Magnifying Glass

Let us do these activities before we read.

I Work in pairs. Answer the questions that follow the pictures given below. Share your answers with your classmates and teacher.

1. What is common in all these pictures?
2. Select the pictures you are familiar with.
3. Why do you think the people in the pictures need to use a magnifying glass?
4. What other instruments magnify objects?

II If you have a magnifying glass, what would you like to use it for and why? Share your answers with your classmates and teacher.

Let us read

With this round glass
I can make Magic talk—
A myriad shells show
In a scrap of chalk;

Of but an inch of moss
A forest—flowers and trees;
A drop of water
Like hive of bees.

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I lie in wait and watch
How the deft spider jets
The woven web-silk
From his spinnerets;

The tigerish claws he has!
And oh! the silly flies
The stumble into his net—
With all those eyes!

Not even the tiniest thing
But this my glass
Will make more marvellous
And itself surpass.

Yes, and with lenses like it,
Eyeing the moon,
'Twould seem you'd walk there
In an afternoon!

WALTER DE LA MARE

Let us discuss

I Complete the summary of the poem given below with suitable words from the poem.

The poem describes the magic of seeing the world through a 1. _____. It reveals how tiny things like 2. _____ and 3. _____ can appear vast and complex. Even a 4. _____ of water can seem like a hive of 5. _____. The poet is impressed at how the spider spins its 6. _____ from its 7. _____. The poem ends with the idea that, through lenses, the 8. _____ could seem within reach.

II Fill in the blanks by choosing the correct answer from the brackets.

1. The main idea of the poem is the transformative power of _____ (wonders in nature/close observation) through the magnifying glass.
2. The tone of the poem is _____ . (wonder and curiosity/peaceful and emotional)
3. The poem has _____ stanzas with _____ lines in each stanza. Hence, it is a quatrain. (four; six/six; four)
4. The rhyme scheme of the poem is _____. (ABCD; ABCB)

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III Pick examples from the poem for the following poetic devices.

1. Simile
2. Alliteration
3. Metaphor

IV The poem is rich in visual imagery, painting vivid pictures of small, everyday things magnified into something grand.

1. In the line, *'A myriad shells show in a scrap of chalk'*, the magnifying glass reveals _____.
2. In the line, *'A forest—flowers and trees'* the poet uses the imagery of nature to emphasise _____.

V Complete the following sentences with a reason.

1. The poet uses exclamation marks in lines, *'The tigerish claws he has!'*, *'With all those eyes!'* and *'In an afternoon!'* because it _____.
2. In the phrase, *'Magic talk'* the poet uses personification to describe the magnifying glass because it _____.
3. Each stanza follows a repetitive pattern of introducing a small or ordinary object and then describing the extraordinary details revealed through magnification.

   This is because it supports the theme of _____ as the speaker reveals _____.
4. In the final stanza the poet shifts from small, everyday objects being magnified to a celestial body like moon because _____.

Let us think and reflect

I Read the given extracts and answer the questions that follow.

1. *With this round glass*
   I can make Magic talk—
   A myriad shells show
   In a scrap of chalk;
   Of but an inch of moss
   A forest—flowers and trees;

   (i) Identify whether the following statement is true or false.

   The poet uses his magical powers to make the round glass powerful.

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(ii) Select the line from the extract that expresses the presence of intricate patterns in ordinary objects.

(iii) What does the comparison of *'an inch of moss'* to a *'forest'* suggest about the speaker's view of the world through the magnifying glass?

(iv) How does the poet feel about the ability of the magnifying glass to reveal hidden wonders?

A. Satisfied
B. Fascinated
C. Grateful
D. Determined

II Answer the following questions.

1. What is the significance of the spider in the poem?
2. How might the speaker's view of the natural world change if there was no use of a magnifying glass?
3. Why does the poem end with the idea of the moon being within reach?
4. What is the speaker's attitude towards nature and the act of observation?
5. Which is your favourite part of the poem? Why?

Let us learn

I Fill in the blanks in the sentences with the words given in the box below.

woven	myriad	deft
stumble	surpass	marvellous

With his 1. _____ description, the author has written the story beautifully 2. _____with fascinating details. When you read the story, you will surely enjoy the 3. _____storytelling technique that attracts all kinds of readers. What makes the story interesting is the superb way of describing the 4. _____emotions and feelings of the characters. The reader will 5. _____upon the unexpected twists and turns that 6. _____ all our understanding and make us wonder at the narrative power of the author.

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II The collective noun 'a hive of bees', is used in the poem. Match the phrases in Column 1 with suitable words in Column 2 to make collective nouns.

Column 1	Column 2
1. a swarm of	(i) ships
2. a constellation of	(ii) soldiers
3. a grove of	(iii) dancers
4. a troupe of	(iv) locusts
5. a battalion of	(v) trees
6. a fleet of	(vi) stars

III The poet uses the expression 'eyeing the moon' in the poem. Match the idiomatic expressions with 'eye' given in Column 1 with their meanings in Column 2. You may refer to a dictionary.

Column 1	Column 2
1. apple of one's eye	(i) watch something or someone closely
2. in the blink of an eye	(ii) act as if you do not see or notice
3. keep an eye on something or somebody	(iii) something that happens very quickly
4. turn a blind eye	(iv) an overall look at something
5. see eye to eye	(v) a person who is very precious or important
6. bird's-eye view	(vi) agree with each other

IV The poet uses the adjective form 'tigerish' in the poem by adding the suffix -'ish' to the noun 'tiger'. In the same way, we can make adjectives by adding the suffix -'ish' to some nouns.

Choose the nouns to which you can add the suffix -'ish' to make adjectives.

girl	glass	book	silk
boy	water	moon	scrap

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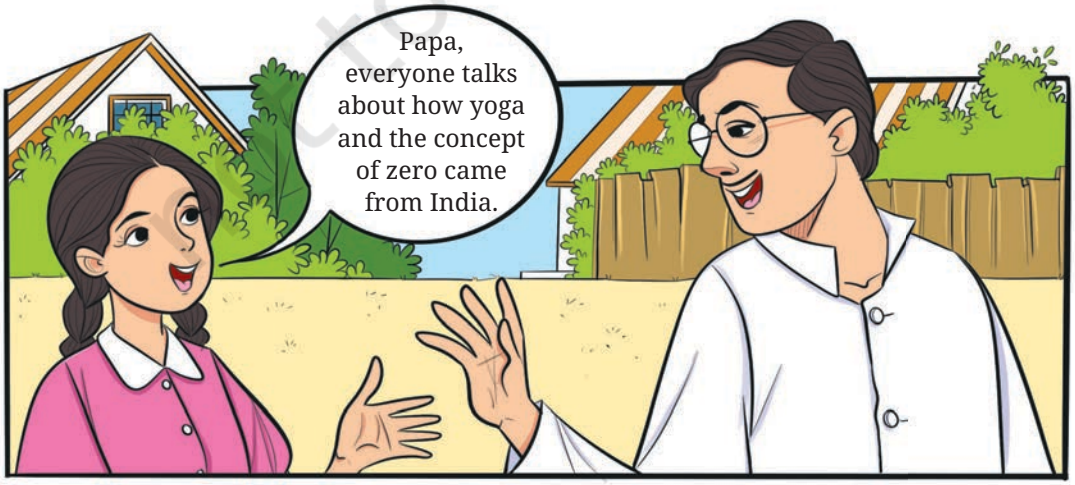
Let us listen

I You will listen to a conversation between a father and daughter about lesser-known Indian inventions. As you listen, mark the four true statements from (1)–(6) given below. (Transcript for teacher on page 250)

1. The father is surprised by the fact that India was involved in the invention of radio broadcasting and fibre optics.	
2. The daughter appears indifferent when learning the origins of the USB port.	
3. The father shows little interest in the information about the origin of snakes and ladders.	
4. The father was simply confirming all the facts shared by the daughter.	
5. The daughter expresses pride and admiration for India's role in global inventions.	
6. The daughter is excited as she shares new discoveries about India's contributions with her father.	



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Let us speak

I When pronouncing /v/ and /f/, the lower lip lightly touches the edge of the upper teeth. Air flows through the small gap, creating a soft friction sound.

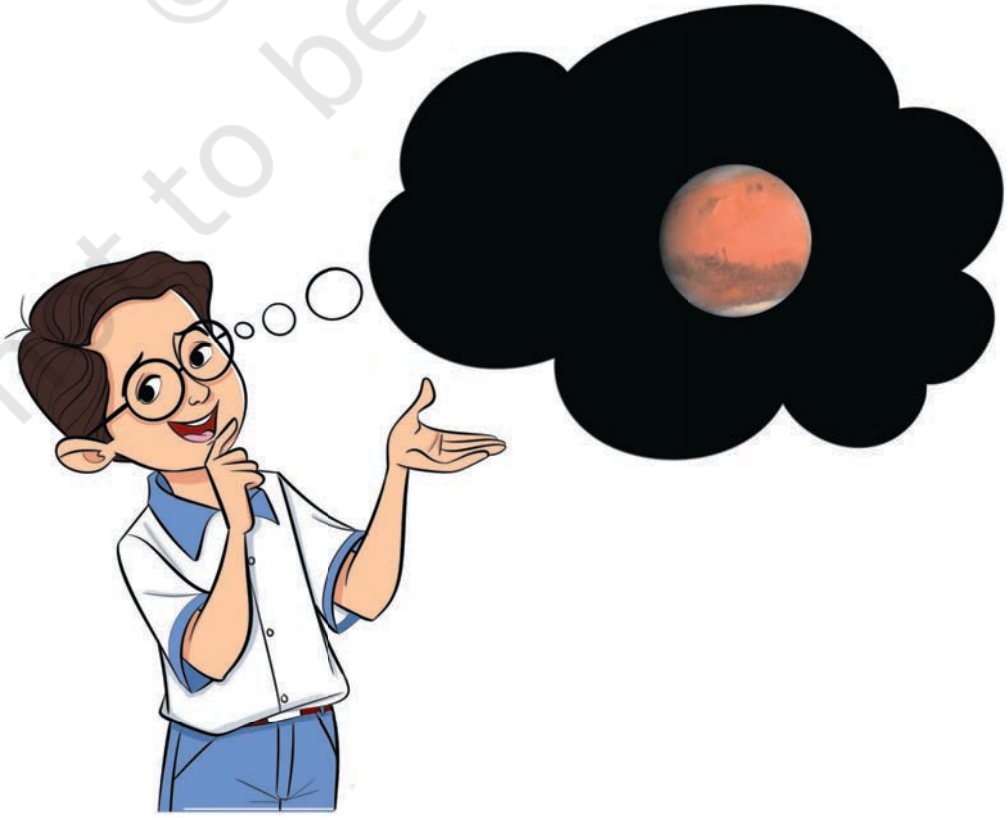
Note the difference between /v/ and /f/. When we pronounce words with /v/ sound, there is a vibration, whereas /f/ sound has no vibration. Both the sounds can occur in the beginning, middle, or at the end of words.

Read these words aloud with the help of your teacher.

beginning sound /f/: forest	flowers	from	
middle sound /f/:	deft	afternoon	
end sound /f/:	of	itself	
beginning sound /v/: vase	valour	victory	
middle sound /v/:	woven	even	marvellous
end sound /v/:	hive		

II If you could travel to space, which planet would you like to visit? Why? What preparations would you like to make? Speak about any five things that you would like to take along.

III If you could invent something, what would you like to invent and how? Give reasons for the choice of your invention. Speak about your wonder invention.



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Let us write

I In a conversation, we communicate through dialogues. While writing a conversation, we need to ensure that the dialogues are engaging and serve a purpose.

Points to remember:

- Mention where, when, and with whom the conversation is taking place.
- Identify the word choice and tone—formal or informal.
- Include key information, points of agreement and disagreement, etc.
- Use words in brackets to express emotions or actions, such as (joyfully) (sits down).
- You may use filler words like Uff, Er… , Ugh, etc.

Deepa and Asma, members of the Science Club have a conversation to take a decision about making a model for an upcoming Science Fair. Create this conversation between Deepa and Asma.

You may begin the conversation like this.

DEEPA: Hi Asma! Our Science teacher mentioned that you have a wonderful idea for the Science Fair project.

ASMA: *(hesitatingly)* Yes, I do. But I'm not sure if it is good enough.

DEEPA: *(encouragingly)* Don't worry…

Let us explore

I Children with low vision may benefit from different types of visual aids, such as magnifying spectacles, stand magnifiers, hand-held magnifiers, and telescopes. Magnifying spectacles are used for reading, threading a needle or doing other close-up tasks. Stand magnifiers rest above the object and are hands-free and help to keep the magnifying lens at a proper distance. Hand-held magnifiers with and without built-in lights, are usually smaller and lighter to move over printed material. They can be moved more easily. Telescopes are used to see objects or signs far away. Some telescopes can even be attached to eyeglasses.

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II Did you know that telescopes also use lenses?

1. The largest telescope in India for studying celestial objects is located in the district of Nainital, Uttarakhand. Commissioned in 2016, it is maintained and operated by ARIES (Āryabhaṭa Research Institute of Observational Sciences).

2. The Indian Astronomical Observatory (IAO) is a high-altitude astronomy station located in Hanle, Ladakh, India. It is situated at an elevation of 4,500 meters (14,764 ft), and supports optical, infrared, and gamma-ray telescopes.

3. The largest, most powerful, and most complex telescope ever launched into space is the James Webb Space Telescope. NASA launched it on, 25 December 2021. It orbits the Sun at a distance of 1.5 million kilometres from Earth. To learn more, visit the link below.
   https://science.nasa.gov/mission/webb/

4. The Mauna Kea Observatory, astronomical observatory in Hawaii, US, that has become one of the most important in the world because of its outstanding observational conditions. The Mauna Kea Observatory is operated by the University of Hawaii and lies at an elevation of 4,205 metres (13,796 feet) atop the peak of Mauna Kea, a dormant volcano on north-central Hawaii island. The summit hosts a world-renowned collection of astronomical research facilities and large telescope observatories, including the Keck Observatory and Subaru Telescope, for optical, infrared, and submillimeter astronomy.

   The observatories are set up here because of Mauna Kea's high elevation, dry environment, and stable airflow that make it a prime location for astronomical observation. The focus is scientific research across the electromagnetic spectrum.

   Public Access: The Onizuka Center for International Astronomy provides visitor information and exhibits about the mountain and its observatories, and offers guided tours of the summit.

   Find out more about them from the internet and discuss with your science teacher and classmates.

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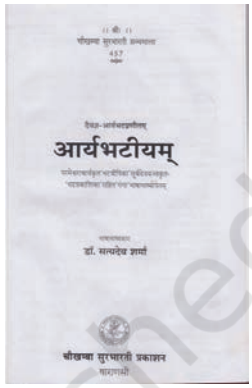
III Read about ancient Indian scholars.

1. One of the eminent astronomers of the ancient India was Āryabhaṭa. His work *Āryabhāṭiyam*, laid the groundwork for various astronomers to develop in subsequent centuries and continues to be an important work even today. Āryabhaṭa proposed a heliocentric model of the solar system centuries before Copernicus. He also gave a scientific explanation of lunar and solar eclipses.



2. Varāmihira, the sixth-century CE astronomer, philosopher, and mathematician wrote the astronomical treatise *Pañchasiddhāntika* (Fine Treatises), a compendium of Greek, Egyptian, Roman, and Indian astronomy.

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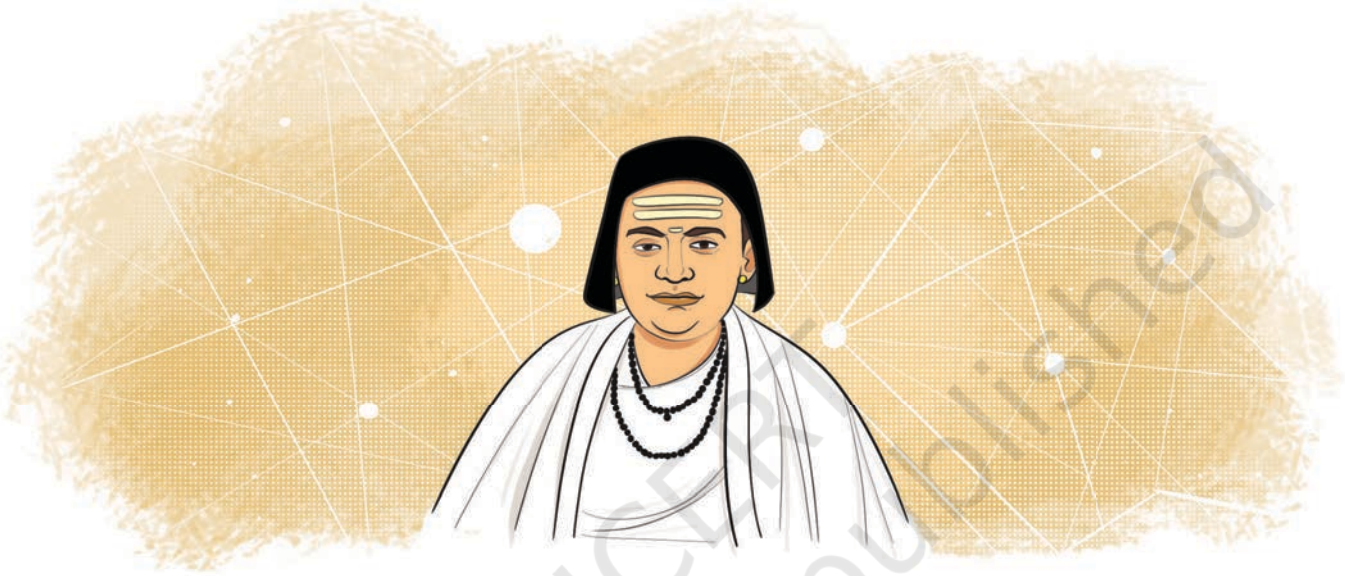
3. The tenth-century CE mathematician-astronomer Bhāskarachārya II contributed significantly to the advancement of astronomical concepts. His works *Siddhāntaśiromaṇi* and *Karaṇakutūhala,* include compiled data on planetary positions, conjunctions, and eclipses.

https://indianculture.gov.in/timeless-trends/unveiling-cosmos-journey-through-history-astronomy-india



IV Jantar Mantar in New Delhi is an astronomical observatory. It has large-scale astronomical instruments designed for precise calculations and measurements of celestial movements. It was built in 1724 by Maharaja Sawai Jai Singh II. The observatory is a UNESCO World Heritage Site. Five such observatories were built by Jai Singh II, the other four are located in Ujjain, Mathura, Varanasi, and Jaipur.

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