSSIL FUELS PRODUCE/EMIT/GIVE OFF/RELEASE, AT LEAST, CO2** (ya que todos los combustibles fósiles producen, al menos, dióxido de carbono).

NEW TECHNOLOGIES ARE BEING APPLIED (Se están aplicando nuevas tecnologías) in a few places in order to minimize the effect of dangerous gas emissions, but these technologies are still very expensive and *(SI LAS APLICARAMOS)* **WOULD MAKE/(CAUSE) THE PRICE OF ELECTRICITY (TO) RISE/INCREASE** (harían que el precio de la electricidad subiera).

Water pollution is another important form of pollution. Two important causes of water pollution are **ACID RAIN AND THERMAL POLLUTION** (la lluvia acida y la contaminación térmica). Land pollution is also an environmental **THREAT** (amenaza), especially caused by fertilizers and pesticides. **IT ALSO TAKES PLACE WHEN (THE) INDUSTRIAL WASTE**. (También tiene lugar cuando el residuo industrial) is buried or dumped, or through polluted air or water *(TOO/AS WELL)*. Usually, when we talk of pollution, we tend to think of air pollution only, but, **AS WE HAVE SEEN** (como hemos visto), there are many other threatening forms of pollution, and we do not deserve to live in this beautiful planet **UNLESS WE CONTRIBUTE/HELP** (a no ser que contribuyamos) (to) reduce global pollution **AS MUCH AS WE CAN** (tanto como podamos).

/ai/ - To rise- rose – risen – (spontaneouly) - increase, go up – *ONLY ACTIVE*
/ei/ -To raise- raised – (on purpose) – lift
To arise – arose – arisen –(pop, appear) - surgir

The Government **raised** tax (VAT), so prices **rose** and social problems **arose** in the community - *Value Added Tax = IVA*
To raise steam (to produce steam), your hand, weight(=lift), conclusions/topics, a child(=bring up, educate)

VIDEO: TYPES OF POLLUTION

open in PoliformaT-Tests & Quizzes- till exam date
ONLY EXERCISE for vocabulary - NO GRADE
Air pollution: 1:45-2:15

1. *Main causes*: **{toxic}** gases and **{exhausts that are led}** into the air
2. *Produced by* : **{industries}, {volcanos}, jet planes, automobiles, forest fires, burning of garbage**
3. *Consequences*: they contain **{many harmful gases}**
   - diseases **{in human beings}**
   - **{destruction}** in vegetation
   - Damage to the structures **{on earth}**
   - also **{form acid rain}**

Water pollution: 2:15-2:55

- *Main causes*:
  1. effluents **{led into}** water bodies
  2. **{industries}**
  3. **{sewage}** from towns and cities
  4. **{washing}** clothes and cattle
  5. residues **{of fertilizers and pesticides}**
  6. **{oil}**spill harms marine life

Land pollution: 2:55-4:20

- *Main sources*: Solid **{waste}** from
  1. **{houses}**
  2. cattle sheds (animals)
  3. **{industries}**
  4. **{agricultural fields}**
- *It includes*:
  1. **{hazardous waste}**
  2. **{glass}**
  4. fruit and **{vegetable}** waste bodies
  4. **{dead}** animals
  5. And others
- *Consequences*: Solid waste provides breeding ground for gems.

  And in addition to spoiling the beauty and surroundings it **{emits smell}**
- *Solutions*:
  1. **{controlling}** land pollution
  2. **{waste disposal}** done carefully

Source: http://www.youtube.com/watch?v=p6QLx7vEyIY

EXPRESSING DEGREE

In Academic writing it is common to use EXPRESSIONS OF DEGREE

Percentage	Quantity	Frequency	Certainty	Verbs
100%	All (plural)/every/each (singular) most ~~a majority (of)~~ many/much some a number (of)/a series of/a set/a group several ~~a minority (of)~~ a few/a little	always Highly usual(ly) normal(ly) general(ly) as a rule on the whole often=frequent(ly) sometimes occasional(ly)	certain(ly) definite(ly) undoubtedly absolutely clearly presumably probably/probable likely (to) conceivably possibly/possible perhaps=maybe	will is/are must + have to + should - ought to - can could may might *(vague language)*
0%	few/little no/none/not any	rare(ly)=seldom hardly (ever) scarcely (ever) never	Uncertain Unlikely (to) certain(ly) not definite(ly) not	 could not will not cannot is/are not

Source: http://www.uefap.com/speaking/group/grpintro.htm

OTHER ADVERBS OF DEGREE can be used to define the intensity or degree of an action, an adjective or another adverb. ADVERBS of degree are usually placed before the ADJECTIVE or adverb OR before the main VERB. Common ADVERBS of degree are:
Almost=nearly, quite, just, too, enough, completely, very, significantly, dramatically, greatly, strongly, substantially
Very goes before an adverb or adjective to make it stronger. Before PAST PARTICIPLE we need to use a different ADVERB

It is very useful – more sustainable – the most economic

It is (very) commonly USED – more widely USED – the most frequently USED

Highly recommended

Similar expressions are ***extremely, especially, particularly, pretty, rather, quite, fairly, not especially, not particularly***

NOTE: DEGREE ADVERBS are generally PLACED before the main verb or adjective that they qualify. E.g.
AUX + [also] + VB (+VB) – He has also worked for me/He has also been working for me

TO BE + [also] He is also a good worker

[also] + VB He also works for me

Also, he said I wasn't invited. (speaking)

I have never been to Iceland – Never have I been to Iceland – watch NEGATIVE PARTICLES as they produce inversion in the verb

Neither/Nor do I. So do I. (Me neither. Me too)

- *Optical properties **strongly** depend on the specific design details*
- *We **constantly** hear about the many sources of pollution, but we **hardly ever** hear about the solutions*

*We hear about the many sources of pollution **constantly**, but **hardly ever** do we hear about the solutions.*

EXERCISES

A. Which sentence in each pair below is the correct one? (If you think both can be correct, explain the difference in meaning between them)
a)We installed a complete new system – we changed the system completely
b)We installed a completely new system - the system installed was completely new

a)The product is full guaranteed for a year – NO (the product has full warranty)
b)The product is fully guaranteed for a year

a)It was a really enjoyable film -
b)It was a real enjoyable film - NO

a)The new car was a closely guarded secret -
b)The new car was a close ~~guarded~~ secret - NO

a)He's a highly paid executive -
b)He's a high paid executive – NO (high pay executive)

A. Which sentence in each pair below is the correct one? (If you think both can be correct, explain the difference in meaning between them)

a)We installed a complete new system

full new system (we changed all the system)
b)We installed a completely new system
absolutely new system

a)The product is full guaranteed for a year
NO
b)The product is fully guaranteed for a year

a)He's a highly paid executive
b)He's a high paid executive NO (high pay)

a)It was a really enjoyable film
b)It was a real enjoyable film (both real and enjoyable)

a)The new car was a closely guarded secret
b)The new car was a close guarded secret
NO

A difference in potential must be created

A potential difference *(possible difference)*

A difference in volume/a volume difference

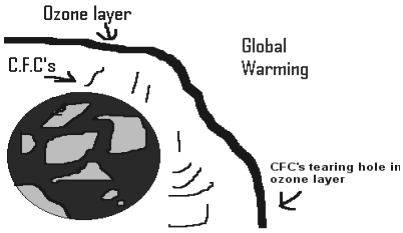
B. Place the adverb of degree in the correct place*:*

1. Plant and animal life can be affected by global warming ***(greatly)***
2. He's a qualified engineer ***(highly)***
3. It was a written report and it needed a lot of corrections ***(badly)***
4. He presented a structured report ***(well)***
5. Supercharger engines achieve high performance ***(extremely)***
6. Lignite's energy content is low ***(rather)***
7. Wind power is to be the most used renewable energy source in the future ***(likely/widely)***
8. Stacked solar cells increase the efficiency of solar cells ***(significantly)***
9. With a better control of CO2 emissions global warming would have increased ***(never)***
10. Simply throwing trash into the recycling bin does anything to reduce rubbish ***(hardly)***

READING: GLOBAL WARMING

In addition to/***As well as/Besides*** *acid rain*(1), *coal power plants*(2) pose another problem to the environment *known*(3)/***know-knew*** as the greenhouse effect. The combustion of coal produces three primary products: ash, H_20, and CO_2(4). In the atmosphere these gases *trap*(5)/***collect/capture*** infrared radiation from the earth which would, under normal conditions, radiate out to space. The consequence is *global warming*(6), which may adversely affect the earth's climate. *The increasing overall temperature*(7)/***general-incremento de la temperature global*** could possibly cause warming in the oceans or *melting of polar ice caps*(8). Plant and animal life could be greatly affected by these changes. *Although*(9)/(***contrast)*** estimates vary significantly, experts project a possible 2ºC increase in the earth's temperature by the year 2050. The question is how much and how fast the temperatures will *rise*(10)/***rose-risen***. *Destruction*(11)/***destroy*** of rain forests greatly contributes to this effect because trees are an excellent utilizer of CO_2, *as*(12)***/since/because*** it is a requirement of photosynthesis.

As(13)/***comparison*** with any fossil fuel, environmental considerations *such as*(14)/ pollution and *harmful*(15)/***noun harm*** emissions arise with the use of *petroleum*(16)/ products. Smog is created by *hydrocarbons*(17)***hidrocarburos*** along with *CO*(18) and other highly toxic molecules from oil processing, all of which are emitted from the *exhaust pipes*(19)/***tubos de escape*** of cars.



As the problem with emissions has dramatically increased with the *growth*(20)***grow-grew-grown*** in the *number*(21)***set/series/group*** of automobiles, some measures have been taken. Auto engineers are designing cars which burn *petrol*(22) ***gasoline=gas*** more cleanly and efficiently and incorporate more advanced filter systems. Car manufacturers have *developed*(23) ***desarrollar*** automobiles which are ***able to dramatically reduce***/capable of dramatically reducing hydrocarbon emissions by 97 to 99%. Manufacturers are also experimenting with cleaner burning *fuels*(24) ***combustibles*** like methanol and natural gas. Other engineers have designed solar and electric cars. *However*(25)/***Yet***, each fuel source presents a unique set of problems.

One
Another – singular – John and **another** student
The other – One is John and **the other** is Frank
(The) Other – John and **(the) other** students
Others – Pronoun – John and **others**

TO RISE /ai/ - ROSE – RISEN - *The sun rises, prices rise* – spontaneous – go up (no passive)
TO RAISE /ei/ – RAISED – to raise your hand, a question, a topic, conclusions, weight=lift, a child=bring up, educate – *Coal is raised to the grinder* – on purpose
TO ARISE – AROSE – ARISEN – to pop up, appear

The government **raised** tax (VAT), which made prices **rise** and some social problems **arose** in the community
(VAT- Value Added Tax - IVA)

Questions

1- In addition to acid rain : Translate into Spanish. Give a synonym for "in addition to"
2- Coal power plants belong to which general group of conventional power plants?
3- KNOWN = Give the infinitive and past tense of this verb
4- H_2O is ..... and CO_2 is .....
5- TRAP = Translate this verb into Spanish
6- GLOBAL WARMING = Translate into Spanish
7- The increasing overall temperature = Translate into Spanish
8- melting of polar ice caps = Translate into Spanish
9- ALTHOUGH expresses cause, consequence, contrast, purpose?
10- RISE : Give the Past and Past Participle of this verb
11- DESTRUCTION is a noun from which verb?
12 AS expresses comparison, cause, effect, contrast, purpose
13 AS in this case expresses comparison, cause, effect, contrast, purpose
14- SUCH AS: Give a synonym in English
15 HARMFUL = Translate into Spanish..... It is an adjective formed from which other word class, verb or noun? .....
16- PETROLEUM = mention this material with a different name

17- HYDROCARBONS = Translate into Spanish

18- CO is .....

19- EXHAUST PIPES: Translate into Spanish

20- GROWTH is a noun from the verb to ..... and means in Spanish .....

21- NUMBER is used with countable or uncountable nouns? ..... And the equivalent expression for the other type of nouns?

22- PETROL means in Spanish .....

23- TO DEVELOP means in Spanish .....

24- FUELS in Spanish is .....

25- HOWEVER is a connector that expresses contrast, cause, effect, comparison, purpose?

26- Underline DEGREE expressions in the text

LISTENING2: THE GREENHOUSE EFFECT

1. **A greenhouse is a building whose sides and roof are made of glass so that the temperature inside is magnified. And it is used to grow plants that need high temperatures.**
2. **These changes result from increasing the carbon dioxide levels in the atmosphere, thus raising the surface temperature of the earth. And this is known as the "Greenhouse Effect".**
3. **since 1860, with a sharp increase since 1958.**
4. **The main reason is the burning of fossil fuels.**
5. **by about 15% -from about 290 to about 340 parts per million.**
6. **about 0.032%** *(nought point nought three two)*
7. **incoming sunlight consists of many wavelengths, including some very dangerous ones.**
8. **But ozone, water vapour and CO2 filter out and destroy the harmful wavelengths.**

   So what reaches the earth is visible light. It is absorbed and reradiated into the atmosphere as longer wavelength infrared (IR) radiation, or heat, as the earth cools.

9. What is a greenhouse?
10. What is the greenhouse effect?
11. When did the concentration of CO2 start increasing? And a sharp increase since when?
12. What is the main reason for this continuous increase?
13. How much has it increased in the past 100 years?
14. What is the average CO2 content of the atmosphere?
15. What does incoming sunlight consist of?
16. What do ozone, water and CO2 do?
17.

    What reaches the earth is almost visible light. It is absorbed by land, sea and cloud and is reradiated into the atmosphere as longer wavelengths infrared (IR) radiation, or heat.

18. What happens to much of this ir radiation?
19. What does CO_2 do then?

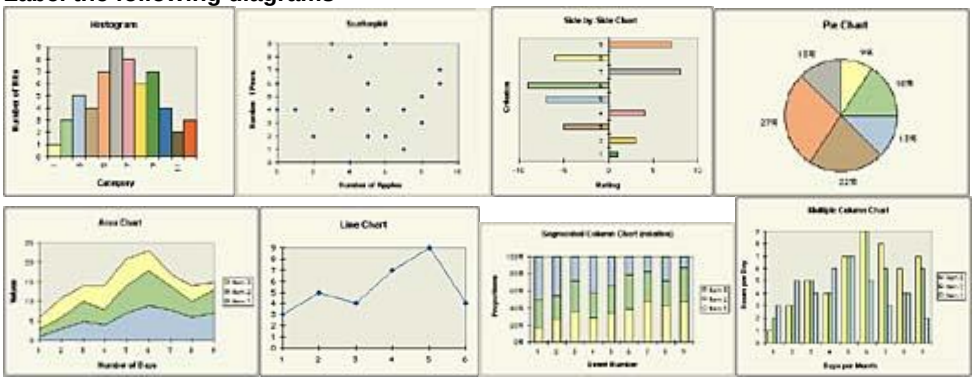
20. CO_2 acts as a one-way filter that _
21. Assuming that energy is arriving from the sun at a constant rate, what happens then?
22. When was this effect first mooted? And when was it taken seriously?
23. What is the projected increase in CO2 by the year 2000? And the increase in the air temperature?

GRAPHS AND FIGURES

Overview of Chart Types and their Uses

Chart Type	Typical Applications
1. Area *Percentage, Cumulative*	Cumulated totals (numbers or percentages) over time • How a set of data adds up to a whole (cumulated totals) • Which part of the whole each element represents
2. Column/Bar *Vertical (columns), horizontal (bars)*	Observations over time or under different conditions; data sets must be small. Present few data over a nominal (e.g. countries, testing conditions, ...) or interval scale (e.g. time); useful for comparisons of data
3.Segmented Cumn/Bar *May be scaled to 100%*	Proportional relationships over time -Present a part-whole relation over time (with accurate impression, see below) -Show proportional relationships over time -Display wholes which are levels on a nominal scale
4.Frequency Polygon/Histogram *Columns/bars (no gaps)*	Discrete frequency distribution: Connects data points through straight lines or higher order graphs
5.Line, Curve *Data point connected by lines or higher order curves)*	Trends, functional relations To display long data rows To interpolate between data points To extrapolate beyond known data values (forecast) To compare different graphs To find and compare trends (changes over time) To recognize correlations between variables
6.Pie (*Segments may be pulled out of the pie for emphasis)*	Proportional relationships at a point in time approximate proportional relationships (relative amounts) at a point in time compare part of a whole at a given point in time
7.Scatterplot	Distribution of data points along one or two dimensions Show measurements over time (one-dimensional) Convey an overall impression of the relation between two variables (Two-dimensional scatterplot)

Label the following diagrams



Source: http://www.sapdesignguild.org/resources/diagram_guidelines/charts_bk.html

Describing illustrations

Illustrations **(graphs, tables and charts) are used to** make a point in reports **so they must be** clear**,** simple **and** relevant **to the** objectives **of the report. The** commentary **must be accurate and varied.**

The following sections will help you:

- to increase **vocabulary** and **syntax**
- to transfer **information** from illustration to text
- to practise language useful in **statistical writing**

to interpret **illustrations** and use **varied vocabulary**

Referring to a diagram, chart etc.

as can be seen as shown	from in	the	chart, diagram, table, graph, figures,	...
it can be seen we can see x can be seen x is shown				that ...
		table 1, figure 2, graph 3		
The graph Figure 1	shows			that

Describing change

	+ sudden rapid	rise increase				increased shot up		

	sharp steep dramatic	upward trend				grew climbed rose	by _% up to _%	
There was a(n)	marked steady gradual slow slight -		of		X			
		decrease decline reduction fall drop downward trend				declined reduced decreased dropped fell	sharply steeply dramatically markedly steadily gradually slowly slightly	+ ↕

Note: It is usual in English to write, for example, "Inflation increased by 8% last year", not "Inflation was increased by 10%".

Source: http://www.uefap.com/writing/function/chart.htm

EXERCISES

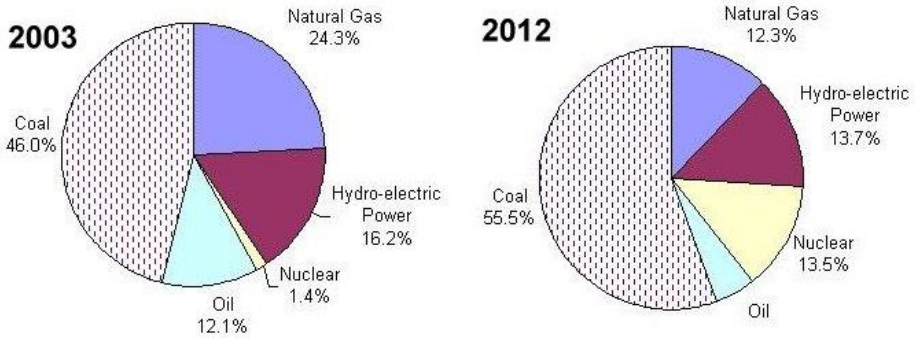
A: Describing Trends: Classify these terms

INCREASE FALL DECREASE CLIMB DROP DECLINE GROW RISE

UP	**DOWN**
_____	_____
_____	_____
_____	_____
_____	_____

B. Complete the following paragraph with the words given

US Electricity



DECLINED	GREW	IN IMPORTANCE	ROSE
TO	25%	PIECHARTS	ILLUSTRATE
OVER	46%	IN SUMMARY	SECOND
FROM	TEN-FOLD	COAL	FIGURE
WHILE	BY SOURCE	BY CONTRAST	

The two .... the production of electricity in the US ..... in 2003 and 2012. In general, ... was the most important source of electrical power in both years, although nuclear power .... in importance.

In 2003, coal-powered stations were the main source of electricity, producing .... of electricity, and this ..... increased ..... 55% in 2012. The ..... most important source of power in 2003 was natural gas, with almost ..... However, by 2012, this had ..... to just 12.3%. Hydroelectric power also declined ..... the same period, ... 16% to less than 14%. ....., nuclear energy gained in importance. It ..... from just 1.4% of production in 2003 to almost 14% in 2012, a .....increase.

....., more electricity was produced from coal and nuclear energy, ... natural gas, hydroelectric power, and oil declined .....

C. Draw a graph using the following information.

MOST RENEWABLE ENERGY GOES TO PRODUCING ELECTRICITY

Electricity producers consumed 53% of total U.S. renewable energy in 2009 for producing electricity. About 26% of renewable energy used was biomass consumed by industry for industrial applications (principally paper-making) by facilities producing only heat and steam. Biomass is also used for transportation fuels (ethanol and biodiesel) and to provide residential and commercial space heating. The largest share of the renewable-generated electricity in 2009 came from hydroelectric energy (66%), followed by wind (17%), wood (9%), biomass waste (4%), geothermal (4%), and solar (0.2%).Wind-generated electricity increased by 28% in 2009 over 2008, more than any other energy source.

Source: http://www.admc.hct.ac.ae/hd1/english/graphs/pie_elec.htm

VIDEO : DESCRIBING A GRAPH- HOUSING PRICES

Complete the following paragraphs as you watch the video:

SECTION 1: = 1:50-2:3

What is ..... about in the four countries .... is that the houses in Japan .....

This ..... with Australia. The latter did see .... house prices ...., but. the next two years experienced .... After ..... four years Australian house prices .... so that ..... house prices in Australia _____.....

SECTION 2: = 3:00-3:45

....., the UK saw ....._____ _____. From .....

house prices __..... ....., but after that .....

Canada also stands .... because it is the only country where ____..____.....

SECTION 3: = 4:20-4:50

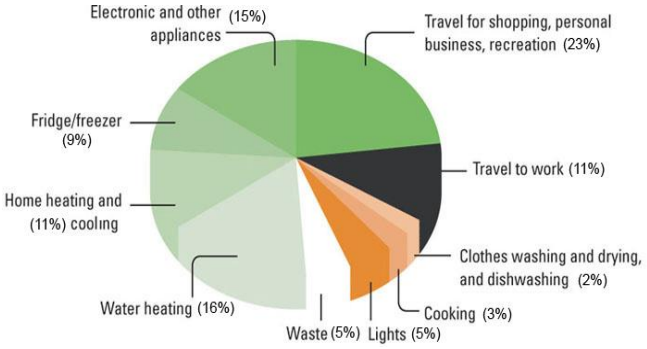
The table data shows that .... in Australia was _____..... .....

However ..... during that period ..... The effect of this is that in 2000 .... while ten years later .....

Source: http://www.youtube.com/watch?v=GDLtrS0LMI0

WRITING

Write a paragraph of about 100 words describing the following diagram about DIRECT CAUSES OF CARBON EMISSIONS. USE THE VOCABULARY of the unit



Source:http://www.choice.com.au/reviews-and-tests/household/energy-and-water/saving-energy/going-carbon-neutral.aspx

VIDEO: ACID RAIN

Watch the video and answer the following paragraphs.

PARAGRAPH 1

1. Which is the common thing in some lakes of Europe?
2. What is happening to some forests in Central Europe?
3. Which percentage of forests is affected?
4. What is happening to the future of salmon and trout fishing in N & Sw?
5. How many lakes in Sweden are not capable of supporting fish?
6. Which is the cause?

PARAGRAPH 2

1. Which substances contain sulphur?
2. When does this sulphur become sulphuric acid?
3. What happens to this sulphuric acid
4. Which are the consequences of it falling locally?
5. what happens to pollution produced in Britain?

PARAGRAPH 3

1. What effects does it have?
2. For example in Scandinavia the fish were disappearing from the lakes why?.
3. That is, what?

1. Apart from the fish, what other things does it affect?
2. In Czechoslovakia what happened in the 60's ?
3. When was the phenomenon noticed in Germany?
4. What is the situation now?
5. Which is the main source of acid rain?
6. What is required in Japan and W Germany?
7. What do these mechanism do?
8. What is the solution in Britain?
9. Is that any real use?

PARAGRAPH 5

1. Which fuel could make some difference?
2. What is another major source of acid rain?
3. What is possible with this type of fuel?
4. What do these mechanisms do?
5. When is this solution not possible?
6. Why?

PARAGRAPH 6

1. Summarize this paragraph

READING: GLOBAL ENERGY FACTS AND FIGURES

Some interesting facts and figures about the global energy situation:

1- World commercial energy demand, overall, is well over 90% based on non-renewable and environmentally damaging fossil fuels (only 8% is hydropower based, while nuclear power depends entirely on non-renewable uranium, thorium and other minerals).

2- The current 'oil price crisis' in reality reflects an emerging and permanent supply crisis for oil and gas (which currently provide about 65% of world commercial energy

3- Soon after the present and short-term 'price crisis' and within at most 10 years, both oil supply and natural gas supply will enter into constant and terminal decline, due to physical depletion.

4- Worldwide oil depletion is now running at about 1.25-1.5 million barrels/day (Mbd) of capacity lost each year, and net additions to world oil production capacity are small, slow, high cost, and irregular.

5- In many non-OECD countries experiencing fast industrial and economic growth, typical annual growth rates of demand are 5%-9% for oil, and 8%-12% for gas.

6- World demand growth is admitted by the IEA to be running at 3%/year or more...

7- Overall and in fact, Kyoto Treaty implementation will result in only marginal, or no total and overall reduction of world fossil energy consumption by 2020-2030.

8- In the near-term, certainly to 2020-2025, world total fossil energy demand will likely increase even faster than today, because of accelerated 'conventional' economic development by the newly emerging industrial superpowers, China and India, and several other large population, fast growing economies such as Brazil, Pakistan and Turkey.

9- Current and conventional urban-industrial economic infrastructures are close to 100% dependent on oil and gas energy, thermal electricity, and hydrocarbon based raw materials, as well as derived products (for example gas and oil-based fertilizers and insecticides for food production, materials utilized for building, and energy needs of operating 'conventional' habitat and transport systems.

Source: http://curtrosengren.typepad.com/alternative_energy/2004/10/global_energy_f.html

Say whether these statements are TRUE or FALSE and support your answer

a- Most energy is currently based on non-renewable sources **T**
b- Current oil price crisis is the consequence of the increasing use of alternative sources **F**
c- More than two thirds of the energy comes from fossil fuels **T**
d- The effects of conventional energy shortage will be noticed in a few years **T**
e- The word "depletion" means "rate of extraction" **F**
f- Oil is being extracted at a rate of 1.25-1.5 Mbd **T**
g- Developing countries are increasing their demand for fossil fuels **T**
h- Energy demand is about three times higher in non-OECD countries than in OECD countries **F**
i- Kyoto protocol contributes very little to the current supply crisis for fossil fuels **T**
j- Rates of energy demand will grow in the long run **T**
k- Emerging countries need more energy **T**
l- Fossil fuels are mostly used to provide energy and electricity **F**