Issue 19 I Feb 2025 I ₹40

CurioBuddy's

The Qurious Atom

A SARK PROMOTIONS PUBLICATION

Bloom and Grow

This issue of The Qurious Atom goes on an adventure to learn more about plants and learn the magic of gardening. From making compost and playing games to reading unputdownable stories, this edition has it all.

ABOUT THE COVER

A cute young girl wearing a pink shirt with a heart and blue jeans holding a baby plant up to the sunlight next to a sustainable flower garden with seeds. She has kept a small notebook and a test tube beside her. The background has pretty heart shaped flowers and large leaves with a butterfly flying by.

Pg 14

DIY Birdhouse

The Qurious Atom | Issue 19 | 28 February 2025 | Monthly | India | ₹40

CONTENTS

Meet Oddy!

Our Curious Explorer

Hey friends! I'm Oddy the Octopus—curious, clever, and full of ideas! With my eight arms, I explore mysteries, solve puzzles, and bring science to life. Let's discover the secrets to a successful garden.

Get in Touch

curiobuddy.com

contact@curiobuddy.com

+91 91190 91954

For Parents

Encouraging curiosity and a love for learning is one of the greatest gifts we can give children. The Qurious Atom (TQA) is crafted to nurture young minds through engaging science stories, hands-on activities, and fun experiments. Designed for ages 8-15, it makes learning enjoyable while motivating critical thinking and other 21st century skills in kids. Through this special edition, children will not only discover the importance of saving our planet but also learn how they can be planet saviours by taking small, meaningful actions.

This Month

National Science Day 2025, themed "Empowering Indian Youth for Global Leadership in Science and Innovation for Viksit Bharat," celebrates C.V. Raman's discovery and encourages young minds to lead in scientific innovation for a developed India.

Bloom with Science!

Spring is a time of transformation, where tiny seeds sprout into towering trees and flowers bloom in a riot of colors. In this edition, we celebrate the magic of plants—their hidden superpowers, unique ways of growing, and their essential role in our planet's health. From the science of plant reproduction to quirky botanical facts, we dive deep into the green world around us.

But it's not just about learning—we also explore how we can care for plants and create a greener future. Whether it's through gardening, protecting natural spaces, or simply appreciating the beauty of a blooming tree, every small effort makes a difference.

Let's welcome the season of growth with curiosity and wonder—because just like plants, knowledge and ideas flourish when nurtured! Enjoy reading!

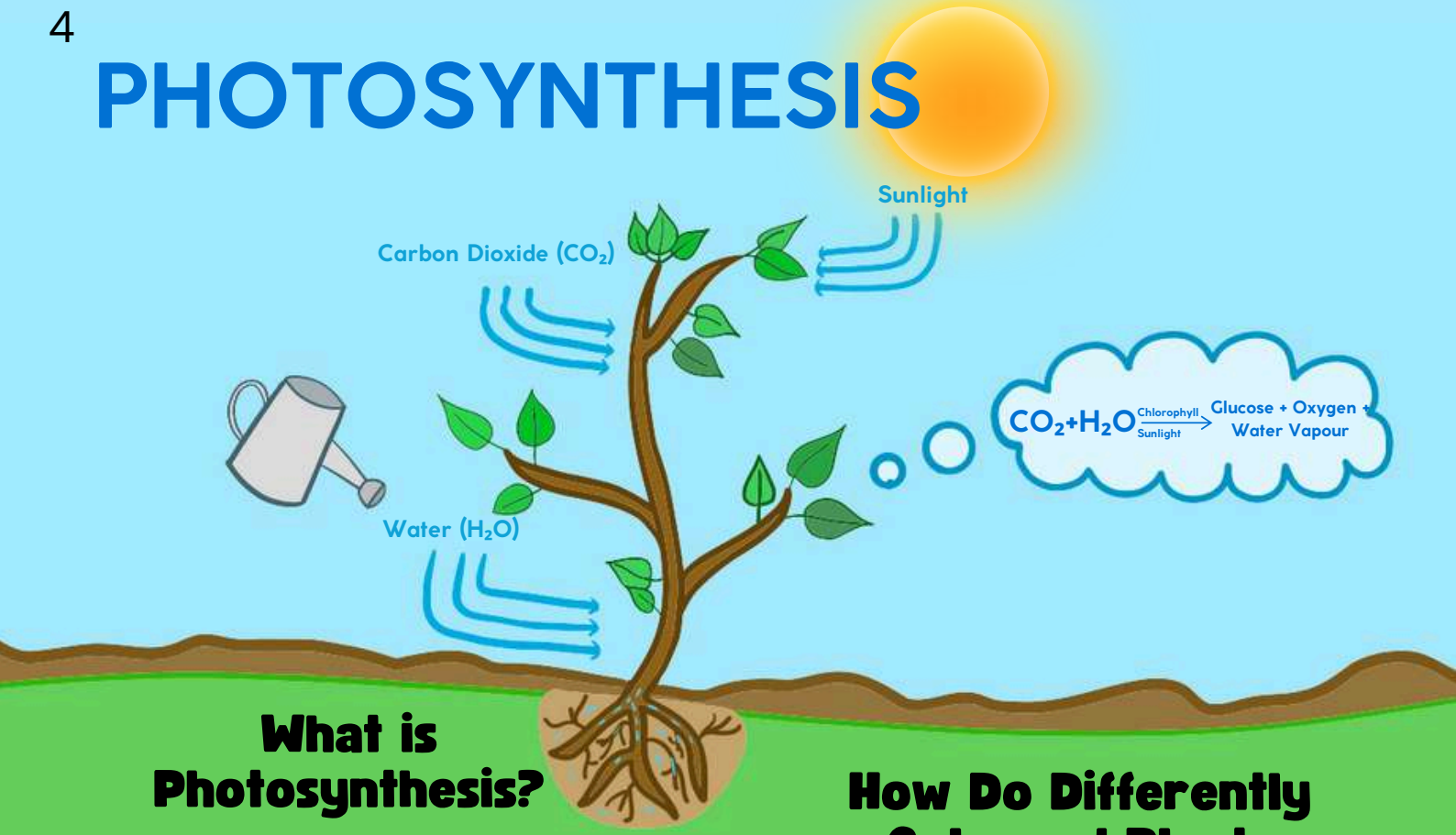
–Your friend, Kanira.

About Us

The Qurious Atom (TQA) is an exciting science magazine designed for curious minds aged 8–15. Co-created by science explorer kids like our chief editor, Kanira Gupta (10 years) and academicians, TQA blends fun and learning through illustrated articles, hands-on experiments, brain-teasing puzzles, and fascinating science stories. Each digital issue explores themes like space, biology, chemistry, and technology. We make science easy and engaging for our primary and middle school learners. TQA also highlights real-world applications, inspiring young readers to think critically and explore solutions for a better future. With interactive activities, science news and captivating facts, TQA sparks curiosity, builds knowledge, and encourages creativity. Join us in making science fun and inspiring for the next generation of innovators!

SCAN HERE

PHOTOSYNTHESIS



What is Photosynthesis?

Photosynthesis is the process by which plants make their own food using sunlight, carbon dioxide, and water in the presence of chlorophyll. During this process, plants absorb sunlight through their leaves, use it to convert water and carbon dioxide into glucose (a type of sugar), and release oxygen into the air. This helps plants grow and provides the oxygen we breathe!

How Do Differently Coloured Plants Photosynthesise?

Plants with other colours photosynthesize using chlorophyll, just like green plants, but they also have differently coloured pigments in larger amounts, which mask the green color. Chlorophyll still absorbs light, allowing photosynthesis to happen!

KNOW A SCIENTIST

Jan Ingenhousz (1730 to 1799) was a Dutch-born British scientist, who discovered that light is essential for photosynthesis. Through experiments in the 1770s, he proved that only the green parts of plants release oxygen in sunlight while absorbing carbon dioxide. His work built on earlier studies of plant respiration helped explain how plants contribute to the Earth's oxygen supply. A physician and biologist, Ingenhousz made significant contributions to science, leaving a lasting impact on our understanding of plant life.

COMPOSTING 101

Composting is the natural process of recycling organic materials, such as food scraps and garden waste, into a rich soil conditioner known as compost. This process involves the decomposition of organic matter by micro-organisms like bacteria and fungi, resulting in nutrient-rich compost. This compost can be used to improve soil health and support plant growth.

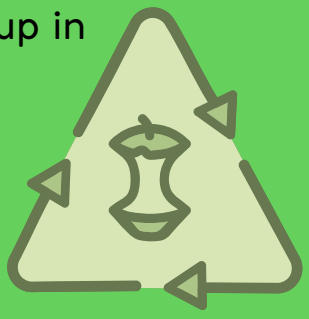
Benefits of Composting

1. Reduces Waste

Composting helps divert organic waste from landfills, reducing the amount of trash that ends up in landfills and lowering greenhouse gas emissions.

2. Improves Soil Health

Compost enriches the soil with essential nutrients, improves soil structure, and enhances its ability to retain moisture.



3. Supports Plant Growth

Using compost in gardens and farms promotes healthy plant growth, leading to higher crop yields and more vibrant gardens.

4. Reduces the Need for Chemical Fertilisers

Compost provides a natural alternative to chemical fertilisers, reducing the environmental impact of agricultural practices.

Getting Started with Composting

Follow these steps to create your own compost pile:

1. Select a well-drained and ventilated area in your garden or balcony for your compost pile or bin.

2. Collect a mix of kitchen scraps, used tea/coffee grounds, grass clippings and dried leaves.

3. Keep the compost pile moist, but not soggy.

4. Every few weeks, turn the compost pile with a pitchfork or shovel to aerate it and speed up the decomposition process.

I WONDER WHY?

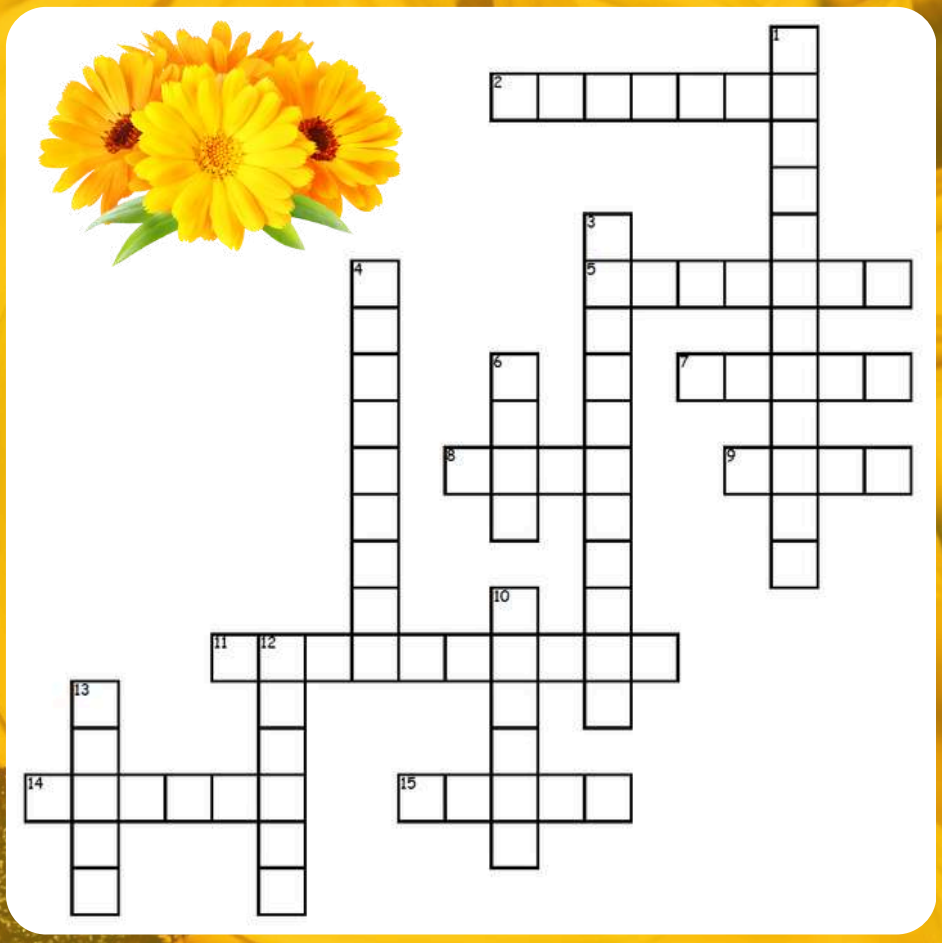
LOTUS PLANTS DON'T SINK

Lotus plants don't sink because their stems are hollow and filled with air. These air sacs provide buoyancy and allow the plants to float on the water's surface. Essentially, the air pockets in the stem act like a life jacket, keeping the plant afloat.

FLOWERS ARE OF PRETTY COLOURS

Many plants rely on insects or birds to spread their pollens. Bright colours draw these insects such as bees and butterflies, or even birds and bats to sip the flower's nectar. As they sip that juice, they pick up pollens which are carried to the next flower they sip.

GROOVY GARDEN CROSSWORD



ACROSS

2. I am a type of organic fertiliser. I improve the soil fertility and make it highly nutritious.
5. A beneficial garden insect, my average life span in the wild is 11-13 months.
7. We are called decomposers. We wiggle and live deep in soil.
8. I am a tool. People use me during the fall to collect all the leaves!
9. Eaten mostly in sweets, we are technically 'inverted flowers' and not fruits. We need a special wasp for pollination.
11. I help gardeners dig in soil, but small enough to fit in one hand.
14. I help people dig, but am big enough to use with both hands.
15. We grow easily in any garden. People don't like it when we invade a green space.

DOWN

1. I am the only fruit that bears seeds on the outside.3. We are small, round, dark blue fruits that are often eaten fresh and are packed with antioxidants.
4. I am what people like to plant vegetables and flowers into. I can be small or large and usually shaped like a rectangle.
6. I am a nitrogen-fixing plant. My produce is edible. It is used in many cuisines.
10. Bees collect us to help flowers, fruits, and vegetables reproduce.
12. We are fruits that come in many different colours and belong to rose family. People love baking us in pies too!
13. This insect sucks sap from the plant leaves.

ANSWER

7 Fascinating FACTS About... PICTURESQUE PLANTS

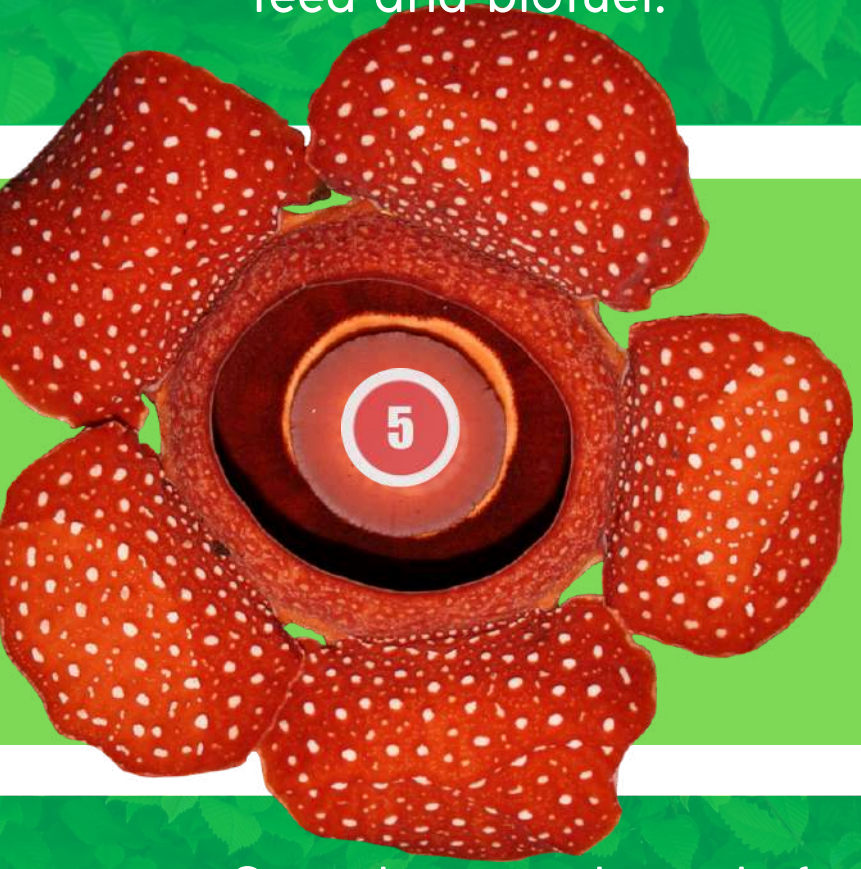
Plants may look peaceful, but they have some seriously weird tricks- sneaky, stinky, explosive, and even zombie-like. Get ready to be amazed!

1. Even after being clipped, tulips refuse to stop growing! Pop them in a vase, and they'll stretch an inch a day, like they're trying to escape!

2. At around 380 feet (which is about 70 humans stacked on top of one another), the Coast Redwood tree also known as Hyperion is the tallest tree in the world.

3. Mimosa pudica commonly known as 'touch-me-not' displays human-like behaviour when touched, similar to our squirming behaviour when tickled. This happens due to turgor pressure.

4 Elephant grass, a fast-growing tropical plant, can reach up to 14 feet tall! Its dense stalks provide shelter for wildlife like elephants and rhinos, and it's also used for animal feed and biofuel.



5 Rafflesia is the world's biggest flower, growing up to 3 feet wide! It has no leaves or stems and smells like rotten meat to attract flies.

6 Strawberry is the only fruit with its seeds outside. A single strawberry has over 200 seeds.

7 Some plants can explode! The sandbox tree (also called the dynamite tree) has seed pods that burst open with a loud bang, shooting seeds up to 100 feet away!

RULES

1. Each player rolls the dice. The highest roll goes first, and turns proceed clockwise.
2. On each turn, a player rolls the dice and moves their token the corresponding number of spaces forward.
3. The first player to reach the end of the garden path wins the game.

Name a flower pollinator

Skip your turn

Find a leaf from plant or tree

Move forward 3 spaces

?

Which type of trees shed their leaves annually?

?

What is the process where plants use sunlight to create food?

?

What is the primary function of a flower in a plant?

?

What is the best time of day to water your plants to minimize water evaporation?

SPECIAL SPACES

Some spaces require a particular action. Players must either answer the corresponding question or complete the task when they land on a special space. If they answer correctly, they stay in the space. If they answer incorrectly, they move back two spaces.

FINISH

ARDEN LORERS

Move back 3 spaces

Skip your turn

Name 3 things used for composting

Name 3 garden insects

Move back 3 spaces

Skip your turn

Move forward 3 spaces

Move back 3 spaces

Draw a picture of a flower

ect a pebble k from side

BONUS SPACES

Move the spaces in the direction of arrow, if a player lands on a either a bridge or a flower

Ch-18: Blossoms and Balance - Animals in Alliance

February in Jungle Grove was the perfect mix of cool breezes and warm sunshine, signalling the arrival of spring and the final exams. While the students were focused on studying, Ms. Dorothea Deer had something exciting planned for science class.

"Tomorrow, each of you will bring a special flower for an experiment," she announced. "We'll explore the wonders of science through nature!"

The next day, the classroom was a burst of colour as students brought roses, tulips, marigolds, and even a rare orchid from Mina the Mouse. Ms. Deer introduced the experiment: they would test how flowers respond to different conditions—light, temperature, and even gravity.

Mandy and Emma the Elephant decided to see how flowers react to heat. They placed one daisy under a lamp and another in the shade, observing how quickly the petals wilted. Meanwhile, Max Monkey and Tanya Tiger tested how flowers reacted to different amounts of water, and Mina placed her orchid upside down to see if it would grow differently.

STORY

As they recorded their observations, a sudden problem arose—Emma gasped as her daisy, placed under the lamp, started turning brown at the edges.

"Oh no! I think we gave it too much heat!" she said.

Ms. Deer nodded. "That's an important lesson. Heat can speed up a flower's metabolism, causing it to lose water too quickly and dry out."

Mandy frowned. "But what about real flowers outside? Spring gets

warmer every year. If plants overheat, won't they struggle to survive?"

"That's exactly why we need to protect our environment," Ms. Deer said. "Deforestation and climate change can make the planet too hot for plants to thrive. That's why gardens and green spaces are so important!"

The students discussed ways to protect plants—planting more trees, keeping plants in shady areas, and even developing heat-resistant crops.

By the end of the lesson, the students weren't just thinking about flowers anymore—they were thinking about the future of the planet. Mandy left school that day feeling excited, realizing that science wasn't just about learning facts. It was about finding ways to protect the world around them.

Activity Alert!

Mandy and her friends learned how heat, water, and gravity affect flowers. Now, it's your turn to be a scientist!

What You Need:

- Two flowers (like daisies or marigolds)
- A small lamp or a sunny spot
- A shady or cool place
- Two cups of water
- A notebook to record observations

What to Do:

1. Place one flower in direct sunlight (or under a lamp) and the other in the shade.
2. Check on them every few hours—do the petals change? Does one wilt faster?
3. Water one flower daily and leave the other without water. What differences do you notice after two days?

Think About It!

- What happened to the flowers in different conditions?
- How does this experiment relate to climate change?
- What can we do to help plants survive in a warming world?

Watermeal is the smallest flower in the world, barely measuring a millimetre.

DIY Birdhouse

Materials Needed:

Birdhouse Body (you can use old plastic bottles, juice cartons, cardboard boxes etc), Scissors, Popsicle Sticks, Paint/Coloured Pens, Stickers, Twine/String, Glue

How to Make:

1. Take inspiration from some of the references on this page.
2. Next, pick up your box/bottle and cut a hole in it with the help of an adult.
3. Cut off the top of the box and paste popsicle sticks to form a roof.
4. Paint it however you like and decorate it with stickers, coloured pens or any other material.
5. Attach twine or a strong string on the top and let it dry.
6. Hang your finished birdhouse on a tree and wait for birds to move in! You can also keep some bird food inside.
7. Try to make another birdhouse in a different style. Maybe you could use shoe boxes or old containers or decorate it with ribbons and colourful rocks.

Enjoy crafting with your creativity. Share your craft with us on email to submissions@curiobuddy.com

Myths ⟷ Facts

BUSTING COMMON PLANT MYTHS!

✗ **Myth 1: Talking to plants helps them grow.**
✓ **Fact:** While plants don't "listen," talking to them releases carbon dioxide, which may slightly benefit their growth. However, increased attention, proper watering, sunlight, and nutrients matter much more!

✗ **Myth 2: Bananas help roses bloom faster.**
✓ **Fact:** Banana peels contain potassium, which benefits plants, but they don't work instantly! It's better to use compost or balanced fertilisers for long-term growth.

✗ **Myth 3: Plants grow better with more fertiliser.**
✓ **Fact:** Over-fertilising plants can actually be harmful. Too much fertiliser can cause imbalance, root burn and reduced plant growth.

✗ **Myth 4: Cactus and succulents don't need water.**
✓ **Fact:** Drought-tolerant plants like cacti need regular watering, especially during their establishment period. Overwatering surely harms them, but occasional deep watering helps keep them healthy and thrive during prolonged dry spells.

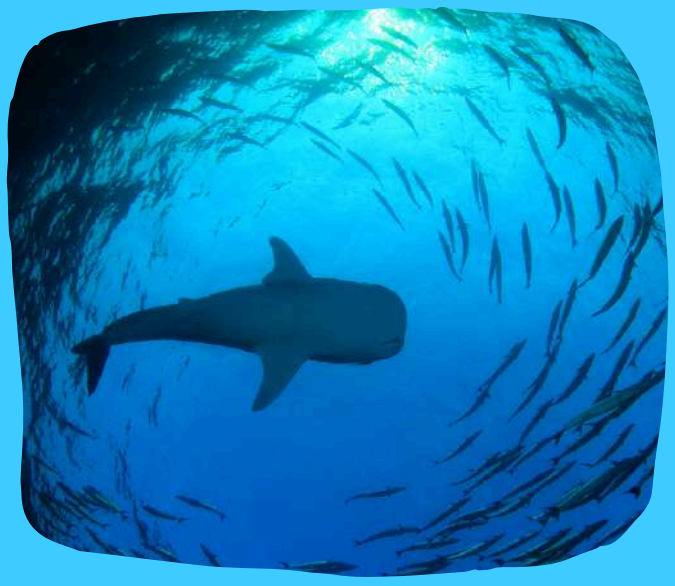
✗ **Myth 5: Coffee grounds are great for all plants.**
✓ **Fact:** While coffee grounds add nutrients, they are acidic and may not suit every plant. It's best to compost them first before using them in the garden. Learn how to do composting at page 5.

Remember, a well-informed gardener is a successful gardener. Keep experimenting and growing your gardening knowledge with The Qurious Atom!

Whales

Biggest Heart Ever!

Whales have the biggest hearts - literally. Their hearts weigh around 400 pounds (roughly 180 kilograms). That's the weight of an average male lion!



La! La! La!

Singing songs up to 20 minutes long, the humpback whales are amazing singers whose voices can be heard miles away. Taylor Swift has some competition!

February 16th is observed as the World Whale Day.

Whales have a long lifespan with some living up to 200 years old.

DID YOU KNOW?

My Family

Dolphins are a kind of whales. As a matter of fact, the killer whale is also one of the 37 kinds of dolphins. The whales, dolphins and porpoises- all belong to cetaceans family.

Where do whales sleep?
On the ocean bed!

Carnivorous Plants

Bugs don't eat these plants, these plants eat bugs! Let's hop into the interesting world of carnivorous plants.

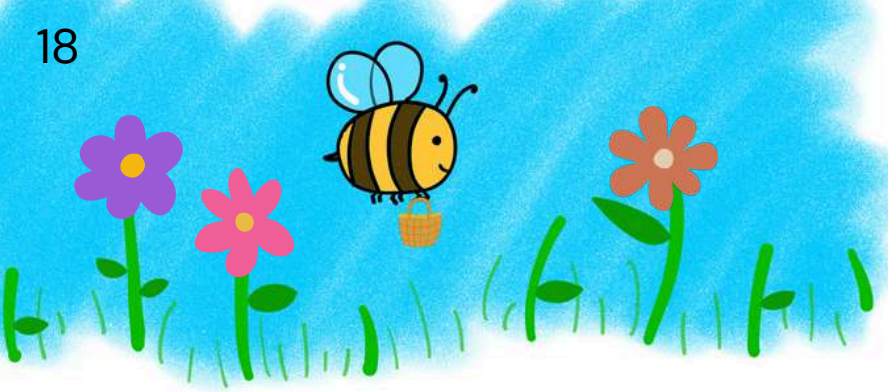
These bug-eating plants have tricks up their sleeves (or stems) to attract innocent bugs. Take the sundew for instance - it has a sticky substance on its tips that looks like water to lure thirsty creatures. Some insectivorous plants have bright colours to attract insects.

Carnivorous plants are not only present on land but also underwater. Examples of underwater carnivorous are bladderworts.

Survival of the Fittest

The 700 or so carnivorous species present today flourish in areas like heaths and bogs where other plants find it difficult to survive.

Such plants generally grow in nutrient-deficient soil and eat insects and other small animals to fulfill their need of nutrients.



Buzzy's Busy Day

Hello there! My name is Buzzy, and I'm a honeybee. You may have seen bees like me flitting from flower to flower, working hard under the bright sun. My job? Oh, it's very important! I collect nectar from flowers to make honey for my hive. You know that sweet, golden honey you love to spread on toast? Well, guess what? It takes nectar from about 660 flowers to make just one tiny drop of honey! Imagine how many flowers my hive needs to visit every day.

This morning, as soon as the sun peeked over the hills, I stretched my six legs, fluttered my wings, and set off on my journey. The wind felt cool against my fuzzy body as I buzzed through a meadow filled with colourful flowers.

'Ah, what a wonderful day to work!' I hummed, diving into a bright yellow sunflower. I carefully used my long tongue, called a proboscis, to sip the sweet nectar hidden inside. As I did, golden pollen dusted my legs. That's another part of my job—helping flowers grow by spreading pollen from one to another. Without bees like me, many plants wouldn't be able to make fruits or seeds!

Story

Just as I was about to fly off, I heard a tiny voice.

'Hey, Buzzy! Off to work again?'

I turned to see Flutter, a bright blue butterfly resting on a daisy.

'Of course, Flutter! No time to waste,' I said cheerfully. 'The hive depends on me!'

Flutter flapped her delicate wings. 'I admire your hard work! I sip nectar too, but I don't make honey like you.'

'That's okay,' I said, wiggling my antennae. 'You help flowers in your own way by spreading pollen when you visit them.'

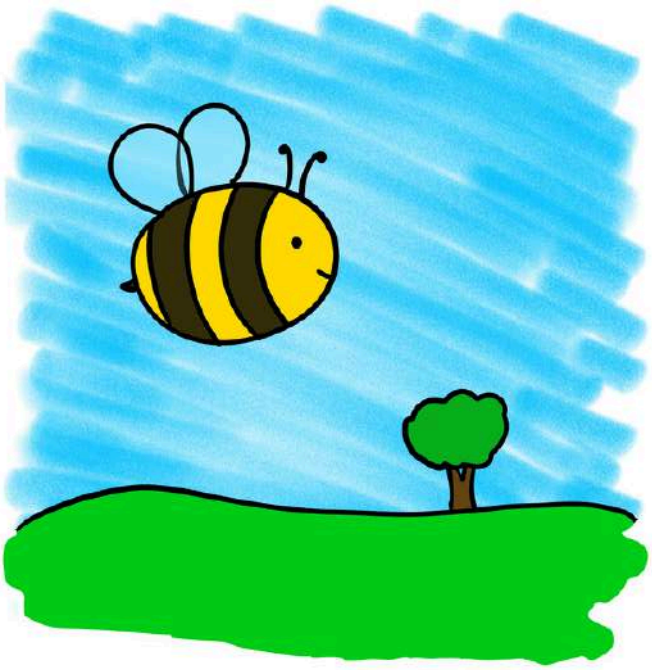
Flutter smiled and wished me a good day before gliding away. I continued my journey, visiting lavender, daisies, and marigolds. Each flower had its own scent and flavor of nectar.

As I was deep inside a tulip, a small chirping sound caught my attention.

'Buzzy! Look out!'

I quickly backed away just as a giant shadow swooped overhead. It was Swoosh, the swallow.

'Phew! That was close!' I said, my wings still buzzing fast.



Swoosh circled back and grinned. 'Relax, Buzzy! I don't eat bees. I prefer juicy insects like mosquitoes. But be careful—there are birds out there that wouldn't mind a crunchy snack like you.'

I shivered at the thought. Being a bee isn't always easy! Besides hungry birds, I have to watch out for bad weather, strong winds, and even humans who swat at us when we get too close.

'Well, I better get back to work,' I told Swoosh. 'See you around!'

By noon, my tiny wings were getting tired. I had visited hundreds of flowers, filling the special pouch in my belly with nectar. Now, it was time to head home.

Back at the hive, I entered through the small opening and was greeted by my sisters. That's right—most of us worker bees are girls! The hive was alive with activity. Some bees were storing nectar in honeycombs, while others were fanning their wings to turn it into thick, sweet honey.

I passed my nectar to another bee, who carefully placed it into a hexagon-shaped cell. Soon, it would become honey, ready to feed our hive and keep us strong.

I sighed happily. It had been a busy day, but every flower I visited, every drop of nectar I collected, helped my family and the world around me.

As the sun set, I curled up inside the hive, ready to rest my wings. Tomorrow would be another buzzing adventure!

Science News

Planet Parade

As February comes to an end, a spectacular planetary alignment will take place. We will be able to spot a 7-planet parade that we haven't seen since 2004 and won't be able to see again until 2040.

NEWS UPDATE

When and where will we able to see this parade?
This alignment will be visible around 45 minutes after sunset on 28th February all the way from north to south India. For a good view of the planets, consider going to a dark location with minimal light pollution and clear skies. Sit outside for some time to adjust your eyes to the dark and get a good look.

Which planets will be visible?
There are better chances of seeing Venus, Mars, Jupiter and Uranus than other planets. Saturn and Mercury may be visible if you look closely but Neptune will be tricky to spot even with a good pair of binoculars or a telscope.

How Insects Benefit Plants

Pollination Power!
Bees, including the western bumble bee, are essential pollinators for many crops. Their decline—93% between 1998 and 2018—threatens foods like blueberries and tomatoes.

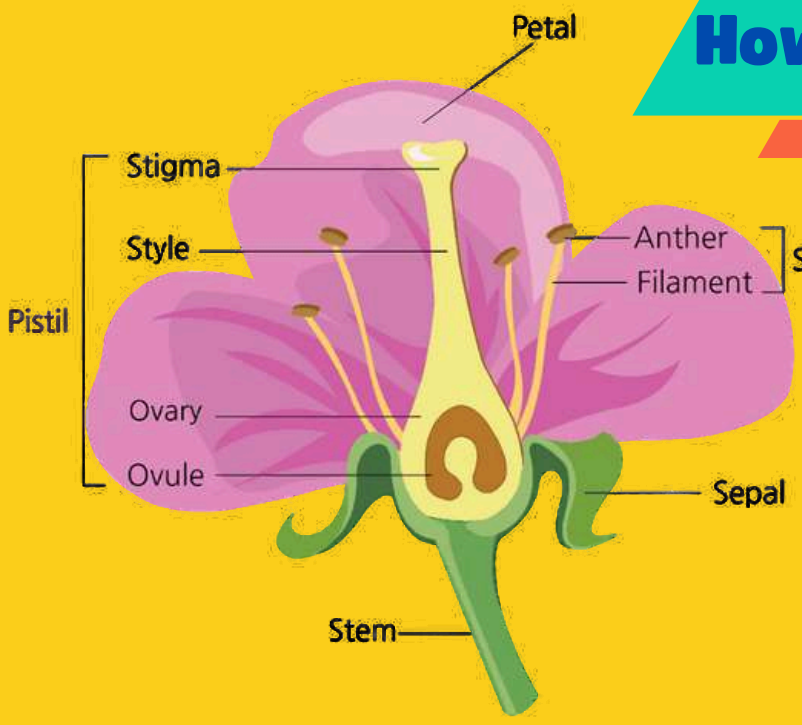
Water Filter Warriors!
Aquatic insects, such as the giant casemaker caddisfly, break down debris in wetlands, ponds, creeks, and streams, leading to cleaner water for plants, animals, and humans.

Did you know, only 1% or less of the insect species are considered pests that cause harm to crops and plants?

Another fun fact is that predatory insects help manage populations of other insects, reducing the need for chemical pesticides.

Unfortunately, insect populations are declining due to habitat loss with over 40% of species potentially facing extinction.

How Plants Reproduce



Plants reproduce through flowers, which have special parts to help create new seeds. The ovary is a key part of a flower—it holds tiny egg cells called ovules. When pollen from another flower lands on the stigma, it travels down to the ovary and fertilises the ovules. This process is called fertilisation, and it leads to the formation of seeds! Over time, the ovary turns into a fruit, protecting the seeds inside. That's how plants make sure new life keeps growing!

Fantastic Flowers

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

Sunflower
Daffodil
Orchid
Dahlia
Lily
Poppy
Rose
Daisy
Marigold
Tulip

Brought to You By:

CurioBuddy

Read our other kids magazine - THE KK TIMES - a monthly newsmagazine for school students (5-15 years). Send your submissions for publication on our email - submissions@curiobuddy.com

Want to be part of our magazines' editorial board? Write to us at contact@curiobuddy.com

Published By:

Let Us Help You Shine
SARK PROMOTIONS
WEBSITE, BRANDING, GRAPHIC, DIGITAL MARKETING

Follow CurioBuddy on social media and check out our interactive games, learning resources and CurioCamps at curiobuddy.com

Scan To Read More

The Qurious Atom and The KK Times are also available on Magzter website and app. Join our thriving WhatsApp Community for more engaging content.