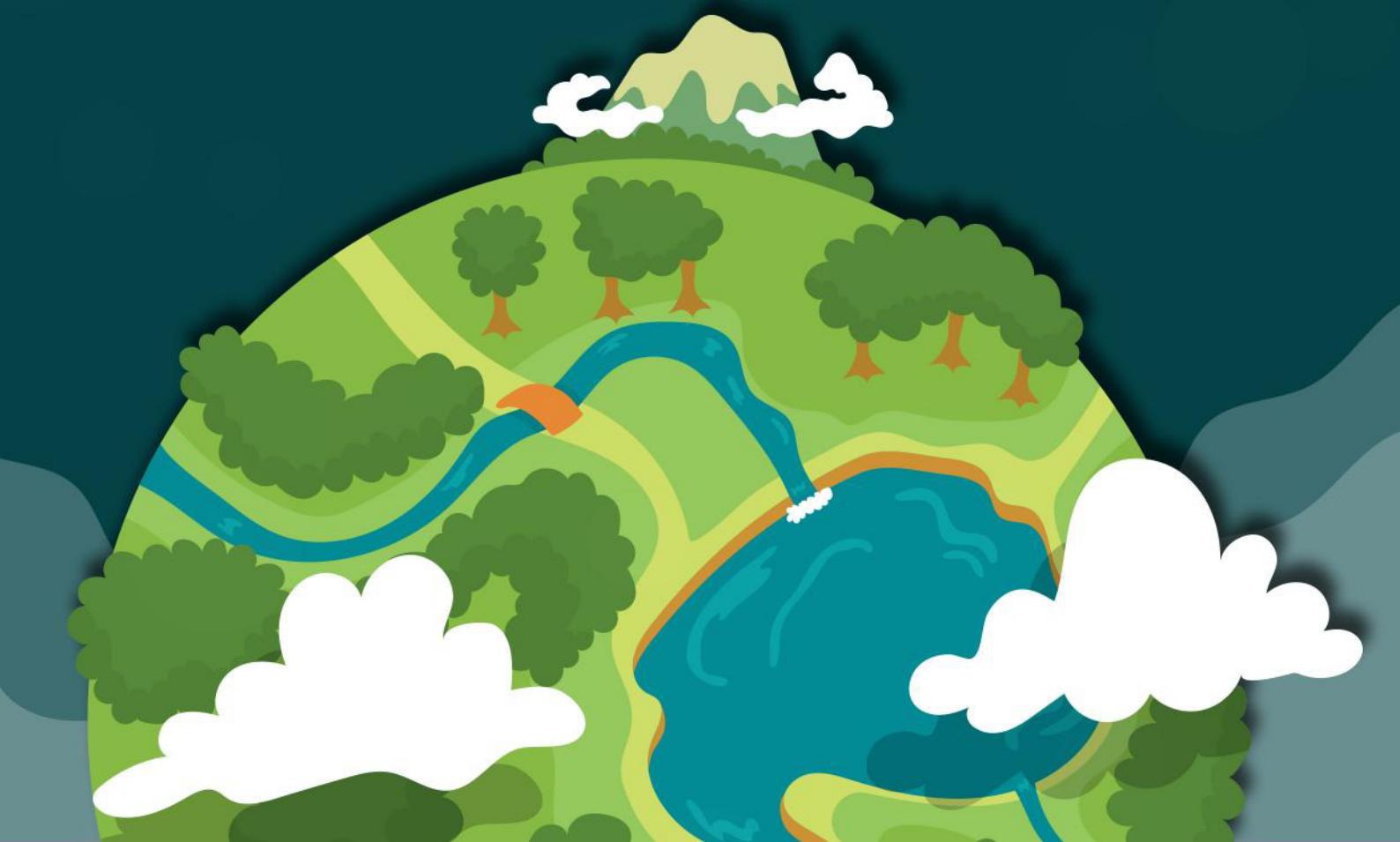


# Class-4

# OUR ENVIRONMENT



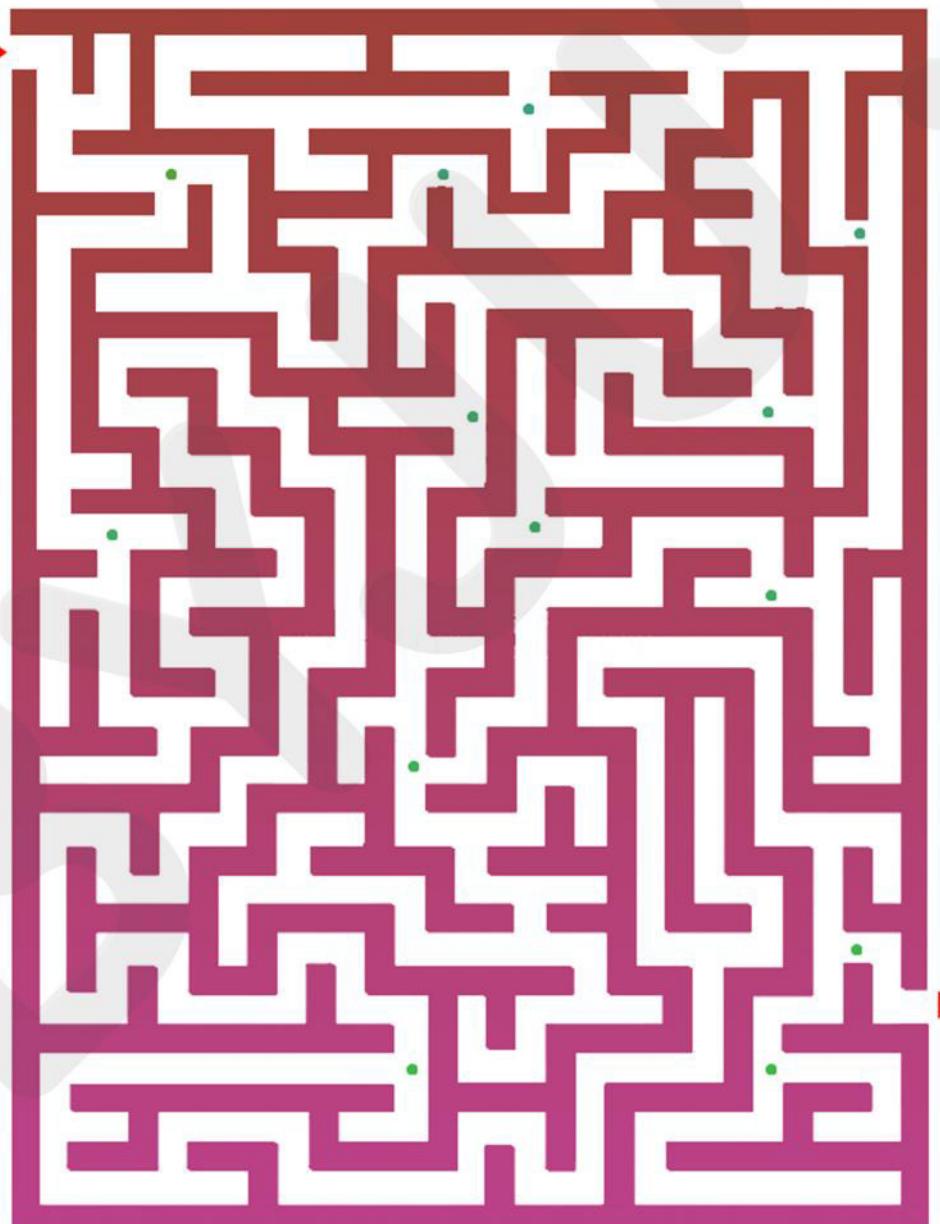
# QUESTIONS



# Bob and his Friends

Bob and Wendy want to save the planet by cleaning the city. They plan to do this by collecting garbage. Bob will have to first collect as many garbage cans as possible on his way to meet Wendy. He has 10 minutes to do this job. The garbage is scattered all over the city and is shown as red dots on the map. Each time Bob picks up a can, you will have to answer a question from the list given below.

Your time starts now!



# Bob and his Friends

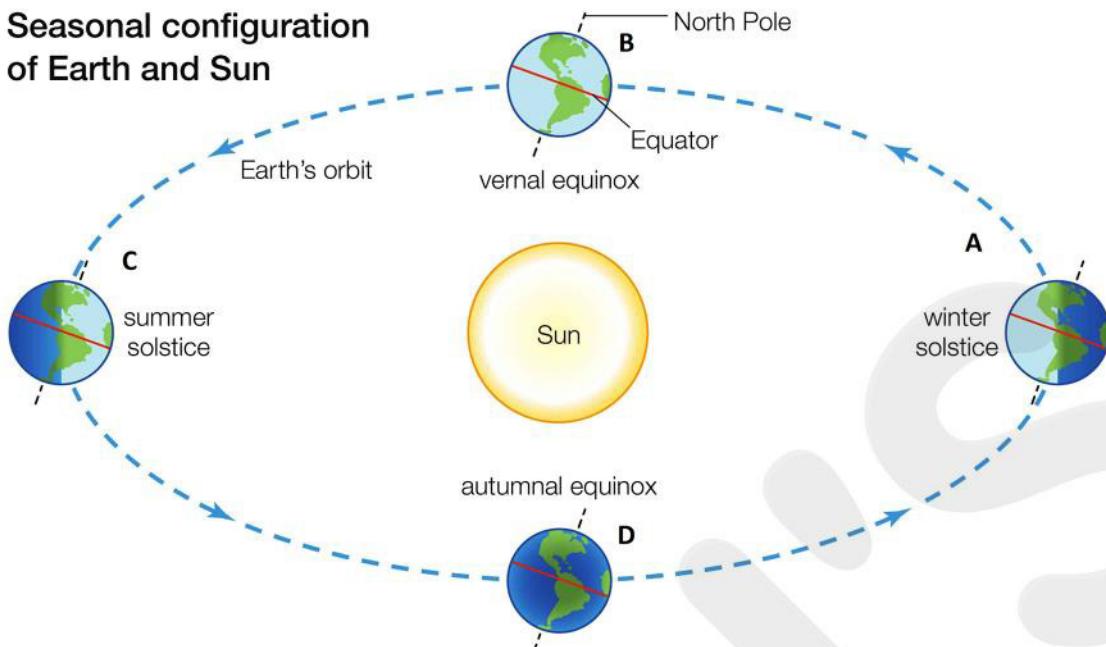
## Questions:

1. Air pollution is caused by which of these gases?  
(Nitrogen, Carbon monoxide, Oxygen)
  
2. Mercury can pollute which of these natural resources?  
(Air, Water, Soil)
  
3. Materials that disintegrate over time when placed in soil due to biological activity are called \_\_\_\_\_ substances. (biodegradable, non-biodegradable)
  
4. Fog mixes with smoke from the vehicles and the industrial exhaust resulting in the formation of \_\_\_\_\_. (fog, acid rain, smog)



# Seasons

## Seasonal configuration of Earth and Sun



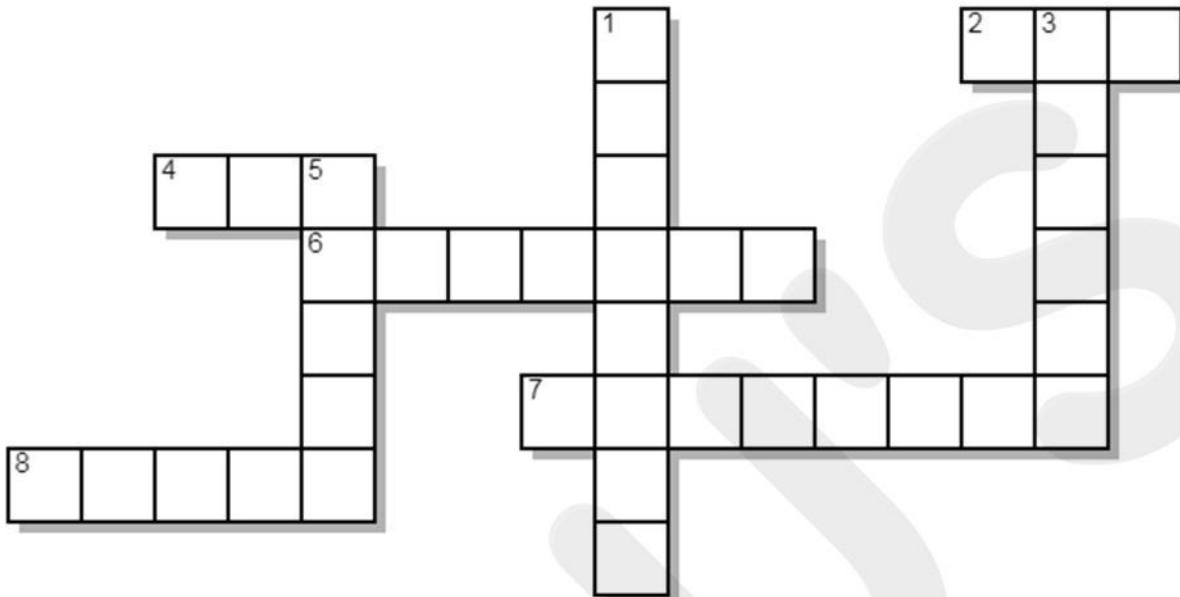
The earth's axis is tilted at an angle and this is an important reason for the existence of different seasons. The length of a day depends upon the respective seasons. Notice the diagram shown above, there are 4 stages labeled as A, B, C and D. Your task is to allocate a date to these four stages of earth around the sun based on the concepts that you have learnt and the facts mentioned in the table given below:

Stage	Fact	Date
A	Northern hemisphere will have shorter days and longer nights.	
B	Transition from winter to summer in the northern hemisphere. Equator will have maximum sunlight.	
C	Northern hemisphere will have longer days. It's summer in India.	
D	Transition from winter to summer in Australia.	



# Soil and Air

Fill the following crossword using the given clues:



## Across:

2. Clouds that form very close to the cold land are called \_\_\_\_\_.
4. Tiny drops of water forming on leaves in the morning are called \_\_\_\_\_.
6. The sea which is on the west coast of India.
7. A gas which is used to pack chips so that they remain fresh longer.
8. The most fertile land is found around this type of water body.

## Down:

1. The amount of water vapour in the air.
3. A gas produced by plants which is vital for all the living beings.
5. You can survive for three days without this resource.



# Unscramble Pollution

**Time: 3min**

We humans have exploited our environment by polluting most of our resources. India celebrates Diwali, the festival of light, by bursting crackers. We do not realize that bursting crackers pollutes the environment. The vehicles that we use daily, emit carbon monoxide and other toxic gases which contribute to air pollution. These gases mix with the cold fog during winters and form something known as smog [smoke+fog=smog]. Smog is dangerous to humans and animals that breathe in it.

Apart from polluting air, we also pollute land and water. This is happening because of rapid industrialization. Have a look at the exhaust from an industry. It contains harmful chemicals which pollute the water bodies and the atmosphere and make the soil infertile. They also often contain greenhouse gases like carbon dioxide. An increase in the level of these gases causes a harmful effect called the greenhouse effect. All the heat gets trapped in the atmosphere due to the greenhouse gases and warms up the earth, making the global temperature increase leading to a phenomenon called global warming.

Unscramble the following words, these words are extracted from the passage so you can use the passage to hunt for answers. Write the answers in the spaces provided.

EVMOTRNNENI

ROLTSIAUNIZTADNII

OSEMHAPTR

SCUREREOS

CBONRA OEDIXID

EMARETRUPT

ONLTPILUO

GERESUOEHN

BOLAGL RWINGARM



# Search for the Pollutant

Different mediums of pollution and their effects are hidden in the puzzle below. Find these names and mention how they are polluting our environment.

H	N	H	O	U	L	H	G	F	V	R	U	I	C	V
F	H	J	F	U	D	O	Y	P	D	P	O	D	L	U
T	A	B	N	T	D	J	Y	L	B	R	O	U	W	G
A	S	G	E	C	E	B	Q	A	T	I	S	G	O	I
G	R	E	E	N	H	O	U	S	E	N	G	O	N	B
R	O	W	A	N	A	T	K	T	N	S	O	N	A	N
S	C	A	R	B	O	N	D	I	O	X	I	D	E	R
S	C	A	N	D	A	N	A	C	V	I	A	N	I	S
P	E	N	T	O	X	I	C	W	A	S	T	E	S	T
R	O	M	E	O	C	H	A	R	L	I	E	F	D	E
E	C	H	O	P	M	E	R	C	U	R	Y	Z	A	Y
A	A	C	I	D	R	A	I	N	A	R	D	U	I	S
S	M	O	G	I	S	T	H	E	X	A	U	S	T	A
P	H	Y	S	I	C	S	T	I	B	I	M	O	L	O
L	L	Y	O	I	L	S	P	I	L	L	G	I	K	I



# Facts about Seasons

## Northern Hemisphere



Summer: It is the \_\_\_\_\_ (hottest, coldest) of the four temperate seasons, falling after spring and before autumn. At the summer solstice, the days are \_\_\_\_\_ (longer, shorter) and the nights are \_\_\_\_\_.(longer, shorter)

Months: June - September



Autumn: Autumn is one of the four temperate seasons. Autumn marks the transition from \_\_\_\_\_ (summer, winter) to \_\_\_\_\_ (summer, winter), in September (Northern Hemisphere) or March (Southern Hemisphere), when the duration of daylight becomes noticeably shorter and the temperature cools down. Leaves change their colour.

Months: \_\_\_\_\_ - \_\_\_\_\_



# Facts about Seasons

## Northern Hemisphere



Winter: Winter is the \_\_\_\_\_ (hottest, coldest) season of the year in polar and temperate zones. It occurs after \_\_\_\_\_ (autumn, spring) and before \_\_\_\_\_ (autumn, spring) each year. Because of the tilt in the axis of the Earth, the hemisphere that is oriented away from the sun experiences winter. If the conditions are right then it will snow during winter in some northern regions in India.

Months: \_\_\_\_\_ - \_\_\_\_\_



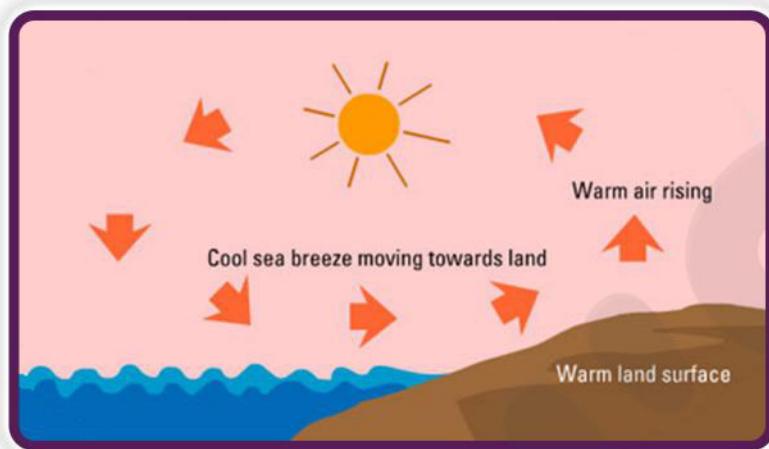
Spring: Spring is one of the four conventional temperate seasons, following \_\_\_\_\_ (winter, summer) and preceding \_\_\_\_\_ (winter, summer). It is the season of new beginnings. Fresh buds bloom, animals awaken and the earth seems to come to life again.

Months: \_\_\_\_\_ - \_\_\_\_\_



# Land and Sea Breeze

Read the following passage  
**Sea Breeze**



During the day, land gets heated up faster than the water in the oceans. The hot land then heats the air around it. This warm air rises up. The cold sea breeze moves in to fill the space. This phenomenon is known as sea breeze.

## Land Breeze



During the night land cools down faster than the water in the oceans. Warm water heats up the air and this warm air rises up. The cold land breeze moves in to fill the space. This phenomenon is known as land breeze.



# Land and Sea Breeze

## Fill in the blanks

1. Both the land and the sea breeze blow \_\_\_\_\_ air.
2. Warm air is \_\_\_\_\_ than cold air.
3. \_\_\_\_\_ is created when warm air rises.
4. When cold air blows from land to sea during nights it is called as \_\_\_\_\_ breeze.
5. Between land and sea, \_\_\_\_\_ can stay warm for a longer time.

# What Causes Pollution?

Identify and categorize the activities shown in the first column into different types of pollution and write a short description about it in the space provided, the first activity is solved for you, please solve the rest of them.

## Types of Pollution

Activity	Description	Type
	Industrial exhaust pumping poisonous gases into the atmosphere.	Air
		
		
		



# What Causes Pollution?

Identify and categorize the activities shown in the first column into different types of pollution and write a short description about it in the space provided, the first activity is solved for you, please solve the rest of them.

## Types of Pollution

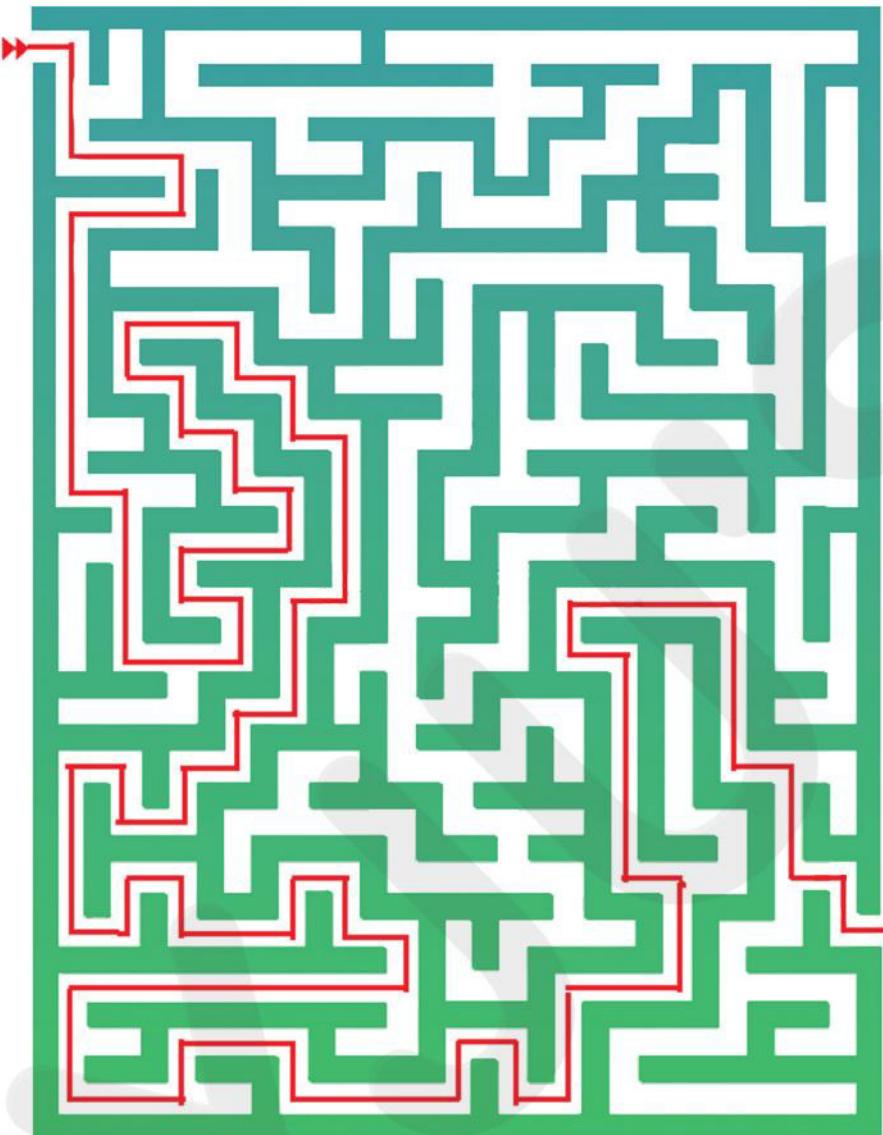
Activity	Description	Type
		
		
		
		



# ANSWERS



# Bob and his Friends



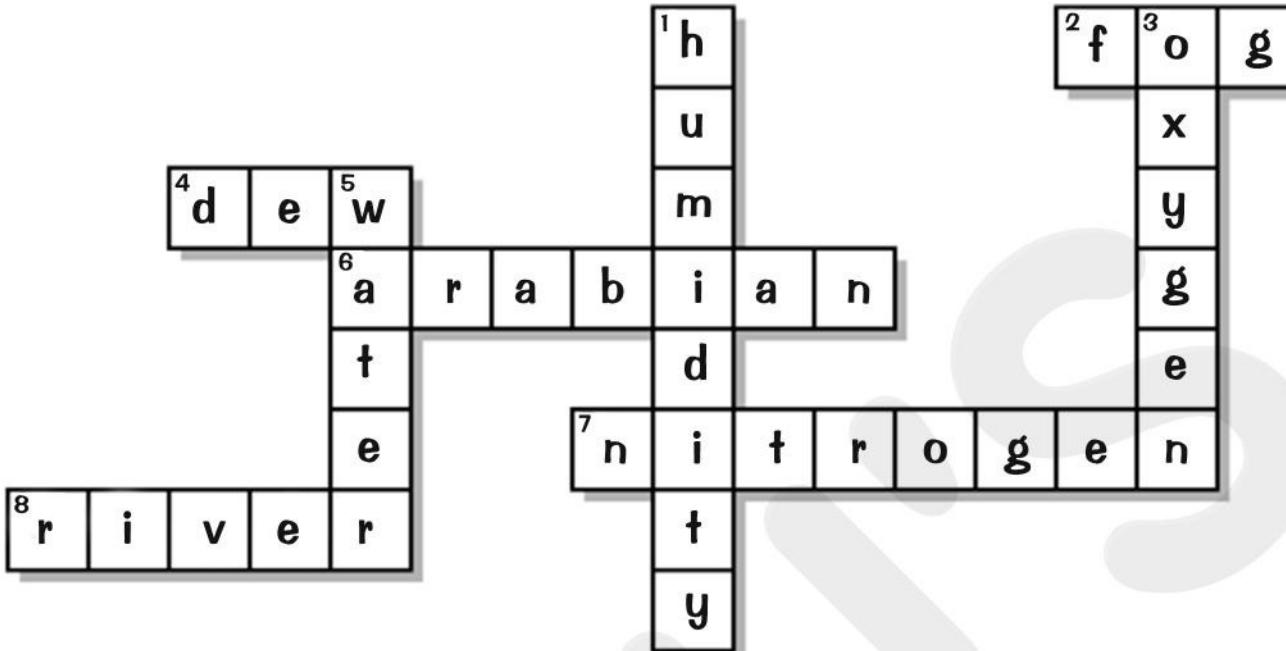
1. Air pollution is caused by carbon monoxide.
2. Mercury can pollute air.
3. Materials that disintegrate over time when placed in soil due to biological activity are called biodegradable substances.
4. Fog mixes with smoke from vehicles and industrial exhaust resulting in the formation of smog.

# Seasons

## Solution:

- A - Winter Solstice - December 21-22
- B - Vernal Equinox - March 20-23
- C - Summer Solstice - June 21-22
- D - Autumnal Equinox - September 20-23

# Soil and Air



## Across

- 2. Fog
- 4. Dew
- 6. Arabian
- 7. Nitrogen
- 8. River

## Down

- 1. Humidity
- 3. Oxygen
- 5. Water



# Unscramble Pollution

## Solution

EVMOTRNNENI

ENVIRONMENT

SCUREREOS

RESOURCES

ONLTPILUO

POLLUTION

ROLTSIAUNIZTADNII

INDUSTRIALIZATION

CBONRA OEDIXID

CARBON DIOXIDE

GERESUOEHN

GREENHOUSE

OSEMHAPTRE

ATMOSPHERE

EMARETRUPTE

TEMPERATURE

BOLAGL RWINGAM

GLOBAL WARMING



# Search for the Pollutant

H	N	H	O	U	L	H	G	F	V	R	U	I	C	V
F	H	J	F	U	D	O	Y	P	D	P	O	D	L	U
T	A	B	N	T	D	J	Y	L	B	R	O	U	W	G
A	S	G	E	C	E	B	Q	A	T	I	S	G	O	I
G	R	E	E	N	H	O	U	S	E	N	G	O	N	B
R	O	W	A	N	A	T	K	T	N	S	S	N	A	N
S	C	A	R	B	O	N	D	I	O	X	I	D	E	R
S	C	A	N	D	A	N	A	C	V	I	A	N	I	S
P	E	N	T	O	X	I	C	W	A	S	T	E	S	T
R	O	M	E	O	C	H	A	R	L	I	E	F	D	E
E	C	H	O	P	M	E	R	C	U	R	Y	Z	A	Y
A	A	C	I	D	R	A	I	N	A	R	D	U	I	S
S	M	O	G	I	S	T	H	E	X	A	U	S	T	A
P	H	Y	S	I	C	S	T	I	B	I	M	O	L	O
L	L	Y	O	I	L	S	P	I	L	L	G	I	K	I

**ACID RAIN** - The main cause of acid rain is the industrial burning of coal and other fossil fuels, the waste gases which contain sulphur and nitrogen oxides combine with atmospheric water to form acids.

**EXHAUST** - When vehicles burn fuel, they don't do it efficiently and this creates undesirable compounds which we call pollutants. The waste gases expelled from an engine of a vehicle is called exhaust.

**SMOG** - It is a blackish fog formed mainly by a mixture of pollutants in the atmosphere which consists of fine particles and ground level ozone. Smog occurs mainly because of air pollution.



# Search for the Pollutant

**OIL SPILL** - An oil spill is the accidental release of crude oil into the environment, especially in the marine ecosystem due to human activity and is a form of pollution.

**PLASTIC** - Plastic products accumulate in the soil which adversely affect wildlife, habitats, and humans.

**GREENHOUSE** - The greenhouse effect is caused by the interaction of the sun's energy with greenhouse gases such as carbon dioxide, methane, nitrous oxide and fluorinated gases. The ability of these gases to trap heat causes the greenhouse effect.

**CARBON DIOXIDE**- It is widely considered to be a pollutant when associated with cars, planes, power plants, and other human activities

# Facts about Seasons

## Solutions

### Summer:

It is the **hottest** of the four temperate seasons, falling after spring and before autumn. At the summer solstice, the days are **longer** and the nights are **shorter**.

Months: June - September

### Autumn:

Autumn is one of the four temperate seasons. Autumn marks the transition from **summer** to **winter**, in September (Northern Hemisphere) or March (Southern Hemisphere), when the duration of daylight becomes noticeably shorter and the temperature cools down. Leaves change their colour.

Months: **September - December**

### Winter:

Winter is the **coldest** season of the year in polar and temperate zones. It occurs after **autumn** and before **spring** each year. Winter is caused by the axis of the Earth in that hemisphere being oriented away from the Sun. If the conditions are right then it will snow in winter at some northern regions in India.

Months: **December - March**

### Spring:

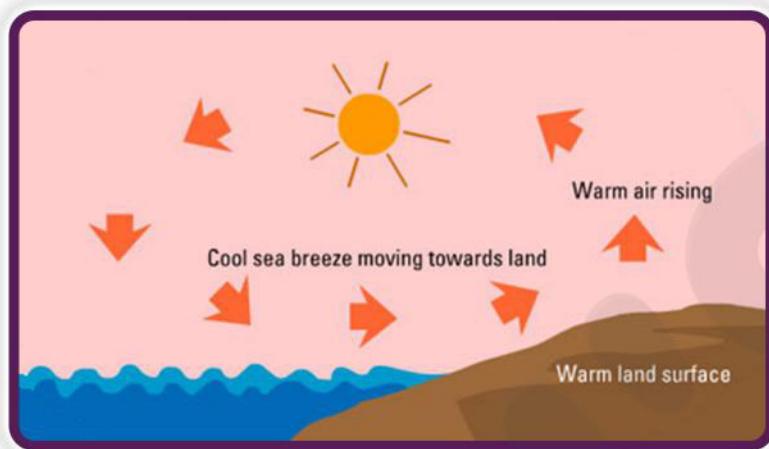
Spring is one of the four conventional temperate seasons, following **winter** and preceding **summer**. Spring is the season of new beginnings. Fresh buds bloom, animals awaken and the earth seems to come to life again.

Months: **March - June**



# Land and Sea Breeze

Read the following passage  
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During the day, land gets heated up faster than the water in the oceans. The hot land then heats the air around it. This warm air rises up. The cold sea breeze moves in to fill the space. This phenomenon is known as sea breeze.

## Land Breeze



During the night land cools down faster than the water in the oceans. Warm water heats up the air and this warm air rises up. The cold land breeze moves in to fill the space. This phenomenon is known as land breeze.

# Land and Sea Breeze

## Fill in the blanks

1. Both land and the sea breeze blow cold air.
2. Warm air is less dense than cold air.
3. Vacant space is created when warm air rises.
4. When cold air blows from land to sea during nights it is called as land breeze
5. Between land and sea, sea can stay warm for a longer time.

# What Causes Pollution?

Identify and categorize the activities shown in the first column into different types of pollution and write a short description about it in the space provided, the first activity is solved for you, please solve the rest of them.

## Types of Pollution

Activity	Description	Type
	Industrial exhaust pumping poisonous gases into the atmosphere.	Air
	Marine life being affected because of industrial waste.	Water
	Too much traffic in major cities causes noise pollution, along with air pollution.	Sound/Air
	Acid rain is a result of air pollution. It is harmful for plants and it can pollute water bodies too.	Air/Water



# What Causes Pollution?

Identify and categorize the activities shown in the first column into different types of pollution and write a short description about it in the space provided, the first activity is solved for you, please solve the rest of them.

## Types of Pollution

Activity	Description	Type
	Untreated sewage water is being dumped into river.	Water
	People using masks to protect themselves from smog formed over major cities.	Air
	Garbage dumped next to a busy road causes and spreads air and water borne diseases.	Water/Soil
	Burning of agricultural waste causes air pollution.	Air

