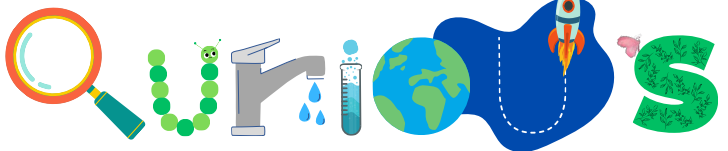


Dream,  
Draw,  
Design,  
Discover.



The



by the **The KK Times**



## Colourful Science

The human eye  
can see about 10  
million colours.

## ABOUT THE COVER

*Dazzling Colours Unveiled: Northern  
Lights, DNA Spirals, Striped Tigers,  
and Young Minds at Play—A  
Kaleidoscopic Journey into the  
Science of Colour, Enhanced by the  
Radiance of Gold.*

Pg 5

See a walking  
rainbow





**The Qurious Atom | Issue 6 | 31 January | Monthly | Ghaziabad**

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Page 4**

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Page 6**

**I Wonder Why? -  
Page 7**

**Story Time -  
Page 8 & 9**

**Hidden Picture  
Activity - Page 10**

**How Does Brain  
Work? -Page 11**

## *Note from the Editor:*

*Hi Guys,*

*The concept of colours in the universe is complex and extends beyond what the human eye can see. In terms of visible light, there are seven primary colours commonly remembered by the acronym VIBGYOR. But the universe has many more colours beyond these.*

*In this edition we have engrossing features like Fact Fairy, Let's Find Out, I Wonder Why, and Facts vs Myths. We also have an amazing story, a science experiment and articles on sleep, brain and on theme "Colour". Check out an original poem written by me.*

*We thank you for your support and time reading our articles. Be sure to read carefully as we will send a quiz next month. Please attempt the quiz without cheating. The winners will be announced in the WhatsApp community and following edition.*

*Bye,  
Kanira, Chief Editor*

**Happy  
REPUBLIC DAY**

*Next Issue of The Qurious Atom:*

*29 February 2024*

*Theme : Aquatic Animals*

**Let's Find Out -  
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**Preserving Paradise:  
Coral Gems of  
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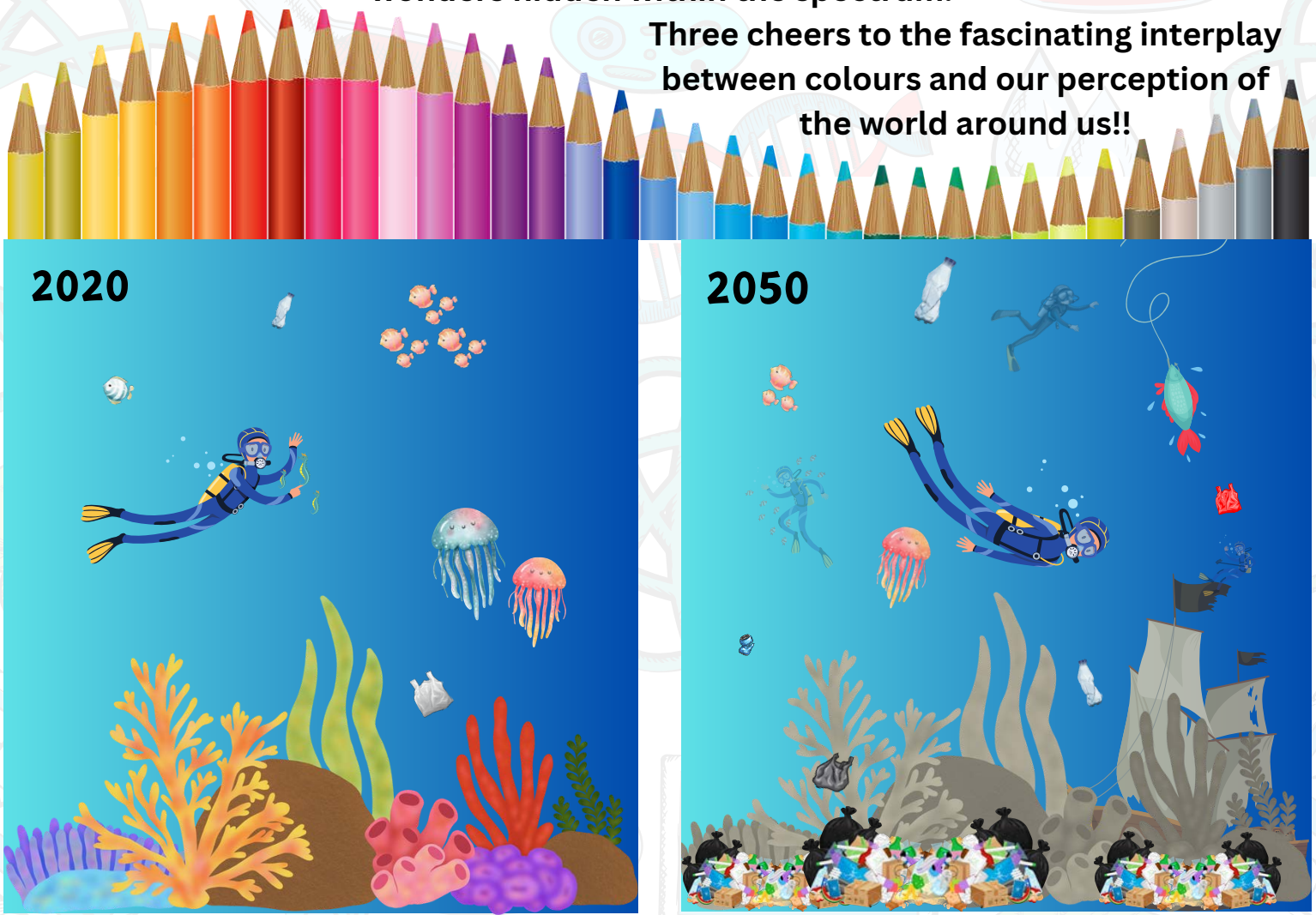
# Unveiling Dazzling Colours

Colours play a vibrant role in both science and our everyday lives, influencing our emotions, perceptions, and even scientific discoveries. From the hues of the rainbow revealing the secrets of light to the microscopic world where cells and molecules exhibit their own colourful language, the significance of colours is truly fascinating.

Moreover, colours have a remarkable influence on how we perceive sizes and can create intriguing optical illusions. The phenomenon, known as colour-induced size contrast, plays with our visual perception. For instance, warm colours like red and yellow tend to make objects appear larger, while cool colours like blue and green can have a minimising effect. Optical illusions, such as the famous checker shadow illusion, showcase how colours can trick our minds into perceiving sizes and shapes differently.

Exploring the science of colours not only opens doors to understanding the natural world but also sparks creativity and curiosity. The Curious Kids can embark on a colourful journey by conducting simple experiments, studying the physics of light, or delving into the biology of pigments. Whether it's unraveling the mysteries of rainbows or investigating the psychological impact of colours, the world of colours invites young minds to explore, discover, and marvel at the wonders hidden within the spectrum.

Three cheers to the fascinating interplay between colours and our perception of the world around us!!



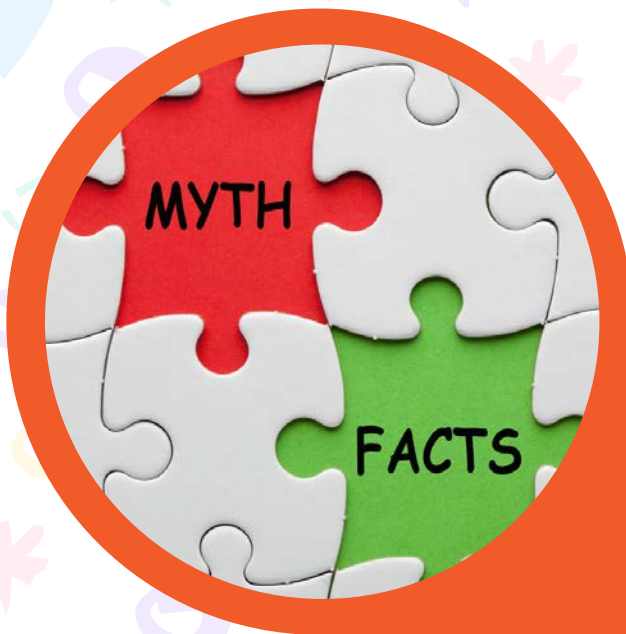
2020



2050







## COLOUR

### MYTH

- The sun is yellow.



- Bulls hate the colour red.



- Eating Carrots can improve night vision

- We see pure black in the absence of light.

Eigengrau  
#16161d

### FACT

- The sun is white- i.e. all colours mixed together. It appears yellow, orange or red only because its short-wavelength colours (green, blue, violet) are scattered out by the Earth's atmosphere

- Bulls are actually colour-blind to red. The motion of the cape used by matadors in bullfighting is what gets their attention, not the colour.



- While carrots are good for eye health as they contain vitamin A, they won't grant superhuman night vision.

- It is not pitch black, but a dark greyish colour called Eigengrau that individuals might perceive in total darkness due to the way our eyes and visual system work.



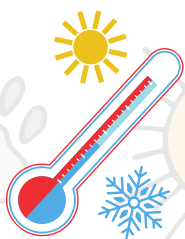
# CHEMISTRY



## LAB



## Walking Rainbow Experiment



### MATERIALS-

3 clear glasses, paper towels, food colouring, water



### WHAT TO DO-

1. Pick your favourite colours for the Walking Rainbow Water magic!
2. Get a cup and drop in some colourful food dye. Then fill it halfway with water that's not too hot or cold.
3. Do the same with another colour in a new cup. Make sure to grab another empty cup that's just as big too!
4. Take a piece of paper towel and cut it in two. Then fold each piece real long, like a snake!
5. Dip one end of the paper snake into the coloured water, and the other end into an empty cup. Do the same with the other paper snake and cups of colour too!



# SECRETS OF SLEEP: EXPLORING THE WORLD OF DREAMS

Whether it is a short siesta or sleeping for the whole night, sleep is important for everybody.

Sleep is important because it makes your brain super smart, keeps you happy, and helps you stay healthy. Not snoozing enough every night can make you more likely to get sick with all sorts of yucky stuff. It can lead to things like heart problems, getting really big, and even losing your memory. Doctors say that it's not just the hours spent in bed that matters, it's good sleep that matters.

## OTHER QUESTIONS

### Q1. What happens when we sleep?

While you snooze, your brain works hard sorting and storing info, swapping out chemicals, and even figuring out problems. Even the body becomes a repair workshop for our damaged cells and generates new cells.

### Q2. How long should kids sleep?

Lots of kids don't snooze enough. Kids who are 5 to 12 years old should get 9 to 12 hours of sleep every night. Not every kid is the same, and some kids need more sleep than others, especially if they are highly physically active.



## FACTS ABOUT SLEEP

- 12% of people see dreams in only black and white.
- **Cats spend most of their time sleeping—like two-thirds!**
- A giraffe only needs 1.9 hours of sleep daily, but a brown bat needs a whopping 19.9 hours.
- **Did you know? Humans spend one-third of their life snoozing!**
- Can you believe it? Someone stayed awake for 11 whole days!

Well now that you know about sleep, don't forget to get a good nights sleep.

Bye now, have fun!

Zzzz...



# WONDER WHY?

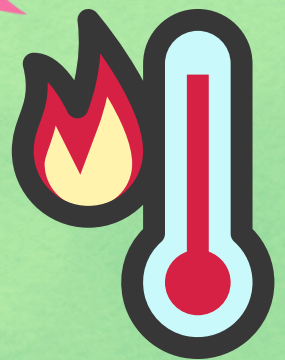
## WE DREAM

Researchers found out that when we dream about stuff, we can remember those things better when we're awake. So, maybe dreaming helps us make really good memories. That's why it's important for kids to get a good night's sleep every night, so they can remember all the cool stuff they learn every day 😊

## WE SWEAT

Sweat's super-duper job is to make sure our bodies stay just the right temperature! When the sweat dries up, it makes our skin feel super cool.

Oh, and it also makes it easier to hold onto things by making our hands a little bit wet 😊





# The Curious Chronicles of Jungle Grove

## Ch-5 "Kaleidoscope of Joy: Emma's Whimsical Weekend"



In the heart of Jungle Grove, where curiosity was as abundant as the vibrant flora, Emma the Elephant and Mandy the Monkey found themselves on a weekend adventure with a new friend - Katy Kangaroo.

Katy, with her bouncy enthusiasm, joined Emma and Mandy in every escapade. This particular weekend brought an extra guest, Emma's uncle Ethan, who came to stay.

Emma's family planned a visit to the circus on Sunday with Uncle Ethan driving Emma to the circus while her parents did the grocery. But their plans took an unexpected turn when they discovered that Uncle Ethan was colour blind, unable to differentiate between red and green, having difficulty identifying traffic lights. So Uncle Ethan couldn't drive.

Undeterred, Emma suggested walking to the nearby restaurant, "Sugarcane Street," instead for lunch. As they strolled, Emma wondered aloud about what colour blindness truly meant.

While on their walk, the rain, which had persisted for hours, finally gave way to a burst of sunshine, revealing a magnificent rainbow in the sky. Meanwhile, Mandy, who was at her home, felt mesmerised. She couldn't resist wondering about the science behind rainbows.

### STORY

Mandy delved into her science book, "My Colourful Universe," in search of an answer. To her surprise, the rainbow's secret eluded her. Meantime, Katy the Kangaroo hopped around, eager to be a part of the discovery.



On Monday, back at school, Katy shared the weekend tales. Emma's uncle Ethan regaled the class with stories of their colourful walk and the vibrant atmosphere at "Sugarcane Street." Mandy, however, was still pondering the mystery of rainbows.

Coincidentally, "The Qurious Atom" released its new edition, focusing on the theme of colour. Mandy and Emma eagerly flipped through its pages, finding answers to their weekend questions. The newsletter explained colour-blindness, the science of rainbows, and much more.

Excitedly, they shared their newfound knowledge with the class during Ms. Wendy's lesson on colours. Ms. Wendy, with her characteristic enthusiasm, explained, "Rainbows are a beautiful spectrum of light created by the refraction, dispersion, and reflection of sunlight in water droplets. Each colour has its own wavelength, creating this magical arc of colours in the sky."



Emma now knew that colour-blindness is like having a unique way of seeing colours, where some colours may look similar to some people. She understood how Uncle Ethan would not be seeing the same rainbow of colours.

And so, in the heart of Jungle Grove School, surrounded by the vibrant hues of nature, Mandy, Emma, and Katy continued their adventures, armed with newfound knowledge about colours and the magic that surrounds them.



# Hidden Pictures

Find 7 hidden letters in this picture and spell a word with them.

\_\_\_\_\_







# How does the Brain Work?

**IMAGINE YOUR BRAIN AS A SUPERHERO HEADQUARTERS, WHERE ALL THE ACTION, THINKING, AND DECISION-MAKING HAPPEN. YOUR BRAIN IS A SUPERCOMPUTER THAT NEVER TAKES A BREAK, WORKING TIRELESSLY TO HELP YOU LEARN, PLAY, AND DISCOVER NEW THINGS.**

## COMMAND CENTER

Nestled snugly inside your skull, your brain is like the captain of a spaceship, guiding your body through the adventures of everyday life. It's not just one big blob; it has different parts, each with its own special job.

## MESSENGERS

Picture tiny messengers called neurons zipping around your brain, carrying important messages. These neurons are like superheroes with lightning-fast communication skills. They send signals to tell your body what to do – whether it's raising your hand, laughing at a joke, or even dreaming while you sleep!

## HIPPOCAMPUS

Meet your memory keeper, the hippocampus. This superhero helps you remember the lyrics to your favorite song, your best friend's birthday, and the taste of your grandma's cookies. Thanks to the hippocampus, you can cherish memories from your past.

## SUPER HIGHWAY

Imagine your brain as a bustling city with roads connecting different neighborhoods. These roads are like the brain's superhighway, allowing messages to zip back and forth. This helps different parts of your brain work together, ensuring everything runs smoothly.

## Magical Brainwaves

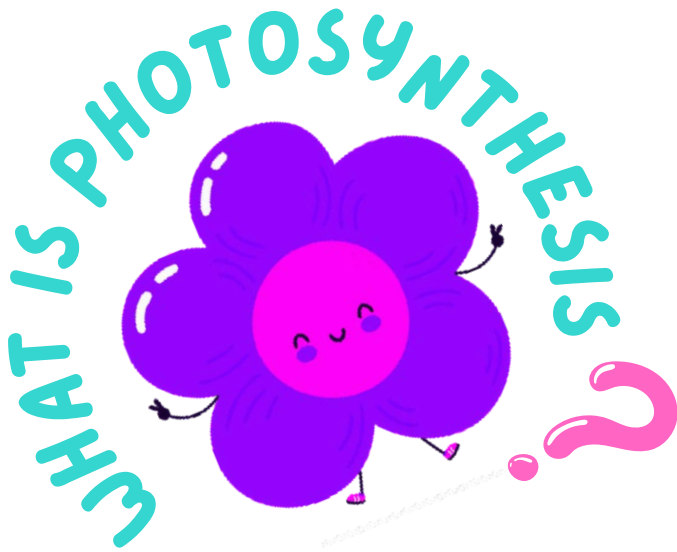
Your brain has its own special language – brainwaves! These are like musical notes playing in the background. Whether you're wide awake, daydreaming, or fast asleep, brainwaves keep the brain's symphony going.



# Let's Find Out



And other questions about plants...



Plants use a special process called photosynthesis to make their own food. It's like magic! They use a green stuff called chlorophyll, sunlight, carbon dioxide, and water to make yummy food for themselves. Chlorophyll is like their secret ingredient that captures the sun's energy and helps make food from water, carbon dioxide, sunlight and soil.

## Why do some plants grow in water?

Some plants, like water lilies, are called "aquatic" because they like to grow in water! They need water to survive because they get all the water they need from the water around them. They also take in carbon dioxide from the water. Aquatic plants are different from land plants because they don't do as well when they are not in water. Just like land plants get their energy from the sun by having leaves that catch sunlight (called photosynthesis), aquatic plants can still get energy from the sun even though they are underwater! That's because sunlight can still pass through the water and reach the plants! This is why we can still see things under the water at the beach!

## Can a plant Feel

Plants can feel a lot of things about their surroundings, just like how we might feel when we're happy or sad. But unlike animals, plants can't run away or hide when they're scared or when something bad happens to them. But even though plants can't run away, they're still very smart! They have learned to be really good at sensing things in their environment, so they can survive. So, plants have become very sensitive to their surroundings, just like how we might be sensitive to loud noises or bright lights. They can feel things like wind, rain, and even when a bug is trying to eat them! This helps them to grow and thrive, even when things are tough.



# Be A Scientist



1. Research about anything in science, write and send it to us.
2. Draw or design your own machine, colour it, and send.
3. Write a few paragraphs about anything that you would like to do in science.

OR

Do it all to see a full page dedicated to your K creations.

## CREATE!

## Preserving Paradise: Coral Gem of Lakshadweep

Lakshadweep, an archipelago of unparalleled natural beauty, is a haven for coral reefs and marine life. The turquoise waters that surround these islands are teeming with vibrant coral formations and a diverse array of sea life. However, as the spectre of global warming looms, coral reefs worldwide face unprecedented challenges, with bleaching and degradation becoming all too common. In the delicate balance between promoting tourism and preserving nature, Lakshadweep stands at a crossroads where responsible choices are paramount.

**Global Warming's Toll on Coral Reefs:** Coral bleaching, a phenomenon exacerbated by warmer seas, is causing distress to Lakshadweep's coral reefs. When corals expel the symbiotic algae living in their tissues, they lose their vibrant colours and become susceptible to disease.

**Tourism as a Double-Edged Sword:** While tourism has the potential to bring economic prosperity to Lakshadweep, it also presents a challenge in terms of environmental impact. Unregulated tourism can lead to increased pollution, habitat disruption, and physical damage to the coral reefs through activities such as snorkelling and diving.

**A Call for Responsible Tourism:** Preserving the natural beauty of Lakshadweep demands a commitment to responsible tourism practices. Sustainable tourism initiatives can strike a balance between economic development and environmental conservation. This includes strict regulations on visitor numbers, the implementation of eco-friendly practices, and community engagement to foster a sense of environmental stewardship.

**Conservation Initiatives:** Lakshadweep's administrators and local communities must collaborate to implement conservation initiatives. This may involve establishing marine protected areas, promoting coral restoration projects, and conducting educational campaigns to raise awareness about the delicate nature of the islands' ecosystems.





# WHAT MAKES THINGS CHANGE Colour?

Have you ever noticed how some things change colours? Like how chameleons can turn green, yellow, or even red? Or how leaves in autumn turn from green to yellow, orange, and red? Did you know that mood rings can also change colours? But they don't really tell you how you're feeling, they just change colours based on your body temperature!

The reason why things change colours is because they reflect different wavelengths of light.

When an object changes colour, it means it's reflecting a different wavelength of light than before. For leaves, they usually reflect green light because of a substance called chlorophyll. But in the fall, when there's less sunlight, there's less chlorophyll, and other colours like yellow, orange, and red become more visible. Chameleons change colours by moving pigments around in special cells called chromatophores. They can turn green, yellow, or red to communicate with other chameleons. Mood rings change colours because they have different coloured liquids inside that expand or contract with changes in body temperature. (Read the last edition of TQA.)

But they don't really tell you how you're feeling, they're just a fun accessory!

So, next time you see a chameleon, a leaf, or a mood ring change colour, remember that it's because they're reflecting different wavelengths of light!



## FACT Fairy



## How Genes and Light Create the Mosaic of Eye Colours!

The captivating colour of your eyes is not just a play of light and melanin pigments; it's also a genetic masterpiece! The genes you inherit from your parents play a crucial role in determining the colour of your eyes, whether sparkling blue, earthy brown, or enchanting green. The specific combination and expression of genes influence the amount and type of pigments in your irises, which, in turn, define the colour spectrum of your eyes. The colour variations are a result of genetic instructions inherited in our chromosomes that regulate the production and distribution of melanin pigment. The more melanin produced, the darker the eye colour will be. When light enters your eyes, it scatters in different directions, and the white part of your eyes, called the sclera, acts like a canvas. The colours of your irises interact with the scattered light, creating the beautiful hues that make your eyes uniquely yours.

## SCIENCE SONG

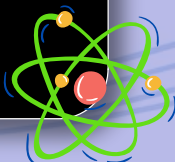
### Rainbows

A rainbow is seven colours,  
Combined in one.  
When we see it with our eyes,  
Oh! It's so much fun.  
It peeps through clouds,  
As they rain.  
And colours the sky,  
With beautiful paint.  
It fills our life,  
With hope and joy.  
It puts a smile on your face,  
Be a girl or a boy.

BY KANIRA GUPTA, 9 YEARS

### Stephen Hawking

Stephen William Hawking was a British physicist, born on 8th January 1942. He is known for his his contributions to the understanding of the universe's origin and his groundbreaking work on the theory of black hole explosions.



## SPOT THE DIFFERENCE

Spot the differences between the two scenes.  
Answers in the next edition.



Spot The Difference.  
Answer of December Issue



A



B



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