THE PROBLEM OF CLIMATE CHANGE

1 Suggested answers	Since the middle of the 19th century the air temperature on Earth
Α	Has not changed
В	Has fallen
С	Has risen
D	Rose sharply and then fell again

By how much has the temperature on Earth risen in the last 150 years?

Suggested answers

2

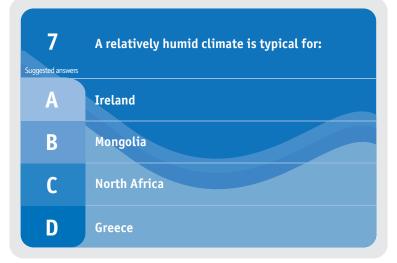


3 Suggested answers	The layer of air which envelops Earth is called:
Α	The hydrosphere
В	The lithosphere
С	The atmosphere
D	The cryosphere

4 Suggested answers	Climate is:
Α	The weather pattern in a particular territory over a period of many years
В	A feature of the weather specifying the frequency of precipitation
С	The state of the weather in the course of a week
D	What old people remember about weather patterns, weather lore

5 Suggested answers	Which of these features is not relevant to climate?
Α	Air temperature
В	The pattern of precipitation
С	Dominant winds
D	Longitude

6 Suggested answers	What is the climate of Barcelona?
Α	Equatorial
В	Temperate
С	Tropical
D	Sub-tropical



8 Suggested answers	Which climate zone is characterized by high air temperature and much precipitation, falling evenly through the year?
Α	Equatorial
В	Sub-equatorial
С	Tropical
D	Sub-tropical

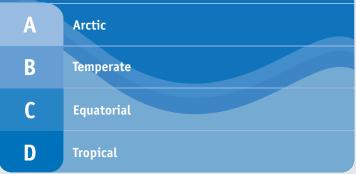
9 Suggested answers	What climate does this describe: 'The average temperature in summer is +30 °C and in winter +20 °C, there is much precipitation, but most of it occurs in the summer'?
Α	Equatorial
В	Sub-equatorial
С	Tropical
D	Sub-tropical

10 Suggested answers	What air masses are present during the winter in the sub-equatorial climate zone of the Northern Hemisphere?
Α	Arctic
В	Temperate
С	Equatorial
D	Tropical

What kind of air masses have high temperature and low humidity?

Suggested answers

11



12 Suggested answers	Where was the record set for the highest-ever air temperature on the planet (57.6 °C)?
A	The Namib Desert
В	The Dead Sea
С	Death Valley
D	The Sahara Desert

13 Suggested answers	Where is climate warming happening the fastest?
Α	In Southern Europe
В	In tropical latitudes
С	In the Arctic
D	In the Southern Hemisphere

14 Suggested answers	What is the name of the science that monitors, studies and forecasts the weather?
Α	Climatology
В	Hydrology
С	Glaciology
D	Meteorology

15 Suggested answers	What does paleoclimatology study?
Α	Climate change that is happening today as a result of human activity
В	Climate in the past
C	Mountain climates
D	Climate in the future

16 Suggested answers	Which of these methods do scientists use to find out about the climate on Earth hundreds of thousands of years ago?
Α	Study of tree rings
В	Study of bubbles in Arctic ice
C	Study of satellite images
D	Study of meteorological data

17 Suggested answers	When did the last glacial period come to an end?
Α	About 100 years ago
В	About 1,000 years ago
С	About 10,000 years ago
D	About 100,000 years ago

18 Suggested answers	When do scientists expect the next glacial period to begin?
Α	Never
В	In 1-3 million years
С	In 10,000-30,000 years
D	In 100,000-300,000 years

19 Suggested answers	Which of the following factors has only short-term impact on climate (a few years or decades)?
A	Continental drift
В	Volcanic eruptions
С	Change in the tilt of the Earth's axis
D	Human emissions of greenhouse gases

20 Suggested answers	What impact do volcanic eruptions have on climate?
Α	They do not have any impact
В	They cause temperatures to rise
С	They cause temperatures to fall
D	They sometimes cause temperatures to rise and sometimes to fall

21 Suggested answers	Which of the following is a greenhouse gas?
Α	Nitrogen (N)
В	Carbon dioxide (CO2)
С	Carbon monoxide (CO)
D	0xygen (02)

22 Suggested answers	Which greenhouse gas accounts for 75% of all human emissions?
Α	Methane (CH4)
В	Carbon dioxide (CO2)
С	Sulphur hexafluoride (SF6)
D	Nitrous oxide (N2O)

THE IMPACTS OF CLIMATE CHANGE

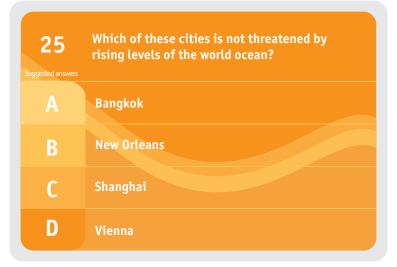
As the climate becomes warmer, the level of the world ocean:

Suggested answers

23

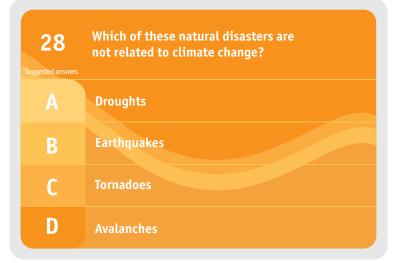


24 Suggested answers	Which of these countries will suffer the most if the level of the ocean rises by more than one metre by the end of the present century?
А	Bangladesh
В	Switzerland
С	Austria
D	Nepal



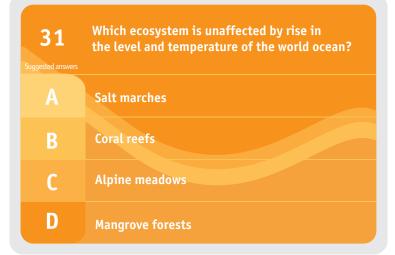
26 Suggested answers	A 'heat-wave' in Denmark is defined as a period of at least 3 consecutive days in which the average maximum temperature in most of the country exceeds:
А	20 °C
В	33 °C
С	37 °C
D	28 °C

27 Suggested answers	In which of these geographical regions are tornadoes most frequent?
А	Central Asia
В	The Arctic
С	The west coast of Africa
D	The central and southern states of the USA



29 Suggested answers	Which of these houses Eskimos cannot build without snow?
Α	A yurt
В	An igloo
С	A tipi
D	A wigwam

Which of these ecosystems has the richest 30 species diversity? Suggested answers Α Coral reefs Taiga forest B ſ **Tropical forest** African savanna



32 Suggested answers	You are an ecotourist if:
Α	You cook food on a bonfire when you are camping
В	You travel to the most beautiful places on the planet
С	You observe rare animals
D	You minimize your impact on the natural environment when on holiday

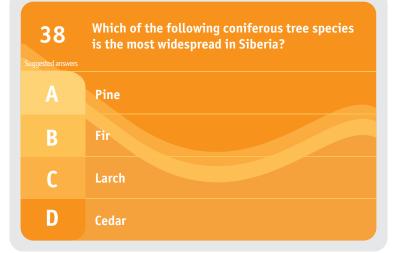
33 Suggested answers	According to classification of protected areas by the International Union for the Conservation of Nature (IUCN), economic activity is not allowed in:
Α	Natural monuments
В	Protected landscapes
С	Nature reserves
D	National parks

34 Suggested answers	What is protected in a biosphere reserve?
А	The whole biosphere
В	Typical natural communities
С	Rare types of animal that are hunted
D	Areas of outstanding natural beauty

What country has more forests than any other 35 country in the world? Suggested answers A Canada B **USA** ſ

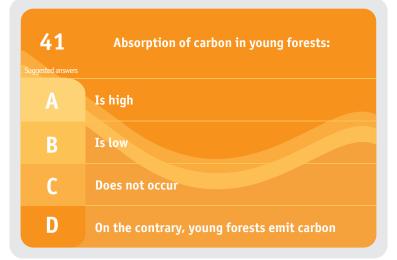
36 Suggested answers	What climate factor defines the northern boundary of boreal forests?
Α	Temperature
В	Levels of precipitation
C	Atmospheric pressure
D	Cloud cover

What climate factor defines the southern 37 boundary of boreal forests? Suggested answers Temperature Levels of precipitation R Atmospheric pressure ſ **Cloud cover**





40 Suggested answers	In Eastern Siberia pine forests are advancing into steppe ecosystems because of:
Α	Rising temperatures
В	Falling temperatures
С	More precipitation
D	Less precipitation



42 Suggested answers	What is the ratio between emission and absorption of carbon in forests where there are many old trees?
A	There is more absorption than emission
В	There is more emission than absorption
С	Absorption is roughly equal to emission
D	Old trees cannot absorb carbon

43 Suggested answers	How do Russia's forests influence carbon levels in the atmosphere?
Α	They soak up carbon dioxide
В	They are a source of carbon dioxide
С	Emission is equal to absorption
D	They have no gas exchange with the atmosphere

Most of the world's reserves of fresh water are concentrated in:

Suggested answers



45 Suggested answers	70% of all fresh water used by people is used for:
Α	Drinking
В	Cooking
С	Sanitation
D	Irrigation

46 Suggested answers	Which of these regions of the world is particularly prone to drought?
Α	Central Africa
В	South-East Asia
С	Small islands of the Caribbean Sea
D	Scandinavian countries

The main climate problem for countries of the 47 Middle East will be: Suggested answers Shortage of water **Excessive damp** R ſ Melting of permafrost **Tropical cyclones**

48 Suggested answers	The production of which agricultural crop in South-East Asia could be significantly reduced by rising sea levels?
А	Rice
В	Wheat
С	Barley
D	Maize

49 Suggested answers	The most obvious sign of climate change in mountain regions is:
А	The melting of glaciers
В	Increase of windy days
С	Drying up of mountain rivers
D	Reduction of precipitation

50 Suggested answers	Who of the following authors most likely would have changed the title of his/her work of literature due to climate change impacts, if they wrote it at the end of the 21st century?
А	Robert Burns, 'Yon Wild Mossy Mountains'
В	Thomas Mann, 'The Magic Mountain'
С	Emily Brontë, 'Wuthering Heights'
D	Ernest Hemingway, 'The Snows of Kilimanjaro'

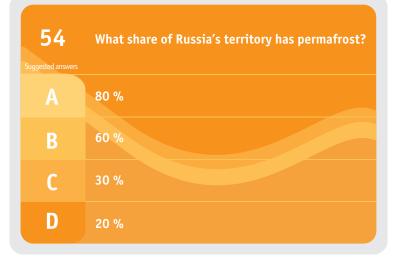
51 Suggested answers	A landslide in the mountains is:
Α	A mass of snow, which falls or slides down a slope
В	A serious flood
С	A moving mass of stones and earth
D	A hurricane wind

Why do glacial lakes represent a hazard due to climate change?

Suggested answers

Α	Harmful chemical compounds are formed in the water
В	The water becomes too hot due to higher air temperatures
С	Melting of glaciers raises water levels in the lakes, creating a threat of floods and landslides
D	Disease-carrying insects breed in the lakes

53 Suggested answers	Which of these economic sectors, often found in mountain regions, is least vulnerable to the impact of climate change?
A	Tourism
В	Mining
С	Agriculture
D	The production of hydroelectricity



By how much has ice coverage in the Arctic 55 shrunk in the last 40 years? Suggested answers A 10 % B 20 % ſ 50 % 100 %

56 Suggested answers	Which of these climate change impacts has the least affect on people's lives and ecosystems in the Arctic?
А	Stronger winds (blizzards and storms)
В	Reduction in the extent and thickness of sea ice
С	Long-lasting heat waves in the summer
D	Melting of permafrost

57 Suggested answers	What is a 'heat-island'?
Α	An island in tropical latitudes
В	An island threatened with disappearance due to rising sea levels
С	The centre of a big city where the temperature is higher than in the suburbs
D	Part of a forest that has been burnt out in a fire

58 Suggested answers	Which of these people will most likely be the first to lose his job as a result of climate change?
Α	A banker in Singapore
В	A teacher in India
С	A farmer in Kenya
D	A fireman in Mexico

Who of the following could be called a climate migrant?

Suggested answers

59

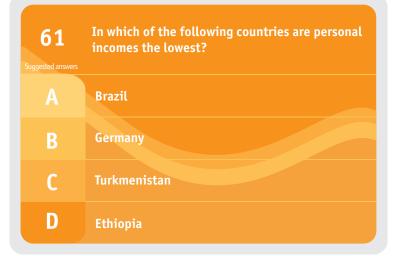
A German pensioner who moves to live by the sea in Turkey

A Turk who got a better job in Germany

Somebody from Haiti, who moves to the US because his village was destroyed by a powerful hurricane

A farmer from the southern state of Texas who moves to the northern state of Montana, because he was offered higher wages there

What share of the world population lives below 60 the poverty line? Suggested answers A 50 % B 35 % ſ 15 % 7 %



MITIGATING THE IMPACTS OF CLIMATE CHANGE. CARBON FOOTPRINT

62 Suggested answers	The main source of human greenhouse gas emissions is:
Α	The felling of forests
В	Vehicle transport
С	The production and use of energy
D	Agriculture

Which country is the major emitter of greenhouse gases?

Suggested answers



64 Suggested answers	Which of these energy sources is non-renewable?
Α	Tidal energy
В	Biofuel
С	Crude oil
D	Solar energy

Which of these energy sources is not 65 a fossil fuel? Uranium R Natural gas Peat **Brown coal**

Which of these energy sources is the most used 66 in the world? Natural gas R Crude oil Wood Wind power

Which of these energy sources is the most 67 climate-friendly? **Brown** coal R Natural gas Solar energy Crude oil

68 Suggested answers	Which of these energy sources emits the largest amount of greenhouse gases per unit of energy produced?
Α	Coal
В	Solar energy
С	Crude oil
D	Natural gas

Which of these substances cannot be obtained from crude oil?

Suggested answers



70 Suggested answers	What is the difference between a combined heat and power plant (CHPP) and a thermal power plant (TPP)?
Α	A CHPP heats water and a TPP generates electricity
В	A CHPP generates electricity for big cities and a TPP generates electricity for towns and villages
С	A CHPP generates electricity and heat and a TPP only generates electricity
D	A CHPP is a central distribution station, which receives energy from a network of small TPPs

What is the main problem with nuclear power plants?

Suggested answers

P

71

They emit more carbon dioxide than other types of power plant
They create dangerous radioactive waste, and there is a risk of accidents with disastrous

consequences

It is hard to find a suitable location for a plant

Reserves of nuclear fuel are almost exhausted

72 Suggested answers	Offshore wind farms are built:
Α	On land, by the coast
В	In the middle of the ocean
С	In the mountains
D	In the sea, not far from the coast

73 Is biomass a renewable source of energy?

Α	No, because the remains of ancient organisms from deep inside the Earth's crust cannot be replaced
B	No, because its energy is converted by combustion into electricity
С	Yes, because energy cannot be destroyed
D	Yes, because plants can grow again

74 In Brazil 1/5 of vehicle fuels are produced from: **Banana skins** R **Coffee beans** ſ Sugar cane **Coconut oil**

75 Suggested answers	Which of these types of power plant does not use the power of water?
Α	An hydropower plant
В	A thermal power plant
С	A pumped storage power plant
D	A wave power plant

76 Suggested answers	Which of these European countries, known for volcanic activity, produces 1/3 of its electricity from geothermal power plants?
Α	Spain
В	Italy
С	Iceland
D	Ireland

77 Suggested answers	What share of all the electricity produced in the world comes from renewable sources (including hydropower)?
Α	Less than 5%
В	10%
C	15%
D	More than 20%

Which country was the first in the world to reach 78 40% of energy generated from wind farms? Australia R Denmark USA **Great Britain**

Which of these cities would make the greatest use of solar power?

Suggested answers

79



80 In which country was the first tidal power station built? A Japan

Great Britain

France

USA

R

ſ

81 Suggested answers	What is the meaning of the 'Class A' label on electric devices produced in the European Union?
Α	The devices were produced at energy-efficient factories
В	The devices are safe to use
С	The devices are very powerful
D	The devices use very little energy

82 What does a thermal camera measure? Heat loss from the pipes of residential and public buildings Heat distribution on any surface, such as the R walls of a building Carbon dioxide emissions from industrial enterprises The amount of heat used to keep a building warm

83 Suggested answers	Which of these actions to maintain the temperature inside a building is not environmentally friendly?
Α	Use of electric heaters
В	Use of heat reflectors behind radiators
С	Insulation of the front door
D	Sealing cracks in the window frames

84 Suggested answers	Why is it better to use LED bulbs, although they are more expensive than energy-efficient fluorescent bulbs?
Α	They have more varied designs, making them suitable for different sorts of lamps
В	They can be disposed of together with general rubbish (they do not require special processing)
С	They do not contain potentially dangerous mercury, they last longer and they use less energy
D	They are unbreakable, since they are made from particularly strong plastic

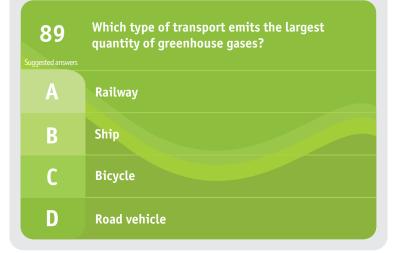
85 What is the meaning of 'carbon footprint'?

Α	Carbon dioxide emissions from all industrial enterprises
В	Total reserves of carbon in the Earth's forests
С	Total emissions (direct or indirect) of all greenhouse gases by a person, an organization, an event, a product, a city or a country
D	Reserves of carbon that are transformed into carbon dioxide when crude oil and natural gas are burnt to obtain electricity

86 What is CO₂ equivalent used to calculate? Total carbon dioxide emitted into the atmosphere by several similar enterprises or organizations P Savings on fuel consumption to heat buildings The amount of CO₂ absorbed by a plant over its life The volume of all greenhouse gases emitted from any activity, expressed in terms of CO2 for ease of measurement and understanding

87 Suggested answers	What is the best way to find out the energy efficiency of a home appliance?
Α	Its energy-efficiency label
В	Readings on the electricity meter
С	Life expectancy of the appliance
D	The material, which the appliance is made from

88 Suggested answers	How can a person or a company compensate for their carbon footprint?
Α	By choosing new energy-efficient devices
В	By switching off devices and lights when they are not being used
С	By reducing the number of lights
D	By planting trees



90 Suggested answers	What is a carpool?
Α	A new type of vehicle powered by a solar battery
В	Taking passengers on car journeys
С	An environmental standard for vehicle engines
D	Special parking for electric vehicles

91 Suggested answers	Which of these ways of getting around a city is the most climate-friendly?
Α	Public transport, such as buses
В	Private transport with low fuel consumption
С	Bicycle
D	Carpool (several people using one car to get to the same place, for instance to work)

92 Suggested answers	An active building is a building, where:
Α	No energy is used
В	Energy is produced
С	Everything is managed by a computer system
D	The residents are environmental activists

In northern countries a passive building is 93 a building, which: Does not use energy R Is very well insulated and loses almost no energy Does not meet building standards Is not computer controlled

Most of the heat loss from a building is through the:

Suggested answers

94



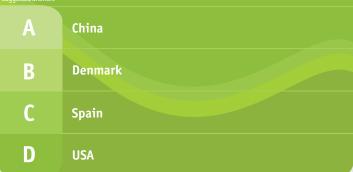
Which of these types of rubbish takes longest 95 to decompose? Paper R Food waste Plastic Steel

96 Suggested answers	What bag should you take shopping in order to reduce your carbon footprint?
Α	Don't take a bag – use a disposable one from the shop
В	Your own plastic bag
С	Your own paper bag
D	Your own canvas or cotton bag

97 Suggested answers	Which of the products that you buy with your parents has the smallest carbon footprint?
Α	Local products
В	Products brought from some other region of your country
С	Products brought from neighbouring countries
D	Exotic products from distant countries

Which advice for energy-efficient use of 98 a saucepan is correct? The saucepan bottom should be concave The top should be on R The bottom should be smaller than the burner The saucepan should always be open

99 Which country was the first to build an active house?



100 In what country was the Kyoto Protocol signed?

