

THE PROBLEM OF CLIMATE CHANGE



1

Since the middle of the 19th century
the air temperature on Earth

Suggested answers

A

Has not changed

B

Has fallen

C

Has risen

D

Rose sharply and then fell again

2

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

Suggested answers

A

By 1 °C

B

By 2 °C

C

By 5 °C

D

By 10 °C

3

The layer of air which envelops Earth is called:

Suggested answers

A

The hydrosphere

B

The lithosphere

C

The atmosphere

D

The cryosphere

4

Climate is:

Suggested answers

A

The weather pattern in a particular territory over a period of many years

B

A feature of the weather specifying the frequency of precipitation

C

The state of the weather in the course of a week

D

What old people remember about weather patterns, weather lore

5

Which of these features is not relevant to climate?

Suggested answers

A

Air temperature

B

The pattern of precipitation

C

Dominant winds

D

Longitude

6

What is the climate of Barcelona?

Suggested answers

A

Equatorial

B

Temperate

C

Tropical

D

Sub-tropical

7

A relatively humid climate is typical for:

Suggested answers

A

Ireland

B

Mongolia

C

North Africa

D

Greece

8

Which climate zone is characterized by high air temperature and much precipitation, falling evenly through the year?

Suggested answers

A

Equatorial

B

Sub-equatorial

C

Tropical

D

Sub-tropical

9

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'?

Suggested answers

A

Equatorial

B

Sub-equatorial

C

Tropical

D

Sub-tropical

10

What air masses are present during the winter in the sub-equatorial climate zone of the Northern Hemisphere?

Suggested answers

A

Arctic

B

Temperate

C

Equatorial

D

Tropical

11

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

Suggested answers

A

Arctic

B

Temperate

C

Equatorial

D

Tropical

12

Where was the record set for the highest-ever air temperature on the planet (57.6 °C)?

Suggested answers

A

The Namib Desert

B

The Dead Sea

C

Death Valley

D

The Sahara Desert

13

Where is climate warming happening the fastest?

Suggested answers

A

In Southern Europe

B

In tropical latitudes

C

In the Arctic

D

In the Southern Hemisphere

14

What is the name of the science that monitors, studies and forecasts the weather?

Suggested answers

A

Climatology

B

Hydrology

C

Glaciology

D

Meteorology

15

What does paleoclimatology study?

Suggested answers

A

Climate change that is happening today as a result of human activity

B

Climate in the past

C

Mountain climates

D

Climate in the future

16

Which of these methods do scientists use to find out about the climate on Earth hundreds of thousands of years ago?

Suggested answers

A

Study of tree rings

B

Study of bubbles in Arctic ice

C

Study of satellite images

D

Study of meteorological data

17

When did the last glacial period come to an end?

Suggested answers

A

About 100 years ago

B

About 1,000 years ago

C

About 10,000 years ago

D

About 100,000 years ago

18

When do scientists expect the next glacial period to begin?

Suggested answers

A

Never

B

In 1-3 million years

C

In 10,000-30,000 years

D

In 100,000-300,000 years

19

Which of the following factors has only short-term impact on climate (a few years or decades)?

Suggested answers

A

Continental drift

B

Volcanic eruptions

C

Change in the tilt of the Earth's axis

D

Human emissions of greenhouse gases

20

What impact do volcanic eruptions have on climate?

Suggested answers

A

They do not have any impact

B

They cause temperatures to rise

C

They cause temperatures to fall

D

They sometimes cause temperatures to rise and sometimes to fall

21

Which of the following is a greenhouse gas?

Suggested answers

A

Nitrogen (N)

B

Carbon dioxide (CO₂)

C

Carbon monoxide (CO)

D

Oxygen (O₂)

22

Which greenhouse gas accounts for 75% of all human emissions?

Suggested answers

A

Methane (CH₄)

B

Carbon dioxide (CO₂)

C

Sulphur hexafluoride (SF₆)

D

Nitrous oxide (N₂O)

THE IMPACTS OF CLIMATE CHANGE



23

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

Suggested answers

A

Rises

B

Falls

C

Remains unchanged

D

Cannot be predicted

24

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?

Suggested answers

A

Bangladesh

B

Switzerland

C

Austria

D

Nepal

25

Which of these cities is not threatened by rising levels of the world ocean?

Suggested answers

A

Bangkok

B

New Orleans

C

Shanghai

D

Vienna

26

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:

Suggested answers

A

20 °C

B

33 °C

C

37 °C

D

28 °C

27

In which of these geographical regions are tornadoes most frequent?

Suggested answers

A

Central Asia

B

The Arctic

C

The west coast of Africa

D

The central and southern states of the USA

28

Which of these natural disasters are not related to climate change?

Suggested answers

A

Droughts

B

Earthquakes

C

Tornadoes

D

Avalanches

29

Which of these houses Eskimos cannot build without snow?

Suggested answers

A

A yurt

B

An igloo

C

A tipi

D

A wigwam

30

Which of these ecosystems has the richest species diversity?

Suggested answers

A

Coral reefs

B

Taiga forest

C

Tropical forest

D

African savanna

31

Which ecosystem is unaffected by rise in the level and temperature of the world ocean?

Suggested answers

A

Salt marches

B

Coral reefs

C

Alpine meadows

D

Mangrove forests

32

You are an ecotourist if:

Suggested answers

A

You cook food on a bonfire when you are camping

B

You travel to the most beautiful places on the planet

C

You observe rare animals

D

You minimize your impact on the natural environment when on holiday

33

According to classification of protected areas by the International Union for the Conservation of Nature (IUCN), economic activity is not allowed in:

Suggested answers

A

Natural monuments

B

Protected landscapes

C

Nature reserves

D

National parks

34

What is protected in a biosphere reserve?

Suggested answers

A

The whole biosphere

B

Typical natural communities

C

Rare types of animal that are hunted

D

Areas of outstanding natural beauty

35

What country has more forests than any other country in the world?

Suggested answers

A

Canada

B

USA

C

Brazil

D

Russia

36

What climate factor defines the northern boundary of boreal forests?

Suggested answers

A

Temperature

B

Levels of precipitation

C

Atmospheric pressure

D

Cloud cover

37

What climate factor defines the southern boundary of boreal forests?

Suggested answers

A

Temperature

B

Levels of precipitation

C

Atmospheric pressure

D

Cloud cover

38

Which of the following coniferous tree species is the most widespread in Siberia?

Suggested answers

A

Pine

B

Fir

C

Larch

D

Cedar

39

Which of the following deciduous tree species is among the most widespread in North America?

Suggested answers

A

Maple

B

Rowan

C

Elder

D

Willow

40

In Eastern Siberia pine forests are advancing into steppe ecosystems because of:

Suggested answers

A

Rising temperatures

B

Falling temperatures

C

More precipitation

D

Less precipitation

41

Absorption of carbon in young forests:

Suggested answers

A

Is high

B

Is low

C

Does not occur

D

On the contrary, young forests emit carbon

42

What is the ratio between emission and absorption of carbon in forests where there are many old trees?

Suggested answers

A

There is more absorption than emission

B

There is more emission than absorption

C

Absorption is roughly equal to emission

D

Old trees cannot absorb carbon

43

How do Russia's forests influence carbon levels in the atmosphere?

Suggested answers

A

They soak up carbon dioxide

B

They are a source of carbon dioxide

C

Emission is equal to absorption

D

They have no gas exchange with the atmosphere

44

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

Suggested answers

A

Lakes

B

Rivers

C

Glaciers

D

Underground water

45

70% of all fresh water used by people is used for:

Suggested answers

A

Drinking

B

Cooking

C

Sanitation

D

Irrigation

46

Which of these regions of the world is particularly prone to drought?

Suggested answers

A

Central Africa

B

South-East Asia

C

Small islands of the Caribbean Sea

D

Scandinavian countries

47

The main climate problem for countries of the Middle East will be:

Suggested answers

A

Shortage of water

B

Excessive damp

C

Melting of permafrost

D

Tropical cyclones

48

The production of which agricultural crop in South-East Asia could be significantly reduced by rising sea levels?

Suggested answers

A

Rice

B

Wheat

C

Barley

D

Maize

49

The most obvious sign of climate change in mountain regions is:

Suggested answers

A

The melting of glaciers

B

Increase of windy days

C

Drying up of mountain rivers

D

Reduction of precipitation

50

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?

Suggested answers

A

Robert Burns, 'Yon Wild Mossy Mountains'

B

Thomas Mann, 'The Magic Mountain'

C

Emily Brontë, 'Wuthering Heights'

D

Ernest Hemingway, 'The Snows of Kilimanjaro'

51

A landslide in the mountains is:

Suggested answers

A

A mass of snow, which falls or slides down a slope

B

A serious flood

C

A moving mass of stones and earth

D

A hurricane wind

52

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

Suggested answers

A

Harmful chemical compounds are formed in the water

B

The water becomes too hot due to higher air temperatures

C

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

Which of these economic sectors, often found in mountain regions, is least vulnerable to the impact of climate change?

Suggested answers

A

Tourism

B

Mining

C

Agriculture

D

The production of hydroelectricity

54

What share of Russia's territory has permafrost?

Suggested answers

A

80 %

B

60 %

C

30 %

D

20 %

55

By how much has ice coverage in the Arctic shrunk in the last 40 years?

Suggested answers

A

10 %

B

20 %

C

50 %

D

100 %

56

Which of these climate change impacts has the least affect on people's lives and ecosystems in the Arctic?

Suggested answers

A

Stronger winds (blizzards and storms)

B

Reduction in the extent and thickness of sea ice

C

Long-lasting heat waves in the summer

D

Melting of permafrost

57

What is a 'heat-island'?

Suggested answers

A

An island in tropical latitudes

B

An island threatened with disappearance due to rising sea levels

C

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

Which of these people will most likely be the first to lose his job as a result of climate change?

Suggested answers

A

A banker in Singapore

B

A teacher in India

C

A farmer in Kenya

D

A fireman in Mexico

59

Who of the following could be called a climate migrant?

Suggested answers

A

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

B

A Turk who got a better job in Germany

C

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

D

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

60

What share of the world population lives below the poverty line?

Suggested answers

A

50 %

B

35 %

C

15 %

D

7 %

61

In which of the following countries are personal incomes the lowest?

Suggested answers

A

Brazil

B

Germany

C

Turkmenistan

D

Ethiopia

MITIGATING THE IMPACTS OF CLIMATE CHANGE. CARBON FOOTPRINT



62

The main source of human greenhouse gas emissions is:

Suggested answers

A

The felling of forests

B

Vehicle transport

C

The production and use of energy

D

Agriculture

63

Which country is the major emitter of greenhouse gases?

Suggested answers

A

USA

B

China

C

Russia

D

Great Britain

64

Which of these energy sources is non-renewable?

Suggested answers

A

Tidal energy

B

Biofuel

C

Crude oil

D

Solar energy

65

Which of these energy sources is not a fossil fuel?

Suggested answers

A

Uranium

B

Natural gas

C

Peat

D

Brown coal

66

Which of these energy sources is the most used in the world?

Suggested answers

A

Natural gas

B

Crude oil

C

Wood

D

Wind power

67

Which of these energy sources is the most climate-friendly?

Suggested answers

A

Brown coal

B

Natural gas

C

Solar energy

D

Crude oil

68

Which of these energy sources emits the largest amount of greenhouse gases per unit of energy produced?

Suggested answers

A

Coal

B

Solar energy

C

Crude oil

D

Natural gas

69

Which of these substances cannot be obtained from crude oil?

Suggested answers

A

Glass

B

Rubber

C

Plastic

D

Gas

70

What is the difference between a combined heat and power plant (CHPP) and a thermal power plant (TPP)?

Suggested answers

A

A CHPP heats water and a TPP generates electricity

B

A CHPP generates electricity for big cities and a TPP generates electricity for towns and villages

C

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

71

What is the main problem with nuclear power plants?

Suggested answers

A

They emit more carbon dioxide than other types of power plant

B

They create dangerous radioactive waste, and there is a risk of accidents with disastrous consequences

C

It is hard to find a suitable location for a plant

D

Reserves of nuclear fuel are almost exhausted

72

Offshore wind farms are built:

Suggested answers

A

On land, by the coast

B

In the middle of the ocean

C

In the mountains

D

In the sea, not far from the coast

73

Is biomass a renewable source of energy?

Suggested answers

A

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

C

Yes, because energy cannot be destroyed

D

Yes, because plants can grow again

74

In Brazil 1/5 of vehicle fuels are produced from:

Suggested answers

A

Banana skins

B

Coffee beans

C

Sugar cane

D

Coconut oil

75

Which of these types of power plant does not use the power of water?

Suggested answers

A

An hydropower plant

B

A thermal power plant

C

A pumped storage power plant

D

A wave power plant

76

Which of these European countries, known for volcanic activity, produces 1/3 of its electricity from geothermal power plants?

Suggested answers

A

Spain

B

Italy

C

Iceland

D

Ireland

77

What share of all the electricity produced in the world comes from renewable sources (including hydropower)?

Suggested answers

A

Less than 5%

B

10%

C

15%

D

More than 20%

78

Which country was the first in the world to reach 40% of energy generated from wind farms?

Suggested answers

A

Australia

B

Denmark

C

USA

D

Great Britain

79

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

Suggested answers

A

Cairo

B

Oslo

C

London

D

Moscow

80

In which country was the first tidal power station built?

Suggested answers

A

Japan

B

Great Britain

C

France

D

USA

81

What is the meaning of the 'Class A' label on electric devices produced in the European Union?

Suggested answers

A

The devices were produced at energy-efficient factories

B

The devices are safe to use

C

The devices are very powerful

D

The devices use very little energy

82

What does a thermal camera measure?

Suggested answers

A

Heat loss from the pipes of residential and public buildings

B

Heat distribution on any surface, such as the walls of a building

C

Carbon dioxide emissions from industrial enterprises

D

The amount of heat used to keep a building warm

83

Which of these actions to maintain the temperature inside a building is not environmentally friendly?

Suggested answers

A

Use of electric heaters

B

Use of heat reflectors behind radiators

C

Insulation of the front door

D

Sealing cracks in the window frames

84

Why is it better to use LED bulbs, although they are more expensive than energy-efficient fluorescent bulbs?

Suggested answers

A

They have more varied designs, making them suitable for different sorts of lamps

B

They can be disposed of together with general rubbish (they do not require special processing)

C

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'?

Suggested answers

A

Carbon dioxide emissions from all industrial enterprises

B

Total reserves of carbon in the Earth's forests

C

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?

Suggested answers

A

Total carbon dioxide emitted into the atmosphere by several similar enterprises or organizations

B

Savings on fuel consumption to heat buildings

C

The amount of CO₂ absorbed by a plant over its life

D

The volume of all greenhouse gases emitted from any activity, expressed in terms of CO₂ for ease of measurement and understanding

87

What is the best way to find out the energy efficiency of a home appliance?

Suggested answers

A

Its energy-efficiency label

B

Readings on the electricity meter

C

Life expectancy of the appliance

D

The material, which the appliance is made from

88

How can a person or a company compensate for their carbon footprint?

Suggested answers

A

By choosing new energy-efficient devices

B

By switching off devices and lights when they are not being used

C

By reducing the number of lights

D

By planting trees

89

Which type of transport emits the largest quantity of greenhouse gases?

Suggested answers

A

Railway

B

Ship

C

Bicycle

D

Road vehicle

90

What is a carpool?

Suggested answers

A

A new type of vehicle powered by a solar battery

B

Taking passengers on car journeys

C

An environmental standard for vehicle engines

D

Special parking for electric vehicles

91

Which of these ways of getting around a city is the most climate-friendly?

Suggested answers

A

Public transport, such as buses

B

Private transport with low fuel consumption

C

Bicycle

D

Carpool (several people using one car to get to the same place, for instance to work)

92

An active building is a building, where:

Suggested answers

A

No energy is used

B

Energy is produced

C

Everything is managed by a computer system

D

The residents are environmental activists

93

In northern countries a passive building is a building, which:

Suggested answers

A

Does not use energy

B

Is very well insulated and loses almost no energy

C

Does not meet building standards

D

Is not computer controlled

94

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

Suggested answers

A

Floor

B

Windows

C

Walls

D

Ceiling

95

Which of these types of rubbish takes longest to decompose?

Suggested answers

A

Paper

B

Food waste

C

Plastic

D

Steel

96

What bag should you take shopping in order to reduce your carbon footprint?

Suggested answers

A

Don't take a bag – use a disposable one from the shop

B

Your own plastic bag

C

Your own paper bag

D

Your own canvas or cotton bag

97

Which of the products that you buy with your parents has the smallest carbon footprint?

Suggested answers

A

Local products

B

Products brought from some other region of your country

C

Products brought from neighbouring countries

D

Exotic products from distant countries

98

Which advice for energy-efficient use of a saucepan is correct?

Suggested answers

A

The saucepan bottom should be concave

B

The top should be on

C

The bottom should be smaller than the burner

D

The saucepan should always be open

99

Which country was the first to build an active house?

Suggested answers

A

China

B

Denmark

C

Spain

D

USA

100

In what country was the Kyoto Protocol signed?

Suggested answers

A

USA

B

Japan

C

Germany

D

France