OCR (9-1) Geography A specification

GCSE Geography WORKBOOK



Unit 2: The world around us

WORKBOOK

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Ecosystems of the planet

List some of the abiotic and biotic elements of an ecosystem

Abiotic (non-living)	Biotic (living)

Use these to start off with...
Sunshine, Birds, Polar Bears, Coral, wind, wolves, bacteria, soil, granite, puffins, ...
(now think of your own!)

Features of Ecosystems:

 List 4 types of ecosysten 	П
---	---

- _____
- _____
- _____
- _____
- 2. Tropical rainforests have warm temperatures around what temperature? ______
- 3. How have Liana plants adapted to living in the Tropical Rainforest? ______
- 4. Canada, Northern Russia and Greenland are named examples of which ecosystem?
- _____
- 5. State two types of animal found in coral reefs
 - •
 - •
- 6. Circle the types of ecosystem which are located within the tropics.

Polar Tropical grasslands Hot Dessert Coral Reefs

Temperate forests Temperate Grasslands Tropical Rainforests.

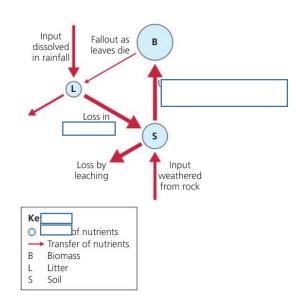
Tropical Rainforests

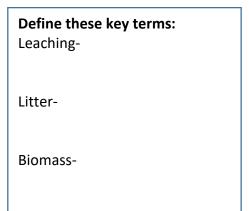
Nutrient Cycle:

Which **two** statements below best explain why the nutrient cycle of tropical rainforests is rapid?

- a) Heavy rainfall washes away dead plant material
- b) Nutrients are in high demand from the fast growing plants
- c) The forest floor conditions allow for the quick decomposition of dead plant material.
- d) There is great biodiversity in tropical rainforests.

Complete the diagram





Water Cycle

Draw your own diagram of the water cycle. You must include the following key terms and their percentages:

- Evaporation
- Evapo Transpiration
- Transpiration
- Run off
- Interception.
- Canopy.

What is the term for the process by which water is lost from the pores in leaves and evaporated by heat?

- a) Convectional rainfall
- b) Condensation
- c) Evapotranspiration
- d) Microclimate

Case Study: Peruvian Amazon

Value:

Match the correct explanation. Fill in any blanks to make sure your facts and figures are accurate and specific.

Biodiversity	many traditional tribes live in the Peruvian amazon some of which have never been
	They live a simple but sustainable life deep in the
	jungle.
Hydroelectricity	scientists believe that some rainforest plants can help
Trydrocicculate	cure such as cancer, aid digestion and
	even help cure addiction. There is even the possibility
	that more plants will be discovered.
Medicine	2937 known species of amphibians, birds, mammals
IVICUICITIC	and reptiles –% don't exist in any other country
Indigenous Tribes	there are plans to contribute large dams in the
	Peruvian amazon – primarily to export electricity to
	support the Brazilian industry
Timber	, natural gas and all found in this region. If
	exploited pose threats to people and the environment.
Minerals	many valuable hardwood species e.g and
	logging is widespread (both legal and illegal).
Threats	
1. Timber/ Deforestate	
How much rainforest	is cut down for timber?
What are the other ca	uses for deforestation?
2. Energy:	
<u>.</u>	ested in oil exploration?
·	·
What impact does this	s exploration have?
What does the Camise	ea Natural Gas Project aim to do?
	•

What (could the positives for the project be?
	is the Interoceanic Highway?
What	was it built?
	old Mining:
	s gold extracted?
What t	toxic metal is used in the process of extraction?
What	environmental impact does the process have?
Manag	gement:
1.	What is an NGO?
	Give an example?
	What are the disadvantages of enforcing management plans?
4.	How will national parks and reserves help conserve the Amazon?

Coral Reefs

Fill in the blai	nks:				
	·	of th equator, clo and the Caribbea	· · · · · · · · · · · · · · · · · · ·	Close to co	ountries such
They need ce	rtain condition	ns to survive. For exa	ample, the temp	erature needs t	to be
(more/less) t	han 18, and id	eal temperatures ne	ed to be betwe	en Cor	als prefer
shallow seas	so they can ma	aximise the amount	of sunlight. Sun	light is needed a	as the corals
feed on	, and algae n	eeds sunlight to	and	d grow. The sea	water also
needs to be c	clear, in t	the water can reduc	e the amount of	:	passing
through the v	water.				
Nutrient cycl	ing:				
What is the n	utrient cycle?				
Define Symbi	otic?				
Give an exam	nple?				

Case Study: Andros Barrier Reef

- 1. Which statement best describes the location of the Andros Barrier Reef?
 - a) The North East coast of Australia
 - b) The Bahamas, off the west of Mexico.
 - c) The Bahamas, off the south east of Florida.
 - d) In central America.

Value to humans and the planet

1. Read the description of how the coral reef is valuable. Write down the value.

coral reefs may hold the cures for some of the most serious and
common illnesses.
It is used as a laboratory to find out why it is so healthy so that
findings can help support other coral reefs. The Andros Barrier Reef
is one of the healthiest reefs in the world.
Fishermen and tourists alike can easily visit the Andros coral reef.
Corals provide sheltered conditions for the growth of mangrove
swamps which are important because they provide shelter for fish to
breed.

				torm surges and r nd action for the i	sland.
2. Ho	ow does touris	m to the reef bei	nefit the ecor	nomy of the area	?
	ts to the Andro	os Barrier Reef			
Which	n of the followi	ng are threats to	the Andros	Barrier reef:	
Overf	ishing	Pollutio	on	Too much cora	Il is eaten by sharks
	Oil an	d toxic waste	Clima	ite change	
1. W	hat impact doe	es over fishing ca	use for the c	oral?	
2. Fil	I in the gaps:				
		nany treats. Somo and fragile ecosy		and other can be o	caused by humans. They
•	Overfishing ca	an cause coral ree	efs can be		by contact with
	anchors, boat	hulls and people	this can kill _		_ and the coral itself.
	Therefore, ca	using the ecosyst	em to becom	e imbalanced. Tho	ough harvesting of
		is import	ant economic	ally it can be harn	nful to the reef.
•		-			Causes the water
				tricting	
•		coral and fish.	i by oil and che	emicals from	andis
•			trigg	ering coral to expe	el <u>.</u> This
		ent flows causing _			<u> </u>
3. De	efine 'bleaching	y'- 			
Mana	gement				
What	role to scientis	sts have in prote	cting the reef	?	
How b	oig is the Expan	ided Andros Wes	st Side Natior	nal Park?	

Possible long questions (8 – 12 marks) to consider for this case study

- Discuss the impacts of exploitation on a rainforest/coral reef you have studied.
- Evaluate how successful the management of a tropical rainforest/coral reef you have studied has been.
- To what extent are tropical rainforests more at risk from threats that coral reefs?
- To what extent are tropical rainforests managed better than coral reefs?

People of the planet

Definitions and development indicators

Gap Fill – Use your lesson notes and the revision guide to complete the following task:

Social development is the impre	ovement that has been made by a in		
improving the	of people who live there e.g,		
education,, healthcare and increasing			
Economic development is the _	the country has made in terms of		
e.g. value of	, proportion of working.		
Environmental development re	cognises the importance of the natural world and includes		
looking at how countries are	the of		
gases or what they are doing to	improve quality.		
Sustainable development is def	ined as the of the present will be met while		
the needs of the			
			
Match the Key Term to Its Defin	ition		
Birth Rate	The average number of years a person born in a		
	particular country might be expected to live.		
Death Rate	The total value of goods produced and services		
	provided by a country in a year, divided by the total		
	number of people living in the country.		
Life Expectancy	The number of deaths, per 1000 people, per year.		
Literacy Rate	Percentage of the population who have access to the		
	internet.		
Infant Mortality Rate	Measures gender gaps in human development achievements by accounting for disparities between women and men in three basic dimensions of human development —health, knowledge and living standards using the same component indicators as in the HDI.		
GDP per capita	The percentage of people, over the age of 15, who		
	can read and write.		
People per Doctor	The number of deaths of infants under one year old		
	in a given year per 1,000 live births in the same year.		
Gender Development Index	The number of doctors shared per 1000 people.		
Internet Usage	Percent of people employed in farming (primary		
David CDD (industry)		
Percent GDP from	The number of live births, per 1000 people, per year.		
agriculture			

Explain what	the Human De	evelopment In	dex is, and w	hy it is a usef	ul indicator (3 marks).

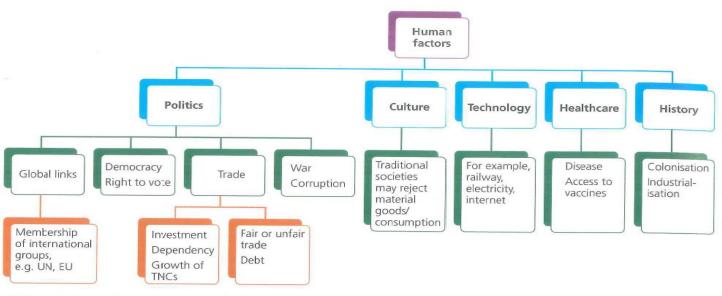
Classification of countries and factors that affect development

Gap Fill – Use you lesson notes and the revision guide to complete the following task: (1 mark)

Countries are categorized according to ______ per person, _____ and links with other nations.

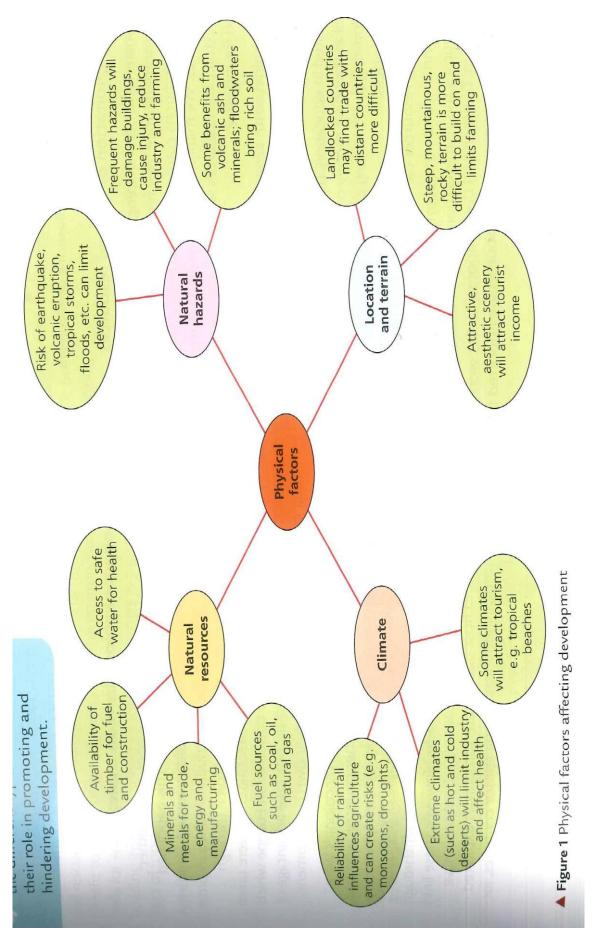
Ring the correct answer. How does the IMF classify countries: (1 mark)

- i) Advanced Countries, More Economically Developing Countries, Low-Income Developing Countries
- ii) Advancing Countries, Economically Developing Countries, Low-Income Developing Countries
- iii) Advanced Countries, Emerging Developing Countries, Low-Income Developing Countries
- iv) Advancing Countries, Emerging Developing Countries, Low-Income Developing Countries



A Figure 2 Human factors influencing development

For the figure above, which factors do you think will have the most influence on development? Why? (3 marks)

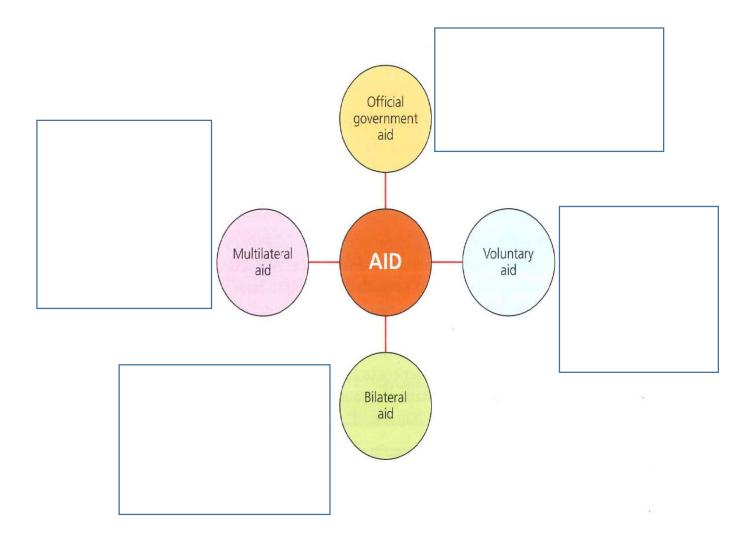


For the figure above, pick two types of physical factor, and explain how development can be
affected by them. (4 marks)
anceted by them. (4 marks)
Use information from the Figures 1 and 2 above to answer the following question: Norway
Use information from the Figures 1 and 2 above to answer the following question: Norway
has an HDI of 0.944 compared with 0.33 for Niger. Which specific factors will have had an
influence on these different countries. (6 marks)

Explain the impact colonialism has had on trade (3 marks).
List five causes of uneven development. (5 marks)
Using two named countries, give a detailed reason for each why that country is poor. (4
marks)

Aid

Define the following types of aid in the space provided. (4 marks)



'Goat cycle'

The UK-based charity Oxfam's Unwrapped scheme offers people the chance to choose a 'gift' of a goat. A goat gift from Oxfam costs £25. The donation supports their Livelihoods projects, which include giving out livestock such as goats to communities in the developing world, as well as activities like business and agricultural training for farmers. The goats that Oxfam distribute are vaccinated and locally sourced. Goats can provide their owners with manure and milk, and can give birth to other goats over time, which can be sold. This means that agriculture is supported as well as the family that receives the goat.

As a goat can continue to provide milk, manure and other baby goats over time, it is a sustainable gift. It is also a fairly hardy animal that can survive in most locations. Oxfam only provides livestock where keeping them is a traditional or essential part of people's way of life. They don't introduce the practice of animal husbandry, release animals into the wild or import animals.

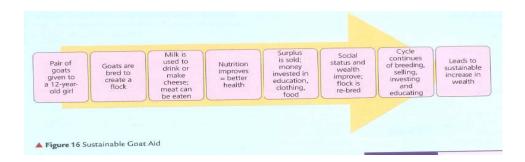


▲ Figure 4 The Oxfam Unwrapped scheme

Some criticism of such schemes suggests that animals are being provided in areas that are already

suffering from water shortages and desertification, which will add to the demands for water. They also suggest that the scheme is designed to ease the conscience of people in the UK rather than being truly helpful in the long term. Andrew Tyler of Animal Aid has said that: 'All farmed animals require proper nourishment, large quantities of water, shelter from extremes of weather and veterinary care. Such resources are in critically short supply in much of Africa.'

Oxfam are clear that the provision of livestock is always part of a larger sustainable livelihoods programme, and they are concerned with long-term environmental sustainability because it is an essential requirement for human development and well-being - especially relevant to poor people, whose lives and livelihoods are more closely linked with the natural environment. Local staff, partners and local communities have detailed knowledge of the grazing patterns and feeding practice needed to decide if and where animals should be provided. Communities are also supported in adopting environmentally friendly farming practices to help them use land and water resources more efficiently, protect and even restore natural resources.

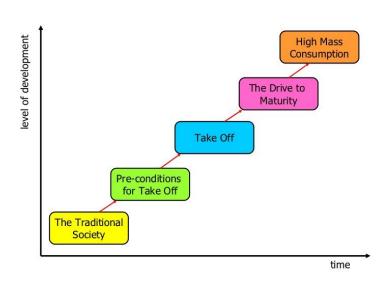


Using the text and Figure 16 above, explain why Got Aid might be considered sustainable. Be sure to include a relevant Case Study in your example. (8 marks)				

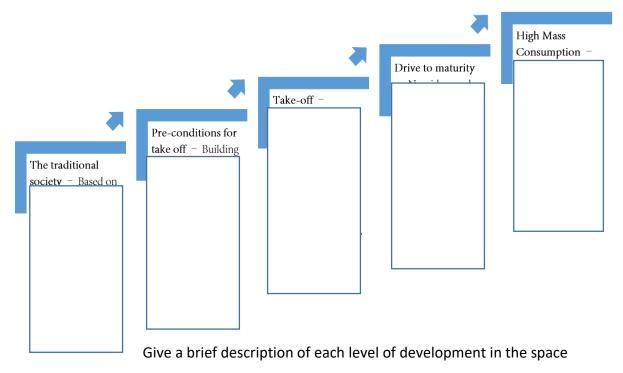
Using the text	t and Figure 16 above, explain why it is important to invest in young girls
through aid. [Be sure to use a relevant Case Study in your answer. (6 marks)
Compare and	contrast the top down vs. Bottom Up approaches to aid. (4 marks)

Rostow's model of development

State which stage a country you have studied is in and explain why. (4 marks)



The Rostow Model

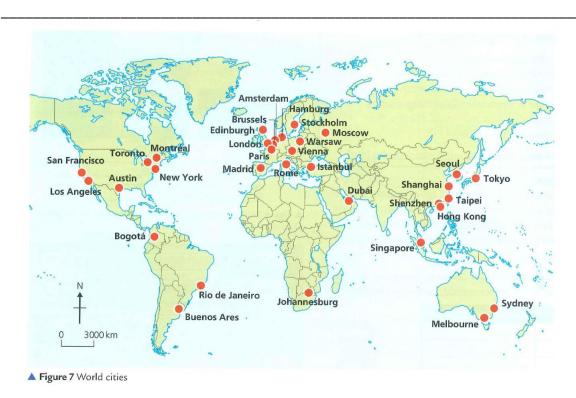


provided. (5 marks)

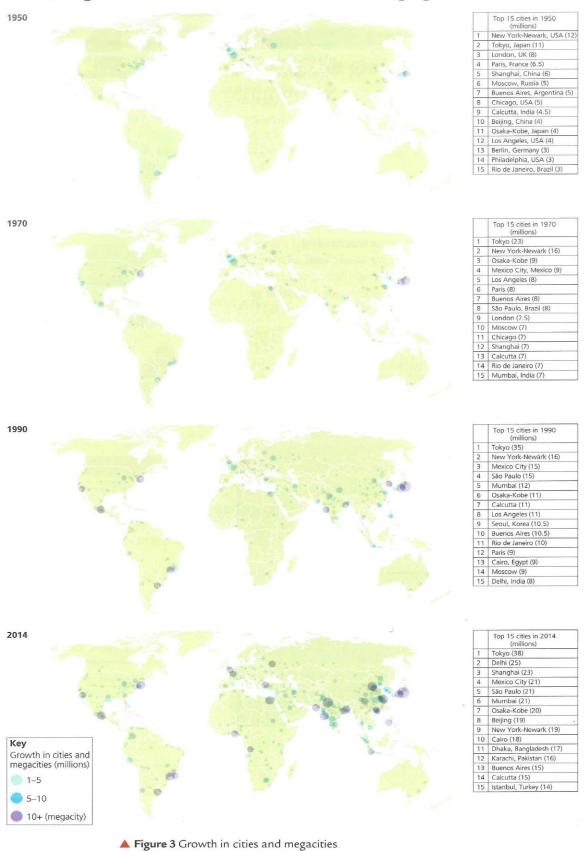
Case study: Ethiopia

For a place you have studied, explain how landscape and climate have influenced the
country's development. (8 marks)
Cive in detail the advantage and disadvantages of TNC's locating and investing in Ethionia
Give in detail the advantage and disadvantages of TNC's locating and investing in Ethiopia.
(6 marks)

Describe some of the social factors that have influenced Ethiopia's development. (4 marks)
Mega and world cities
Using the map, describe the distribution of world cities. (5 marks)







Using Figure 3, describe the major changes that have taken place in the locations of the largest cities. (4 marks)

Using Figure 3, explain why these was a decline in the growth of cities in the ACs during the
period from 1950 to 2014. (4 marks)

London, New York, Hong Kong and Buenos Ares are all cities with world city status. Given the characteristics of world cities, suggest three reasons why they are thought of as being world cities. (3 marks)











Today, more than	% of the world's p	oopulation li	ves in urban a	areas. (1 mark)
a) 25				
b) 30				
c) 50				
d) 75				
23. The number of urban dwellers	rises by 180 000 po	er day and by	2050,	world's
population is set to live in an urban	ı area. (1 mark)			
a) 25				
b) 30				
c) 50			Conurbation	
d) 75		e in size of ent, higher	City	Decrease in frequency
	populat more se	ion and	Large town	
The pyramid above is called a: (1 n	nark)		Small town	
a) Urban Classification Hierarchy			Village	
b) Settlement Hierarchy			Hamlet	
c) Urban Hierarchy Pyramid			Isolated dwelling	
d) Settlement Pyramid				
What is a 'conurbation'. (1 mark)				
What are megacities? (1 mark)				
Give and explain two reasons why	megacities are imp	oortant. (4 ma	arks)	

28. What is the 'Multiplier Effect' in relation to world cities? (2 marks)
29. Gap Fill – Use your lesson notes and the Revision Guide to complete the following task:
countries (ACs) grew most rapidly during the and
century during their revolutions. Baby booms during both this time and
then in the post war period meant that AC areas experienced
urban and the creation of Paris and London were the first cities to
reach a people.
EDCs and LIDCs are currently experiencing rapid
o Growth in Chinese cities has been driven by economic of urban areas and
the need for a large 200 million people moved to urban areas in East Asia
between 2000 and 2010.
o Lagos, Nigeria has experienced rapid In 1950 it had a population of 300 000
now it has a population of 18 million.
Rapid growth in LIDC cities
Define the term 'social inequality'. (1 mark)
Give to causes of Rapid Urbanization in LIDCs. (2 marks)

In the boxes given, list 3 pull factors and 3	pull factor	s which drive	rural to urb	an migration in
LIDCs. (6 marks)				
Suggest some advantages and disadvantag	es of mega	acities for pe	ople who live	e in them. (3
marks)	,			
,				
Outline the negative consequences of rapi	d urban gr	owth in LIDC	s. Use examp	oles in your answe
(5 marks)				

Case study: Rosario
How has migration affected the character of Rosario?
Describe the physical features of Rosario.
For an EDC city that you studied, evaluate the success of a scheme to improve the quality
life of those that live in the city. (5 marks)
·
For an EDC city you have studied, outline one scheme for improving the sustainability of a particular area. (8 marks)
particular area. (6 marks)

Environmental threats to the planet

Climate change and its causes

Complete the gaps to	explain the natural c	auses of climate cha	inge:	
The way the Earth mo	oves around the	affects th	ne way the Earth red	ceives
from th	ne Sun. The path of th	ne Earth's	around th	e sun can
to ar	າ	_from a perfect circ	le. This changes how	w far the
Sun is from the Earth.	When the earth is	fro	m the sun, it receive	es
solai	r energy and so the cl	imate cools. When i	t is	_, it
receives				
The amount of solar e		_		
on th				
	the solar output, and	so the temperature	of the earth	·
Large	emit	and _	in	to the
atmosphere. This crea	ates a giant blanket a	round the earth, wh	ich can	the
amount of solar radia	tion able to pass thro	ough. This	the e	arth.
Cools down energy volcanic eruptions	orbit	further away increases closer		reduce oval spots
sun spots	greater	ash	more	
Describe how the follo	_	enhance the greenh	ouse effect:	
Burning of fossil fuels	: cars, industry and e	nergy		

Destruction of carbon sinks					
	-				
Explain how t	the natural greenho	use effect works	5		

Evidence for climate change

For each of the strategies, describe how it works and an advantage or disadvantage of this method.

	How does it tell us about climate change?	What is an advantage or disadvantage of this?
Ice core		
Tree rings		
Paintings and diaries		
Global temperature data		

Impacts of climate change

Categorise the following into social, economic and environmental effects of sea level rise.

Transport systems (such as railways, roads and airports) may be damaged.	Damage to coral reefs by storms and powerful waves will affect fish breeding grounds and ecosystems.	Fresh water sources such as wells could be polluted by salty seawater. This is called salinization.
600 million people live in coastal areas that are less than 10m above sea level	Damage could occur to coastal ecosystems such as mangrove swamps, which form natural barriers to storms.	People may suffer increased frequency of flooding and storm damage
Valuable agricultural land (e.g. in Bangladesh and Vietnam) may be lost to the sea or polluted by seawater. Harbours and ports may be affected which will have an impact on trade.	People living in vulnerable areas may have to move home or even move to different countries. Some small island states such as Tuvalu are particularly at risk.	Many important world cities including New York, Venice and London could be affected.

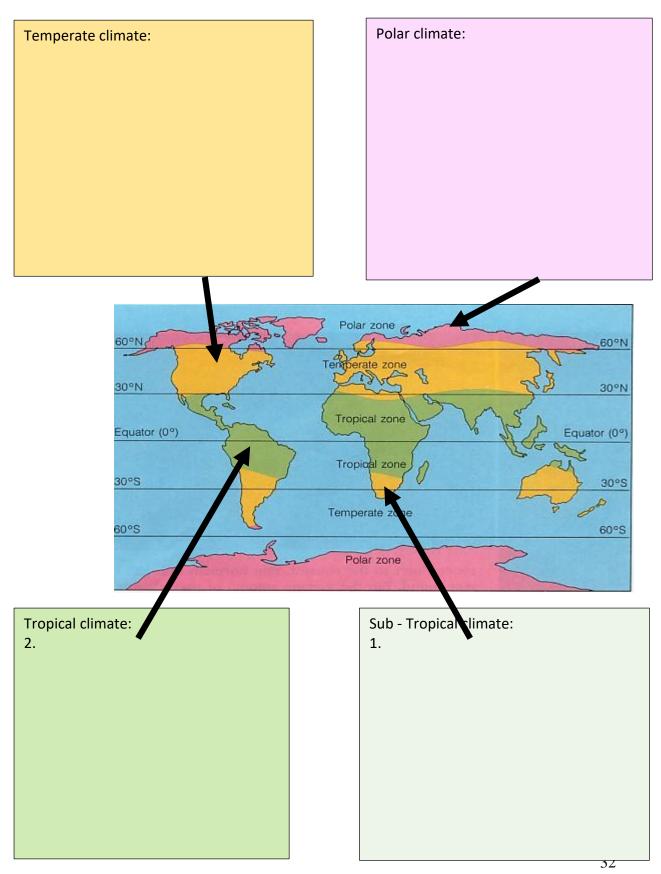
Which of the above effects do you think is the worst and why?	
Miles and A. T. and A.	
Where is Tuvalu?	
What is happening here?	
Explain two impacts of climate change on Tuvalu.	

Explain one way that Tuvaluans are responding to the crisis.	
Can extreme weather events be linked to climate change?	
Identify 5 weather events that could indicate that more extreme weather is linked to climate change.	
For each, say where, what and when.	
1	
2	
3	
4	
5	

Major climate zones of the world

For each of the climates identified:

- Where is it found?
- What weather is experienced here?
- Why does it experience this weather?

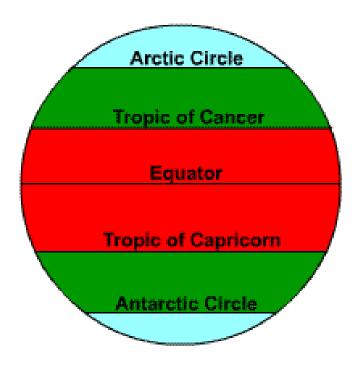


Global atmospheric circulation

Draw onto the image of the earth the following:

- Polar cell
- Ferrell cell
- Hadley cell

For each, think about the direction of warm air and cold air – where is it rising and sinking? Put on the degrees of latitude at each major line.



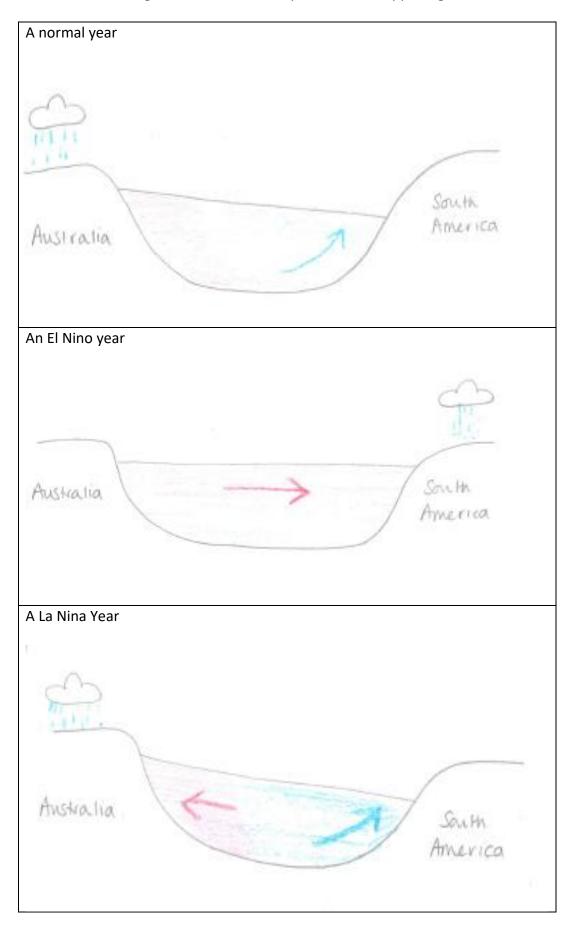
High and low pressure weather systems

Draw and annotate a diagram in the box below to explain what happens in a low pressure weather system and identify the weather you would expect to find in a low pressure.

When air cools, it becomes		and starts to	towards the	
ground. As the air is sinking	ng there are	As the	e air sinks, it	
and therefore		doesn't take place. No		
condensation means		and therefore	Also,	
	at the	means th	nat most of the	
i	n the atmosphe	re is removed before the a	air reaches	
	At	N and S of the equato	or, high pressure weather	
systems are usually assoc	iated with	and	(through possibly not	
hot) calm weather.				
sub tropics	denser	30	equator	
few clouds no clouds	warms moisture	clear skies no rain	condensation heavy rain	
sink	dry		neary rain	
2				
Warmest				
1.				
Wettest				
1				
2				
Windiest				
1				

El Nino and La Nina

For each of the images, add in labels to explain what is happening.



For each of the statements, decide if it occurs in an El Nino year or in a La Nina year.

What?	El Niño or La Nina?
Higher rainfall in Indonesia and the Philippines	
Heavy rain in California, Mexico and the Coasts of Peru and	
Ecuador often results in flooding and mudslides	
More cyclones in Hawaii and Polynesia but fewer in North Australia	
Eastern Africa, California and South America may experience drought	
More hurricanes in the Caribbean and USA	
Rainfall is reduced in Southeast Asia, Oceanic and India, leading to drought, crop failure and wildfires	
Southern Africa may experience drought	
Tropical storms	
What is a tropical storm and where do they tend to be located?	
How do tropical storms form?	
	· · · · · · · · · · · · · · · · · · ·
Are tropical storms becoming more frequent?	

Drought What is a drought and where do they tend to be located? Why do droughts occur? Explain how human activity can make droughts worse. What do the letters ITCZ stand for?_____ What is the ITCZ?

Case study: Big Dry - Australia When? _____ What were the physical causes of the drought? Explain two other causes of the drought Outline three ways that people and the environment were affected by the drought.

Explain two governmental responses to the drought.

Possible long questions (8 – 12 marks) to consider for this case study

- Discuss the effects on people and the environment for your chosen case study
- Evaluate the success of the response to the drought that you have studied
- To what extent was the response to the drought you studied successful?
- Outline the causes and the effects of the drought that you studied.