

UNIT-2

Exploring Puzzles

ACTIVITY - 1

Read the story to yourself. Mark any word you don't understand. Use a dictionary, the internet, or your classmates who may help you to understand each word and idea in the story.



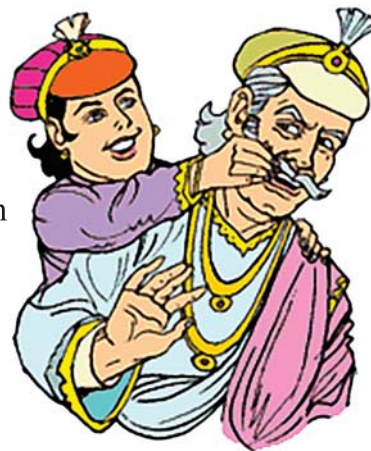
Emperor Akbar was a great and wise ruler and he had fine advisors in his court, but the wisest of these was Birbal. Whenever the Emperor thought of a difficult problem or puzzle, he turned to Birbal.

One pleasant evening in March, Akbar was strolling in his courtyard. He had just completed a successful military campaign in the east and he wanted a little amusement.

Suddenly, he turned to his courtiers and said, “Tell me, what should be the punishment for someone who dared to tweak your Emperor's moustache?”

The courtiers were shocked at the thought! Only the most foul criminal would dare to touch the king! Shahbaz Khan spoke up, “My lord, this villian should be mercilessly flogged to death.”

“Beheaded in full public view, Your Honour!” said Mulla-do-Piazza.



“The villain should be thrown down from the fort or be hanged!” said Shadi Shah.

“And you, Birbal? What punishment do you suggest for his offender?” asked the Emperor.”

“Shah Alam,” said Birbal calmly, “I would give him some sweets.”

The other courtiers gaped at Birbal. Had he gone mad? Sweets for such a crime! Surely this time Birbal was wrong!

Akbar frowned. “Did I hear you right, Birbal?” he said. “You consider giving sweets to be the right punishment for such a crime?”

“Only in this case, Your Majesty,” said Birbal humbly. “Because, who else but your beloved grandson would dare to take such a liberty with the king of kings?”

Akbar burst out laughing. “You are right again, Birbal! It was indeed that little rascal who tweaked my moustache this very evening!”

Match A with B and make sentences using the words given in the table (A).

A	B
Strolling	extremely surprised
Dumbfounded	tricked someone
To gaze	walking in a slow, relaxed way
Insolence	to get rid of
To discard	smiled in an unpleasant way
Outwitted	to look at someone in surprise with an open mouth
Smirked	rudeness



ACTIVITY - 2

Birbal was able to solve the Emperor's puzzle because he thought clearly and realistically about the Emperor's question. He did not make assumptions. An assumption is something that is believed to be true without any evidence. Sometimes making an assumption is correct. For example, if your relative falls asleep very early in the evening, you might assume that he is tired and you might be right. But assumptions can be wrong and they can lead us to think incorrectly about problems.

Look at this example and answer the questions.

The courtiers heard the emperor's question, "Tell me, what should be the punishment for someone who dared to tweak your emperor's moustache?"

What did the courtiers assume?

Which lines in the story help you to know what the courtiers were thinking?

ACTIVITY - 3

Read this old joke:

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A dad and his son were riding their bikes and crashed. Two ambulances came and took them to different hospitals. The man's son was in the operating room and the doctor said, "I can't operate on you. You're my son."

How is that possible?

Discuss the joke with your classmates.

How many people guessed the reason that the surgeon could not operate on the boy?

How many people could not guess?

How many people have heard the joke before?

If people do not know why the surgeon says, "he is my son." What assumptions are they making?

Assumptions that are incorrect and lead us to think wrongly are called, "false assumptions."

ACTIVITY - 4

Adapted From
THE CANTERBURY PUZZLES AND OTHER CURIOUS
PROBLEMS

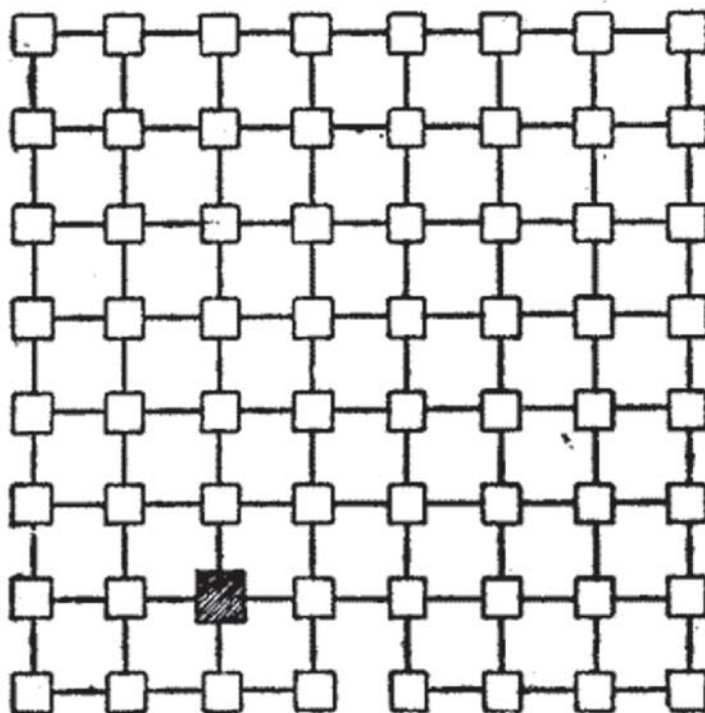
By

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Long ago there was an inn where pilgrims often stopped on their way to worship at a famous shrine. During the long evening as they rested from their journey, they would tell stories and sometimes amuse each other with games and puzzles. On one evening the company all turned to the pardoner:

The Pardoner's Puzzle.

The gentle Pardoner, who had just arrived very tired all the way from Rome begged to be excused; but the company would not spare him. "Friends and fellow-pilgrims," said he, "truly the puzzle I've made is a poor thing, but it's the best that I've been able to create. Blame my lack of knowledge of such matters if you don't like it." But his invention was very well received. He produced the accompanying plan, and said that it symbolized sixty-four towns through which he had to pass



during some of his pilgrimages. He said the lines connecting the “towns” represented roads. He explained that to solve the puzzle, one has to start from the large black town and visit all the other towns once, and once ONLY, in fifteen straight pilgrimages. He said the puzzle was to trace the route in fifteen straight lines with your pencil. He said you may end where you like, but note that a little road at the bottom has been omitted intentionally, and it is impossible to go that way.

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Read the story carefully to understand the instructions for solving the Pardoner's Puzzle. Work with a partner to understand the story and to solve the puzzle. Try to be the first in your class to solve it! If you finish quickly, go and help others to solve it, too!

ACTIVITY - 5

Read the story. Mark any word that you don't understand. Use a dictionary, the internet, or your classmates who may help you to understand each word and idea in the story.

One day walking in the garden with Birbal and the other courtiers, Emperor Akbar bent to pick up a sharp stone. With it, he drew a line on the ground and said, "Birbal, make the line shorter." He paused and with a glint of mischief in his eyes, he said, "But don't touch it. Just make it shorter."

The courtiers looked at each other. Birbal surely couldn't do this, could he? Perhaps he would finally be outwitted.

But Birbal calmly bent down to pick up another stone. He quietly drew a second line below Akbar's. Everyone looked at the two lines. Akbar's line was clearly shorter than Birbal's!

There was a brief silence. Then Akbar smiled, "I thought I had outsmarted you this time, but you've done it again!"

ACTIVITY - 6

Birbal did not make the line shorter than it was when Akbar first drew it, but he made Akbar's line shorter than his line. Akbar's line cannot be said to be short, it can only be longer or shorter than another line. "Short" is not an absolute concept. It is a relative concept. Akbar's line is shorter relative to Birbal's line. As we think about puzzles and problems, we want to be sure that our assumptions are correct. We also want to remember that many things cannot be described in absolute terms, they can only be described in relative terms.

A rich man may think that a dosa is very cheap, but a poor man will think a dosa is very costly. Cost is a relative concept.

During winter, you may feel that the weather is very cold, but the weather is probably very warm relative to the weather at the South Pole!

Work with a partner or a group to decide which things on the list are relative concepts and which are absolute concepts. Mark the relative concepts with an R and the absolute concepts with an A.

If you and your classmates disagree, try to think of examples to help explain your idea.

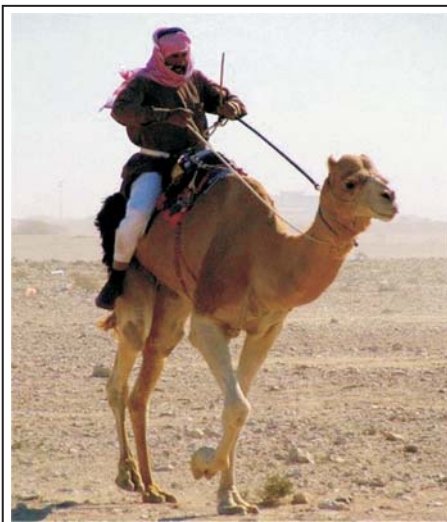
Concept	Absolute/Relative	Concept	Absolute/Relative
tall		dead	
rich		educated	
free		beautiful	

Share your ideas with your classmates. Were there different ideas about the concepts in your class?

ACTIVITY - 7

The stories of Akbar and Birbal are often based on puzzles or jokes.

Take this puzzle/joke and use it to write an Akbar and Birbal story.



Q: If a camel rider had gone three days ago and he left on Tuesday and came back on Tuesday, how is that possible?

A: The camel was named Tuesday!

Image is CC By 2.0, "Camel Rider in Qatar" by Pedronet.

Work with a partner or a group to write your own Akbar and Birbal story using a setting, dialogue, and description. Don't let the story end too quickly and don't forget the annoyed courtiers!





ACTIVITY - 8

It's a Puzzle by Allan Ahlberg

My friend
Is not my friend any more\
She has secrets from me
And goes about with Tracy Hacket

I would get her back,
Only do not want to say so.
So I pretend
To have secrets from her
And go about with Alice Banks

But what bothers me is,
Maybe she is pretending
And would like me back
Only does not want to say so.

In which case
Maybe it bothers her
That I am pretending.
But if we are both pretending,
Then really we are friends
And do not know it.

On the other hand,
How can we be friends
And have secrets from each other
And go about with other people?

My friend
Is not my friend any more,
Unless she is pretending.
I cannot think what to do.
It is a puzzle.

Read the poem carefully. Mark any word you don't know and get help to understand or help others. There are four people mentioned in this poem. Who are they?

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In this poem there is no dialogue, but there is a story. Pretend that all four people in this story accidentally meet at a tea stall. Work in a group to write a dialogue that has each of the four characters speak. What would they say to each other? What would they talk about? You may decide to work on the entire dialogue together or you may assign

different characters to each group members and let each classmate decide what his/her character will say independently. When you are finished writing your dialogue, perform it for your class. Notice how many different dialogues can be created!

The Puzzle at the Tea Stall

by _____

Characters:

ACTIVITY - 9

Read the article carefully to yourself. Mark any word that you don't understand. Use a dictionary, the internet, or your classmates who may help you to understand each word and idea.

Five Things We Still Don't Know

You may think that teachers, scientists, and doctors must know everything important that there is to know, but this is not true! The job of many teachers, scientists, and doctors is to do research, to learn more and more about the world. There are still many puzzles left to



solve and we need people to work on some of these questions. Some puzzles are very important to solve, like how we can make enough clean water for all the people in the world to have healthy lifestyle. Some things may not be quite that important; some things are just... puzzling.

Here are some things we still don't know:

- 1) Doctors and scientists are constantly working to solve medical problems so that people can live longer, healthier lives, but some mysteries aren't about deadly diseases. We still don't know why humans blush. Blushing seems to have no advantage to the human body.
- 2) Doctors, scientists, psychologists, theologians, and others have long been interested in our dreams, but we still do not why people dream. Recent research suggests it helps us deal with emotions.
- 3) In 1912, a manuscript was found that is believed to be from the years 1404 to 1438. It is filled with strange plants and drawings and writing. It is called the Voynich manuscript and it's language is completely unknown.
- 4) In 1977, researchers received a radio signal from a part of space that no human has ever been. The signal lasted 72 seconds and appeared to be intentional. It's known as the Wow! signal because the researcher on duty wrote "Wow!" on the printout that showed the signal. The signal has never been repeated or explained.
- 5) We still don't know very much about the deepest part of the ocean. The first dive to the deepest point, 7 miles below the surface, was only made last year. Oceanographers estimate that for every species of animal we know about in the ocean, there may be 3 or 4 that we don't know about.

As you get older and learn more, what mysteries might you help solve?

ACTIVITY - 10

Often, when we try to answer a big question, we need to find out the answers to a lot of smaller or simpler questions first. For example, scientists working on ways to provide people with clean drinking water might need to know a few things first:

How much fresh water is in the ground?

How many people need access to the water?

What bacteria or pollution is affecting the water?

How much money is needed to clean the water?

How can the clean water be distributed to the people who need it?

Look again at the article, “Five Things We Still Don't Know.” With a group, pick the “mystery” that interests you most. Work with your group to think of five questions about the mystery that the researchers should try to answer as they try to solve the puzzle. Try to be specific in the questions and to think of which things the researchers might need to know in order to learn more.
