

maheshwari girls public school

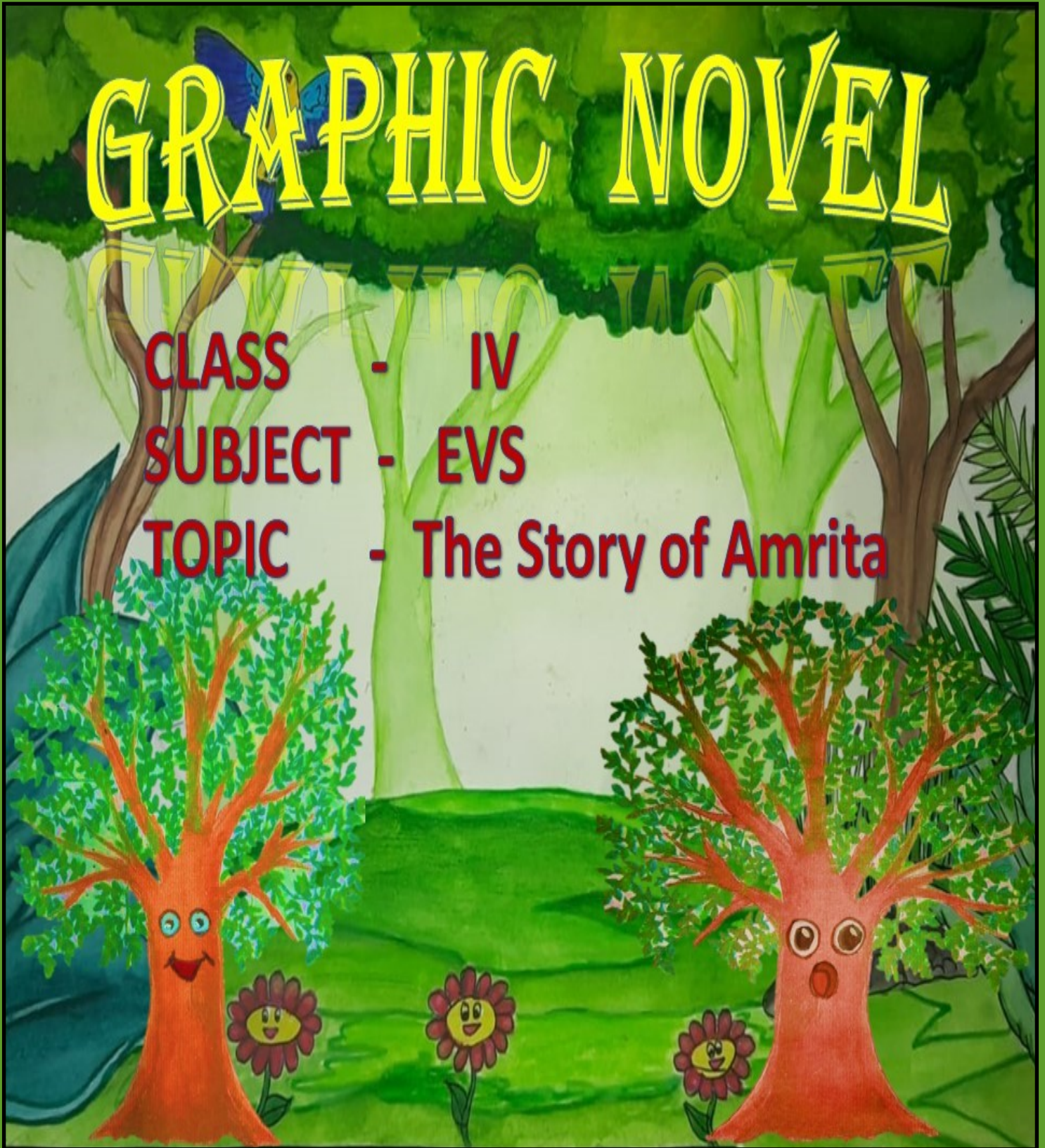
(Affiliated to C.B.S.E.)

GRAPHIC NOVEL

CLASS - IV

SUBJECT - EVS

TOPIC - The Story of Amrita



From the Desk of Principal



“ You don’t have to be great to start, but you do have to start to be great”

It’s a moment of great pleasure for me that team MGPS is bringing to the fore its first ever graphic novel taking all the challenges in their stride.

The underlying idea behind this novel was to condense the complexity of the curriculum and make it all the more engaging and captivating for the young ones.

Teacher’s have tried to employ new strategy ,the right perspective, in the social milieu so that the student’s revel the learning process and beam with confidence.

This unique idea was conceptualized by the subject experts, art teachers who unleashed their creative urge and the outcome was this beautiful novel.

I extend my heartfelt wishes to everyone who has been a part of this commendable work. I hope this concept of ours would bring a smile on every reader’s face.

Dr.Sunita Vashistha
Principal MGPS

Disclaimer

This book is published as a reading material to enable the students to have a better understanding of The story of Amrita.

The characters used in this Graphic Novel are fictional and resemblance to any character or incident is merely a coincidence.

The work done on characters and scenes are purely an art work of students and teachers.

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Training & Ideation	Mr.Sandeep Sethi (Director Education M.S.M.S II, Museum Trust)

From the Desk of Chairman



This issue of Graphic Novel pertaining to Adaptations in Plants reveals the sincere efforts & enthusiasm of the team MGPS, Vidyadhar Nagar.

This novel is a unique idea wherein teachers' made persistent efforts to simplify the content so as to make it all the more comprehensible as well as interesting for the learners.

Sincere efforts have been made by teachers to provide the required impetus and confidence to the learners through this new venture.

I hope this endeavour of ours would be able to anchor the attention of the readers.

Pradeep Baheti

Chairman ECMS

From the Desk of General Secretary



“Learning and innovation go hand in hand.”

A good teacher always ‘performs’ for her students, to keep them going.

Teaching is not about just sitting and lecturing. It’s about arousing curiosity of the learners and this novel idea of creatively representing the content would provide a thrust to the learning capabilities of the students. It would certainly stimulate their horizon of knowledge.

Written in a lucid language this graphic novel gives an elaborate account of Adaptations in Plants.

Facilitators truly deserve applause for materializing this arduous assignment .

Natwar Lal Ajmera

General Secretary, ECMS

From the Desk of Secretary



Success in life is defined by our vision and success comes to those who are too busy working for it. Planning is the pre-requisite for success in any venture and this novel displays the planned and determined efforts of the teachers and the subject experts of MGPS.

We as academicians realised the need of hour to shoulder the responsibility of meeting the intellectual, social as well as the emotional needs of the young generation and so this graphic novel- the brain child of MGPS came into being to propel the holistic development of the learners and make them worthy citizens.

The presentation of the content in such a lucid, comprehensible manner would certainly help in cementing the knowledge acquired.

I extend my best wishes to everyone associated with this novel.

Murari Lal Birla

Secretary ECMS

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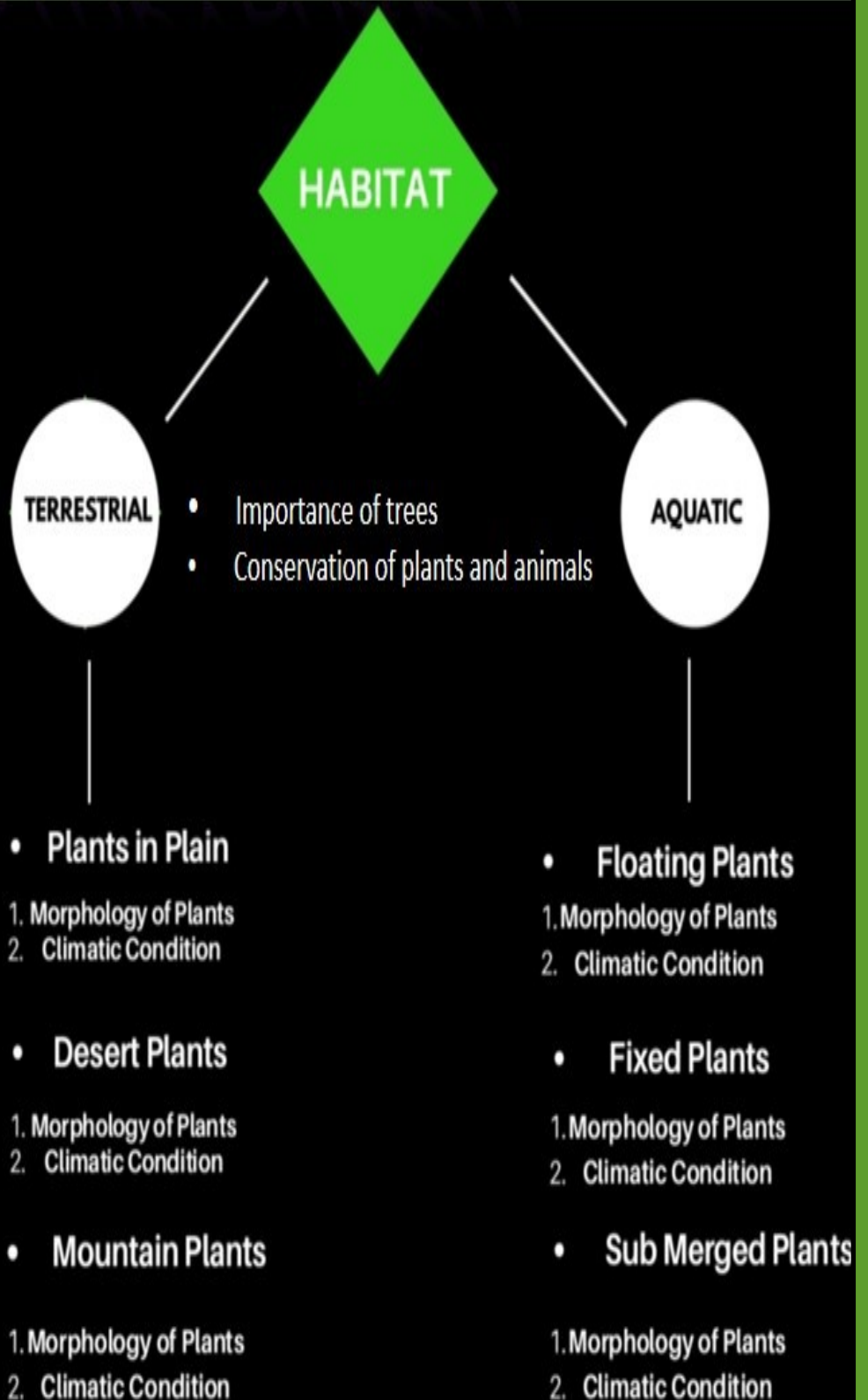
PREFACE

“Plants are the gifts of nature “

India is a land of diverse climatic conditions where a large number of plants are cultivated and nurtured. Some of these plants are held auspicious , are worshipped while some others are used for varied purposes. In this graphic novel we will study about these life givers in a more innovative manner. This graphic novel will explain the different adaptive features that help the plants to survive in a particular habitat. This will also help to understand the ecological conditions of a particular area.

STORYBOARD

The story of Amrita



Learning Outcomes

Students will be able to

- realize the importance of plants and animals
- develop a concern and care for plants and animals
- get sensitized regarding trees
- define adaptation.
- list different plant habitats.
- describe and explain the different types of plant adaptation.
- connect plant adaptations with environmental characteristics.

Characters



Mr . Mango (Grows on Plains)



Mr. Neem



Mr. Pine
(Conifer)



Mr. Cactus
(Desert Plant)



Mr. Pitcher
(Insectivorous)



Mr. Water Hyacinth s. Tape grass



Ms. Lotus



Mr. Ceriops
(Mangrove)

(Aquatic Plants)

Master
Brahamadutt
Student
of class
IV

Today Brahamdutt has learnt about The Story of Amrita in his EVS class. He is revising and thinking of the same .

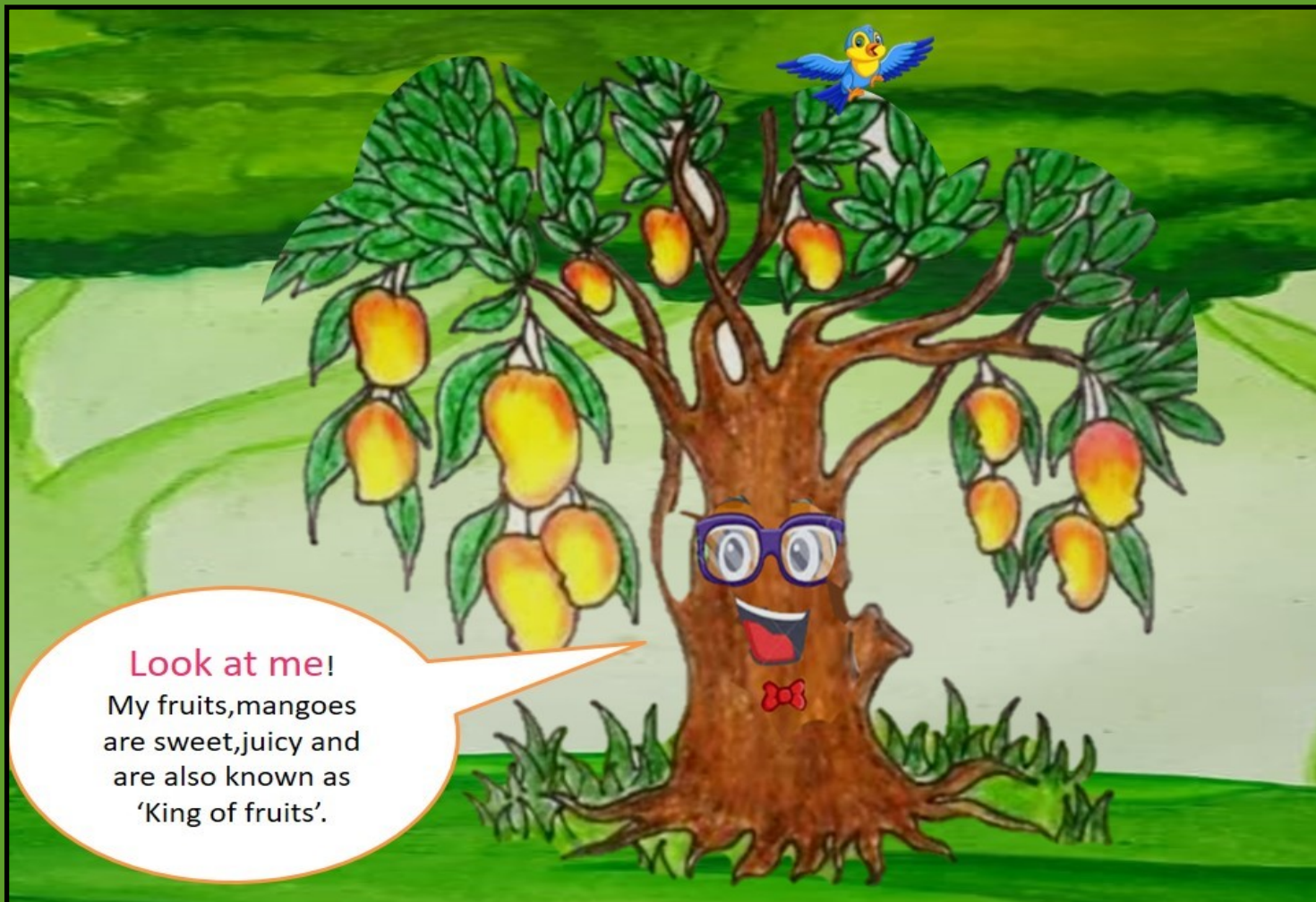


While thinking about the same he dozed off and dreamt that _ _ _ _

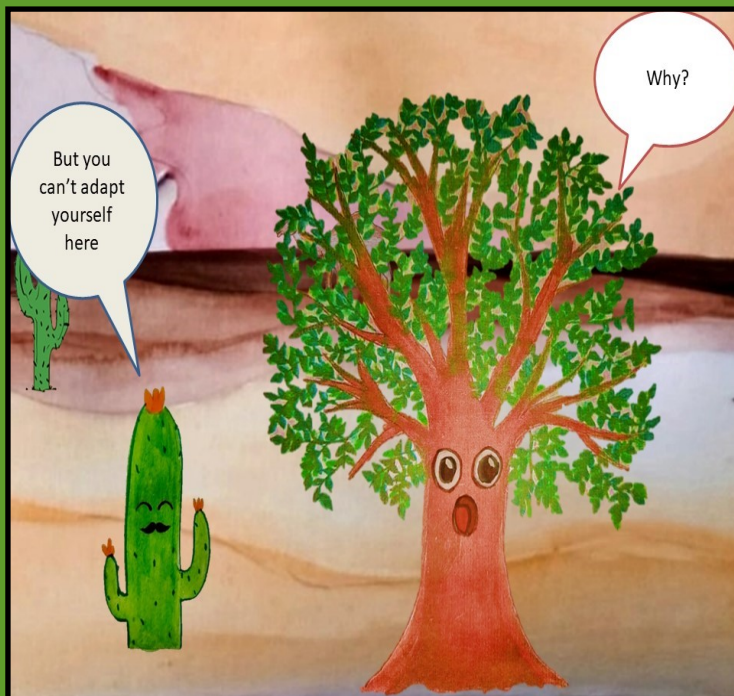
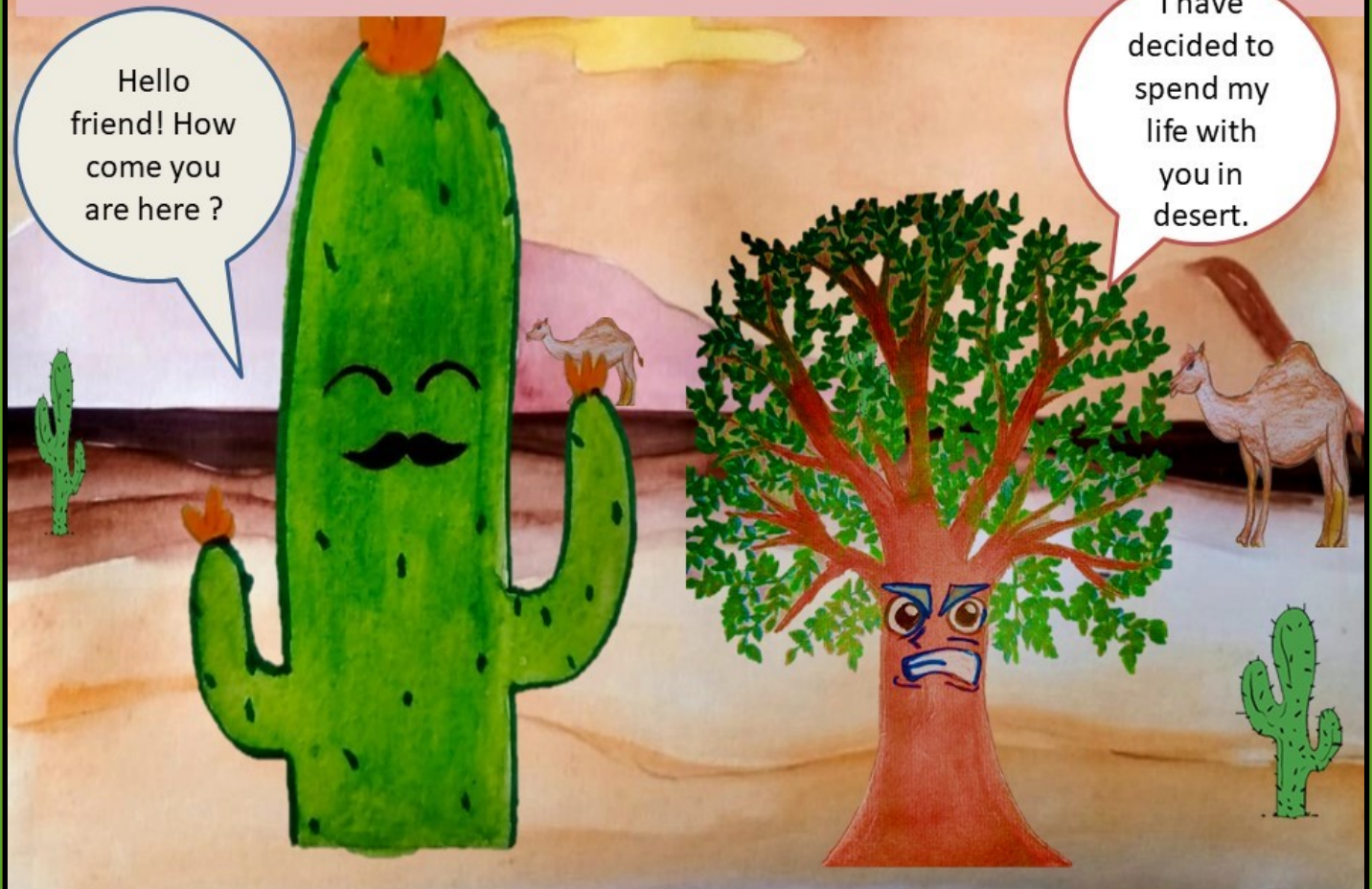


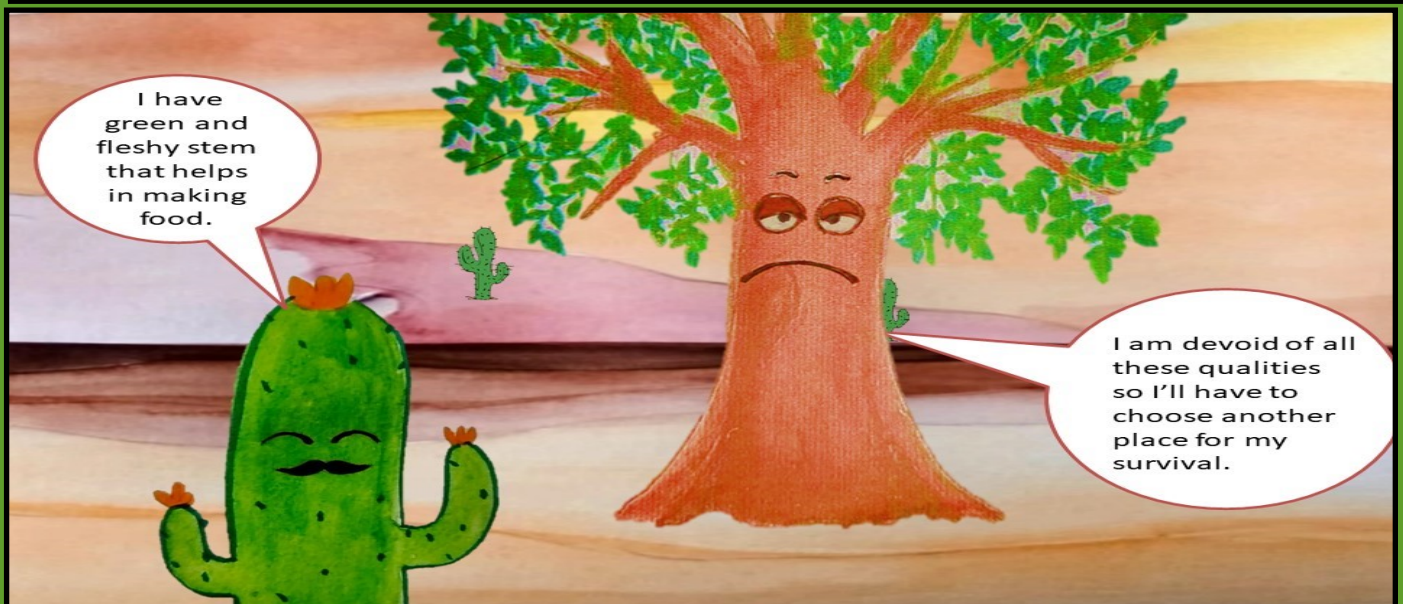
It was a bright spring morning. There was greenery all around. One could hear the chirping of birds & the rustling of leaves. Trees in the garden were swaying in the breeze and nature was at its best.

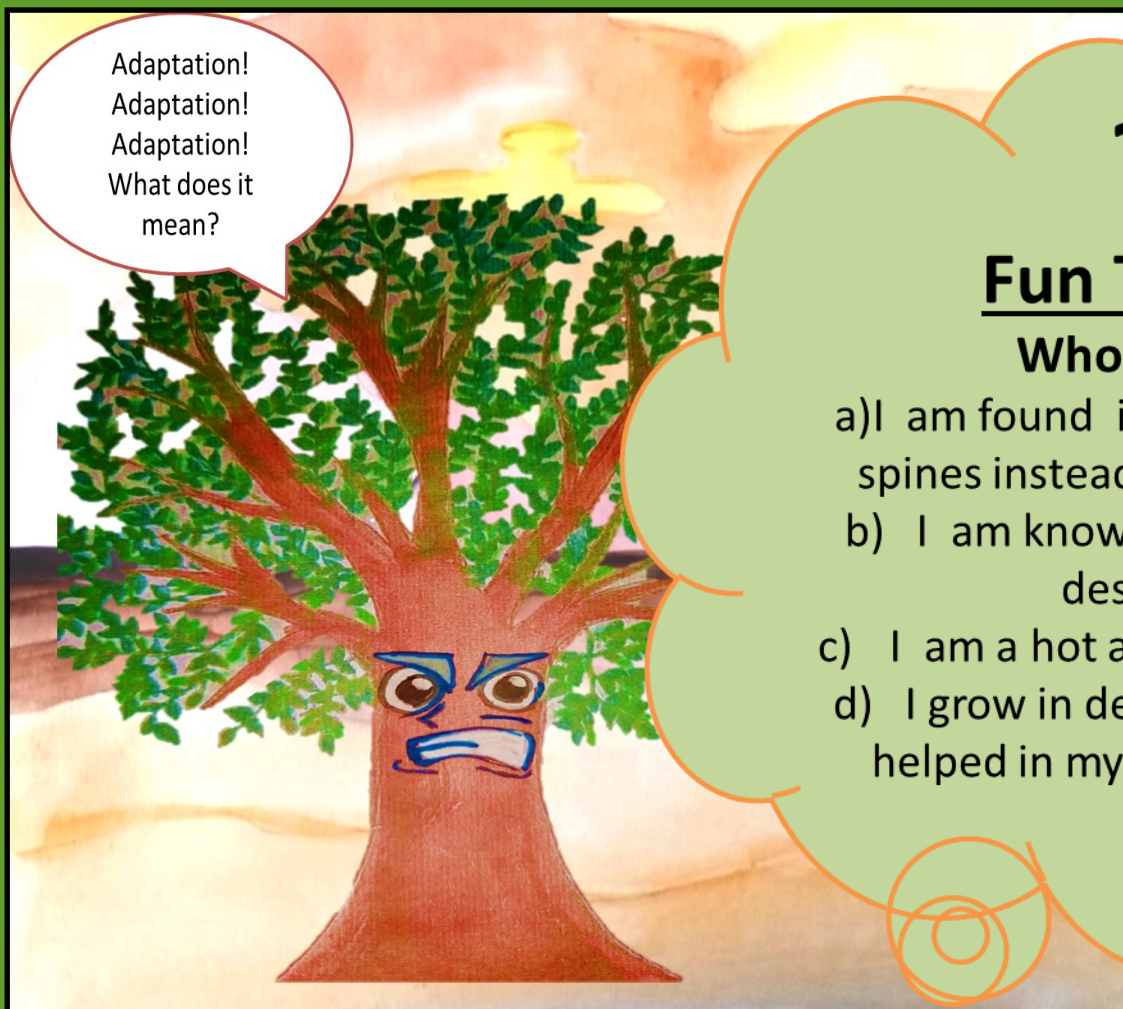
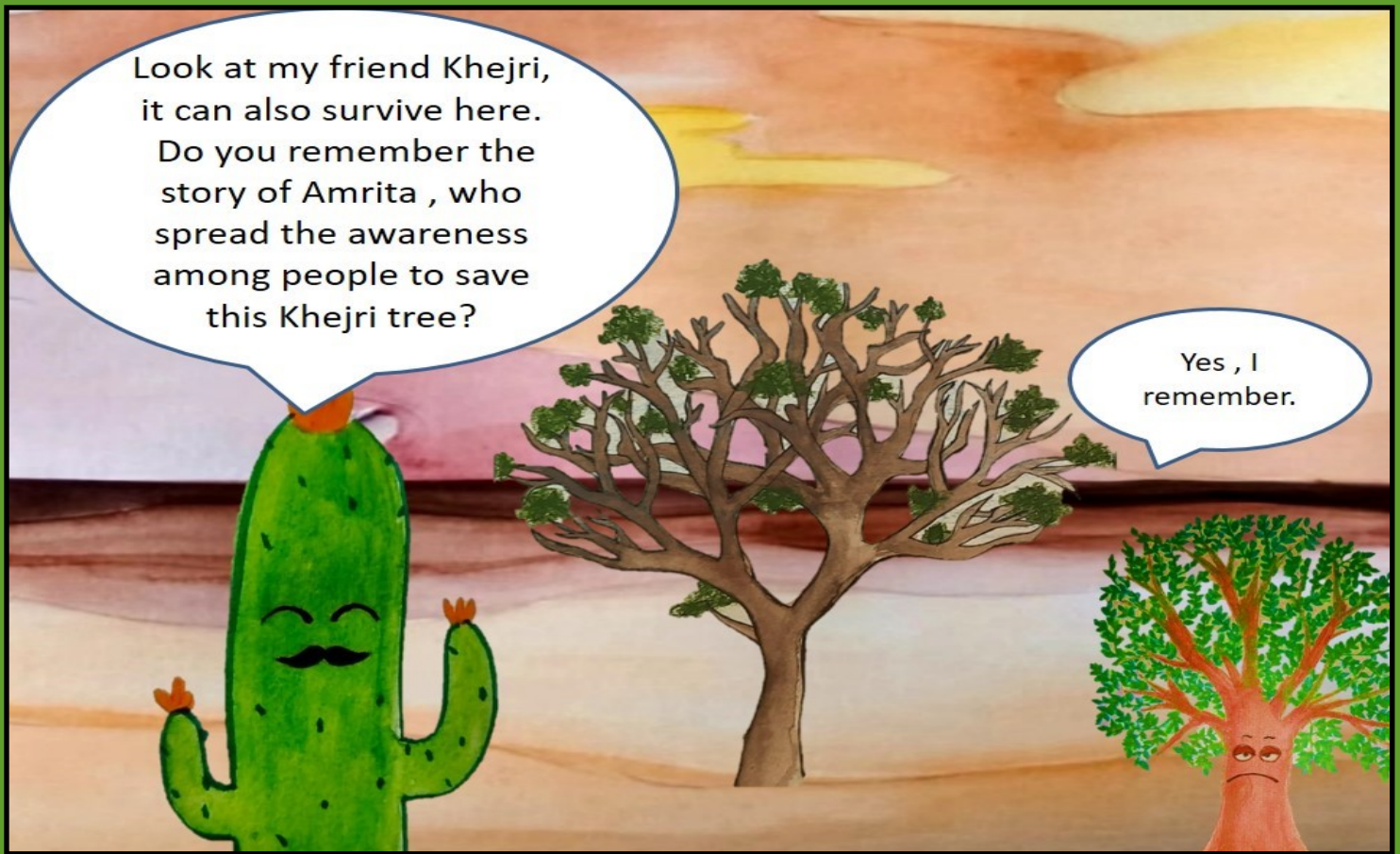




Mr. Neem felt offended and left the plains and decided to live in desert with his friend **Mr. Cactus** .







?

Fun Time!

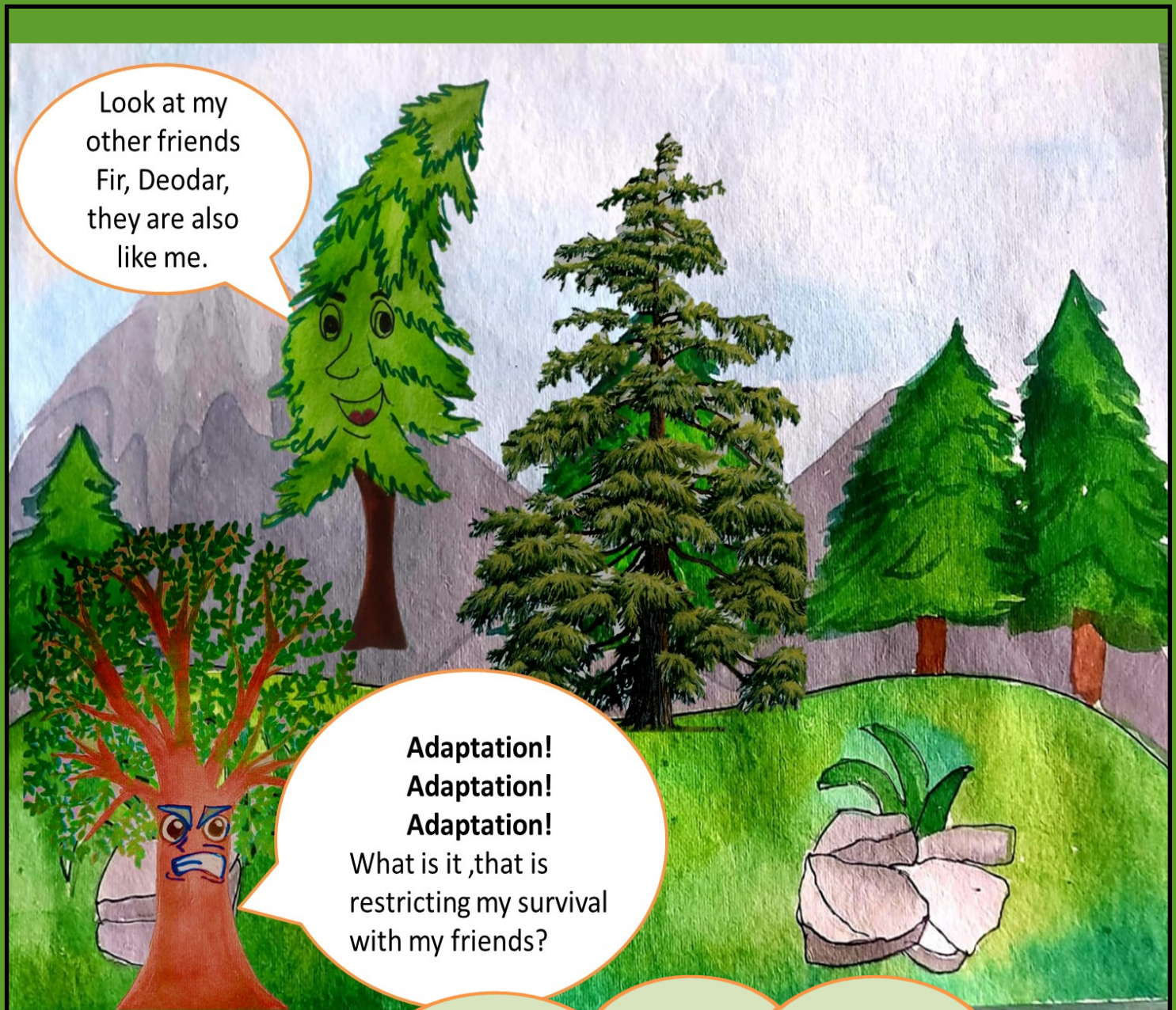
Who am I?

- a) I am found in desert ,I have spines instead of leaves. ____
- b) I am known as the ship of desert. ____
- c) I am a hot and dry place. ____
- d) I grow in desert and Amrita helped in my conservation ____

Mr. Neem decides to abandon his friend **Mr. Cactus** and now comes to his friend **Mr. Pine** in the mountainous region.







?

Fun Time!

Who am I?

- a) I am a conifer, get decorated on Christmas. ____
- b) I am found on conifers. Instead of flowers, I have seeds inside me. ____

With hope in his eyes **Mr. Neem** tree trudged ahead to a marshy area.

Friend shall
I stay here
with you?

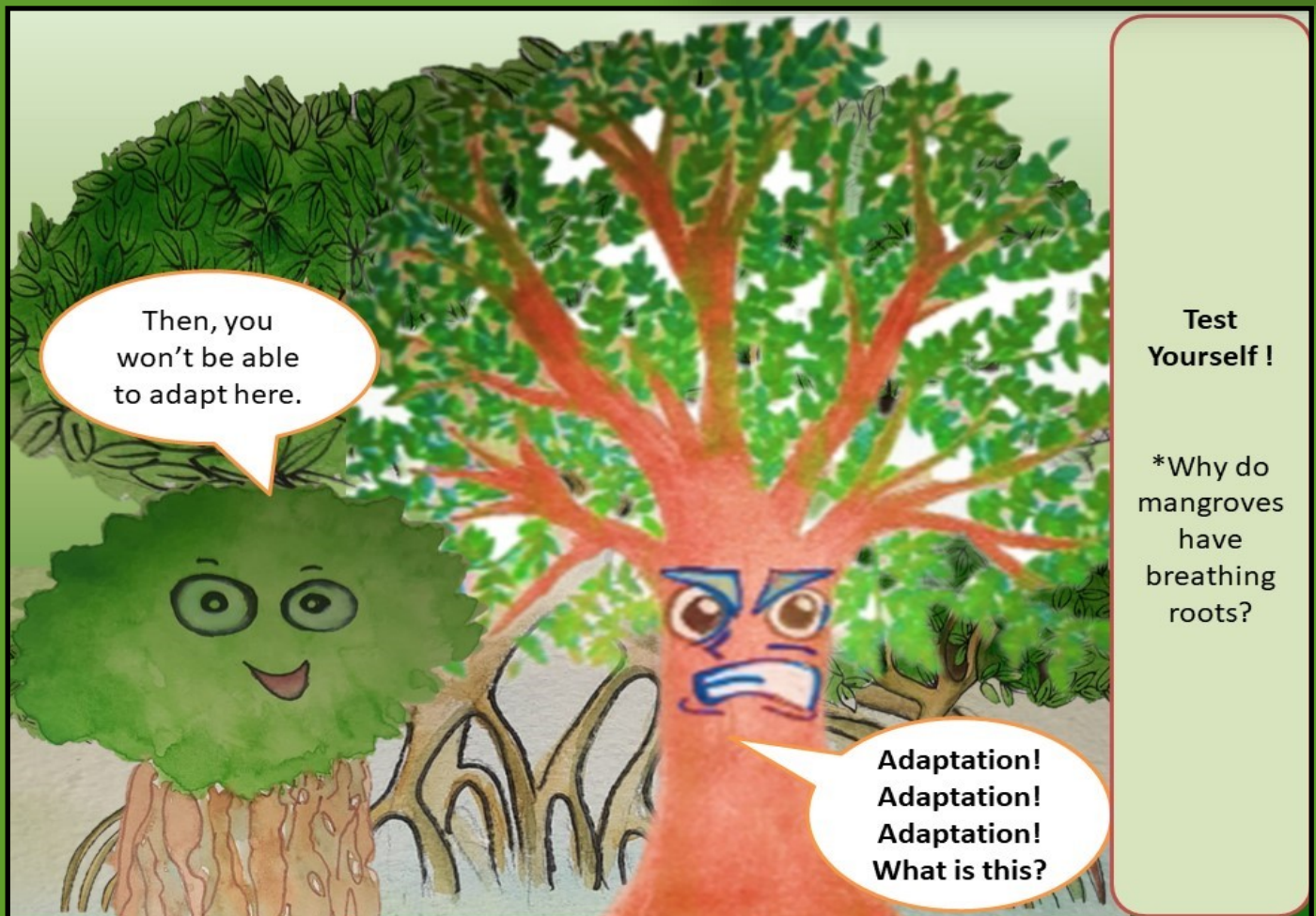
Will you be
able to adapt
yourself
here?



Sorry ! I am not
getting you?
What specific
features are
required to
survive here?

We are
mangroves.





Exhausted of wandering to different places **Mr. Neem** decided to go to a nearby pond to quench his thirst.

On the way to the pond he met his friend **Mr. Pitcher**.



Hello friend!! How are you?
Oh!! Take care!! An insect is trying to enter inside you!!

Don't worry dear! I am an insectivore. I enjoy eating insects.



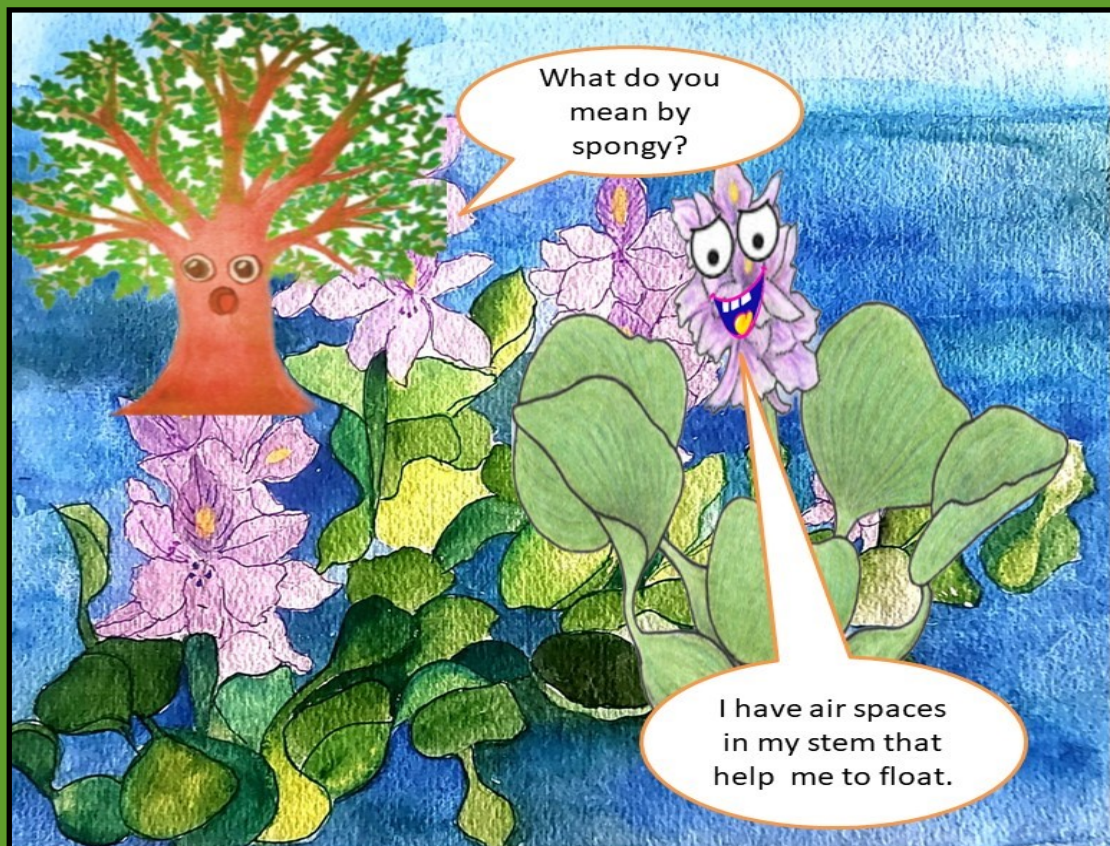
What ? You eat insects!!

Yes. I and some of my friends like Sundew, Venus flytrap live in soil that is deficient in nitrogen.

Test Yourself !

*What are insectivores?
Name some insectivorous plants.

On reaching the pond and looking at the aquatic plants blossoming in water he finally resolves to stay there.



Test yourself!

***Name some floating plants.**

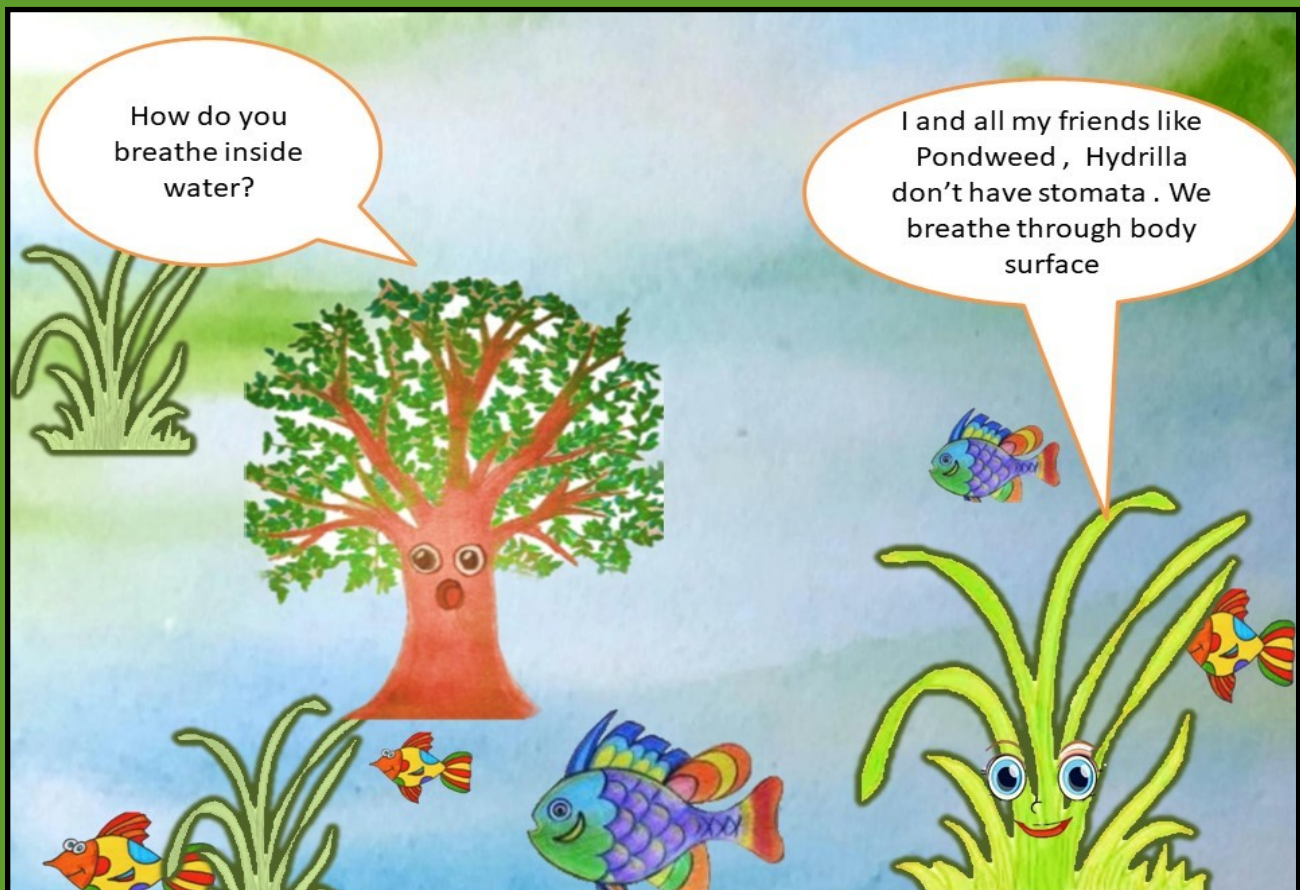


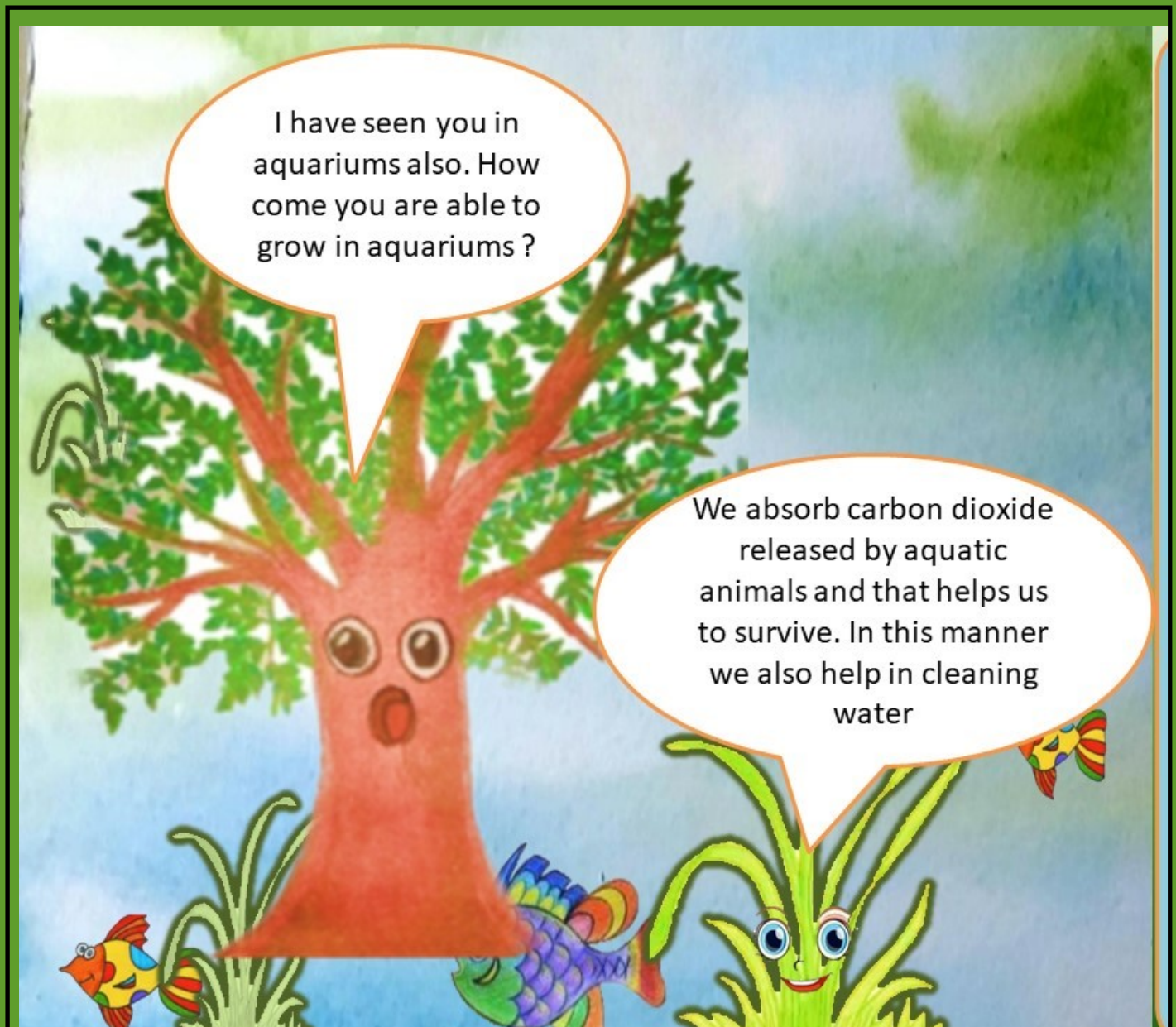


Test Yourself!

*What are the
features of fixed
aquatic plants?

Looking at the plants growing inside water Mr. Neem decided to stay with them.





I have seen you in aquariums also. How come you are able to grow in aquariums ?

We absorb carbon dioxide released by aquatic animals and that helps us to survive. In this manner we also help in cleaning water

Test yourself!

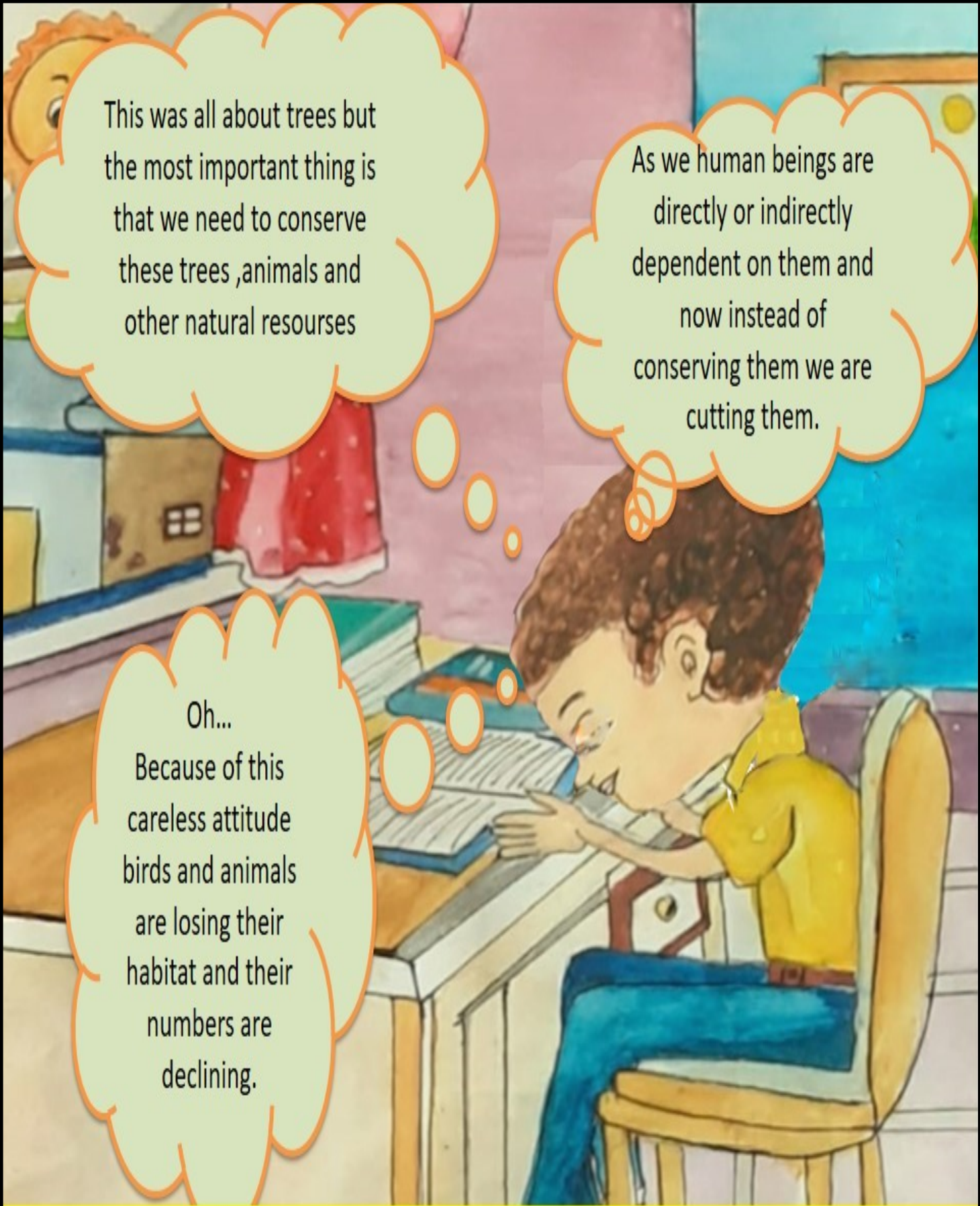
***Name some floating plants.**

Mr. Neem understood that one should possess specific traits for survival in a particular habitat & that is known as adaptation . He is also endowed with distinctive features(woody stem,medium size elongated leaves,several branches and tap root system) suitable for survival in plains. So, he returned to his friends Mango, Gulmohar, Peepal , Ashoka etc. to live in plains.



The trees were delighted on his arrival and they all marvelled at the bounties of nature.





This was all about trees but
the most important thing is
that we need to conserve
these trees ,animals and
other natural resourses

As we human beings are
directly or indirectly
dependent on them and
now instead of
conserving them we are
cutting them.

Oh...
Because of this
careless attitude
birds and animals
are losing their
habitat and their
numbers are
declining.

We need to develop a sense of kinship with the natural environment

The alarm bell rang and Brahmaddutt woke up.....



Glossary

Word	-	Meaning
* distinctive	-	distinguishing
*bitterness	-	lack of sweetness
*penetrate	-	make a hole in
*emerge	-	come out
*trudged	-	to walk slowly
*swaying	-	move slowly from side to side
*varied	-	diverse
* marvelled	-	filled with wonder, excitement
*bounties	-	gifts, rewards

Key words

- Conservation – wise and judicious use of natural resources
- Adaptation-Special features that help a plant to survive in a particular habitat
- Habitat- Place where a plant grows naturally
- Terrestrial Plants-Plants that grow on land
- Aquatic Plants-Plants that grow in water
- Desert-Hot and dry place
- Mangroves-Plants which grow in marshy areas

Book Exercises

Q1. Multiple choice Questions

- i) Plants which grow on land are called
 - a) Aquatic b) Terrestrial c) Conifers d) Mangroves
- ii) In which part of plant food is prepared in cactus
 - a) Leaves b) Roots c) Stem d) Flowers
- iii) Stomata are present on the upper surface of leaves in
 - a) Lotus b) Hydrilla c) Duckweed d) Tapegrass
- iv) Plants of marshy land are called
 - a) Conifers b) Mangroves c) Aquatic d) Terrestrial
- v) Which of the following is a medicinal plant?
 - a) Mango b) Cactus c) Peepal d) Neem

Q2.Fill in the blanks

- i) Hot and dry places are called _____.
- ii) Mountain plants bear _____ instead of flowers.
- iii) Underwater plants have _____ shaped leaves.
- iv) In cactus _____ are reduced into spines.
- v) Ceriops grow in _____ land.

Q3.Match the column

- | | |
|-------------------|-------------------------|
| i) Water hyacinth | a. saucer shaped leaves |
| ii) Lotus | b. breathing roots |
| iii) Fir | c. terrestrial plants |
| iv) Mango | d. needle shaped leaves |
| v) Mangroves | e. floating plants |

Q4. Write the following sentences as true or false

- i) Hydrilla is an underwater plant.
- ii) Neem tree bears cones.
- iii) Conical shape of conifers helps to slide off snow.
- iv) Water hyacinth has air spaces in its stem.
- v) Duckweed is used for cleaning water in aquarium.

Q5. Unscramble the jumbled words.

- i) Tsterliarte ii) Atapdionta iii) cniosfre iv) Mnagoresv v) hbiatat

Q6.Crossword puzzle

Across

- i) Plants that grow on mountains
- ii) It is a floating plant
- iii) Hot and dry place.

Down

- iv) Long and hollow stem
- v) Special features that help a plant to survive in its habitat

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SUMMARY

Different plants and animals live in different surroundings. The surroundings where organisms live is called habitat. Characteristics of the plants vary depending upon their respective habitats. The presence of specific features or certain habits, which enable a plant or an animal to live in its surroundings, is called adaptation. A desert is an example of terrestrial habitat. The land is very dry and has very little water. The roots of plants in the desert may go deep as much as 18 to 20 meters to absorb water deep under the surface of the soil.

Some of the plants found in deserts, store water in their stems or leaves. These are also called succulents. The thorns on a cactus are like their replacement for leaves. They have a waxy coating on stems and leaves to help reduce water loss. Mountainous regions have harsh climate. Plants adapt to the high altitude climate in the following ways- Trees that grow in the mountainous regions are coned shaped and hence called conifers. They are shaped like cones to shrug off the snow easily. Conifers have needle-shaped leaves, which are very tough and can survive the cold climatic conditions. These are evergreen trees. Trees such as pine, fir, spruce and cedar are types of conifers.

Some trees shed their leaves during winter and grow them back during spring. Such trees are called deciduous trees. Maple, Oak, birch, beech are such trees. They shed their leaves to conserve water and withstand winter.

Plants growing in such aquatic habitats are called aquatic plants. Plants such as water lilies and lotus have roots that fix the plant in the soil at the bottom of the water body. These are called fixed plants. Their stems are hollow, light and very flexible. Their leaves are flat to help float on the surface of the water. The stomata are present on the upper surface of the leaves. Plants which are completely submerged under the water are called submerged plants.

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