

## ON A BEAM OF LIGHT

Note: The transactional processes suggested in CISCE curriculum are highlighted in grey.

### Learning Outcomes

- To get familiar with a biographical narrative
- To trace the struggle and achievements of Einstein
- To learn that Einstein was a cut above the rest



### Pre-reading

The pre-reading section focusses on *assessment for learning* as it prepares students for the story of Einstein, the genius.

Students are introduced to a few scientists and their discoveries.

The discussion that follows will help students comprehend that these are the works of geniuses.

Let students state their reasons for their choice of inventions. Allow free response.

Next, write the title on the board: *"On a beam of Light"*

Have students brainstorm with their groups and predict what the story might be about. Have groups share their answers with the class.

## READING

*Students read to comprehend, predict and analyse.*

Tell students that

- they will be reading about the famous scientist, Albert Einstein.
- the text is a biographical account.
- a biography is a written account of another person's life.

Play the audio track / Read the text and pause at relevant points to explain / check comprehension.

- *Over a hundred years...other students.*

Tell students:

- why Albert Einstein's parents were worried.
- what fascinated Albert.
- why his teachers reacted to his questions and why? (They had no answers for his questions and hence asked him to behave.)

*What does this tell you about Albert? (Suggested answer, please accept any logical answer) This tells us that Albert was a curious and imaginative child.*

The question prepares students for the genius that Albert was. They begin to understand that Albert was a curious child who was looking for answers all the time.

- *One day, as Albert was...wondering and thinking.*

*Have you ever imagined doing something impossible? What was it? ( Free response)*

Ask students

*What was the most exciting thought Albert ever had? Where was he when he had this thought? What were the things that interested Albert after his experience on the bike? What did he do? what*



*happened when he applied for a teacher's job?  
Why did he finish his work quickly in his office?  
When did people realise that he was a genius?*

– *Albert thought about the size...thinking and imagining.*

Talk to the class about

– how Albert handled a tricky problem.

– how Albert's ideas helped.

### Post-reading

Group-work

Let students work in groups and collect information about Albert Einstein and present it to the class. It can be in the form of pictures or text.

## GRAMMAR

## Functions of Pronouns

Recap *Personal Pronouns, Possessive Pronouns* and *Demonstrative Pronouns* are with the help of the input given in the Reader.

Explain:

### Subject pronouns

Subject pronouns are used as the subject of verbs:

*I like your hand writing. **It** is raining. **They** are late. **She** is my friend. **We** live in Delhi. **He** is on holiday. **They** come from Mumbai.*

### Object pronouns

Object pronouns are used as the object of verbs

*Can you help **me** please? They can hear **you**. He doesn't like **them**. I saw **her** at the movies yesterday. We saw **them** at the movies yesterday, but they didn't see **us**.*

## VOCABULARY

## Piece words

Read the two example sentences and ask students to identify the *piece words*. Tell students that words that refer to parts of something are **piece words**

Activity

Write these words on the board:

*arb* (bar)    *lecis* (slice)    *hpicn* (pinch)    *tib* (bit)    *mite* (item)    *iecp* (piece)

Tell students to work in pairs and unscramble these words. Inform them that these are all *piece words*. Now ask students to identify the context in which these words are used.

bar            chocolate, soap

slice          bread, cake

pinch of      salt

bit of          fun, luck, time, work, paper, information, money, news, gossip

piece of        paper, information, work, writing, furniture, wood, equipment, music, cloth, land

item of        clothing, equipment, furniture, food, information, interest, business, jewellery, news

## Idioms

Explain that an **idiom** is

- an expression which uses the language in an interesting way.
- is an expression which refers to a *figurative meaning* as opposed to a literal meaning.

Example: The idiom *Spill the beans* means *to give away a secret* and not spilling the beans on something.

## LISTENING

### While-listening

The listening task helps students stay focussed and develop concentration skills.

Let students go through the given words. This will help them get familiar with the listening track.

Play the audio track and let students match the words.

You may play it once more depending on the capability of your class.

Review the answers.

## SPEAKING

### Speak about an experience

#### Group Work

Have two student volunteers perform a role-play of their experience in a science museum / fair.

Encourage them to:

- Use descriptive language
- Describe the sights, sounds, smells and emotions they experienced.
- State their experiences and opinions
- Answer all the cue questions

## WRITING

### Poster

*Note:* Guide students through every step.

A **poster** is a very short piece of writing in formal style. Individuals and organisations use it to announce events and celebrations or to give information.

A poster should:

- give complete information
- be clear.
- be in easily understandable language

### *Group Work*

For any type of poster, the following points should be followed:

- Give an appropriate heading
- Mention the date, time and venue
- Provide colourful pictures to make it eye-catching
- Include the name of the person/organisation issuing the poster
- Include the contact person's contact number / email address (optional)

### **Reading aloud**

Play the audio track and let students listen and pay attention to intonations and voice modulation

### *Group Work*

Allow students some time to read the poem silently and decide the tone of voice, intonations, voice modulation and so on. Tell them they can think of creative ways of reciting a poem. (Example: they can decide which parts to go loud and where to be soft.)

Groups practise the recitation and then perform the poem in their individual group style in front of the whole class.

## **STUDENTS' BOOK ANSWER KEY**

### **On a Beam of Light**

#### **Pre-reading**

- A.** Free response.
- B.** Free response.

#### **Comprehension**

- A.** 1. Little Albert's parents were worried because he was different from all the other children. Even after he turned three, Albert hardly spoke and just looked around with his curious, big eyes.
- 2. Albert's father brought a compass for him. It is a small round case with a magnetic needle inside.
- 3. One day, as Albert was travelling through the countryside on his bicycle, he noticed the beams of sunlight which were moving speedily from the Sun to Earth. Albert wondered how it would feel to ride on those beams and imagined racing through space on a beam of light. This thought of riding on a beam of light filled his mind with questions.
- 4. Albert read and studied about light and sound. He also read about gravity which is an invisible force which pulls us down toward our planet and keeps the moon from floating away into outer space.

5. Whenever Albert found himself facing a difficult problem, he would put it aside and play his violin. Music made him happy and he believed that it helped him to think better.

6. Albert's ideas have helped the world in a lot of ways. They have helped in building spaceships and satellites which travel to the moon and beyond. His ideas and thoughts have helped in understanding the universe in a new and different way.

- B.**
1.
    - a. Albert was different from the other students as he asked a lot of questions.
    - b. Albert had realised that there were many mysteries in the world. In order to understand all these mysteries, he asked many questions.
    - c. Albert wanted to teach everything he had learnt after graduating from college.
  2.
    - a. The people around Albert said this.
    - b. They said this because Albert sent his new ideas and thoughts to various science magazines which printed everything that he wrote. Moreover, scientists and professors were very impressed with his work and invited him to work and teach with them.
    - c. Albert spent his days thinking, imagining and wondering about new and different things. He thought about the shape and size of the whole universe and found new methods to understand how these things work.

**C.** *Answers vary*

### **Grammar**

**A.** 2. his    3. He    4. his    5. you    6. we    7. we    8. you    9. it    10. this  
11. mine    12. that    13. that    14. it    15. You    16. your    17. It

**B.** 2. subject pronoun    3. subject pronoun    4. object pronoun    5. object pronoun  
6. subject pronoun

### **Vocabulary**

**A.** 2. drop    3. grains    4. slice    5. chunks    6. scoops

**B.** 1. in the same boat    2. hold your horses    3. raining cats and dogs    4. Break a leg  
5. pulling your leg    6. under the weather

### **Speaking**

Free response

### **Listening**

1. c    2. d    3. b    4. a

### **Writing**

*Free response*

### **Spelling**

2. cooking    3. battle    4. coffee    5. classroom    6. business

### ANSWER KEY TO WORKSHEET 4

- A.** 1. This is my pen. D  
2. We are going to see the magic show. P  
3. The blue car is ours. PO  
4. It is a very nice book. P  
5. You should go and see a doctor. P  
6. This pencil is not mine. It must be yours. PO, P, PO
- B.** 1. We went to the market yesterday. Subject Pronoun: We.  
2. Rahul gave us return gifts. Object Pronoun: us  
3. Sudha will help her with the project. Object Pronoun: her  
4. You look very tired. Go and take some rest. Subject Pronoun: You  
5. Naren saw us waiting at the metro station. Object Pronoun: us  
6. The noise is very loud. It is disturbing us. Subject Pronoun: It Object Pronoun: us
- C.** 1. bits 2. grains 3. chunk 4. strips 5. flakes 6. slices 7. drop 8. scoops
- D.** *Free Response*
- E.** *Answers will vary for this question.*

#### **Sample answer**

1. The bottle can be used as a flower vase.
2. The cup can be used as a pen/ pencil stand.
3. The newspaper can be used as a cover for books and notebooks.

## QUESTION BANK

### On a Beam of Light

#### A. Answer in brief.

1. What did Albert wonder while riding his bicycle one day?

**Ans:** One day, while riding his bicycle, Albert looked up at the beams of sunlight speeding from the Sun to the Earth. He wondered what it would be like to ride one of those beams.

2. Why did Albert take up a government job after graduating from college?

**Ans:** After graduating from college, Albert wanted to teach all the things he had read about. But he could not find a job as a teacher. So, he got a simple, quiet job in a government office.

#### B. Answer in detail.

1. What did Albert do with his new scientific ideas and what did people say about him?

**Ans:** Albert began to send his new ideas to science magazines. They printed everything he wrote. The scientists and professors were very interested in his ideas and asked Albert to work and teach with them. Now people recognised his genius and started to say that he was a genius.

2. What did Albert want to understand in school? Was he encouraged by his teachers to ask questions to satisfy his curiosity?

**Ans:** Albert knew there were mysteries in the world. He wanted to understand those mysteries. Albert started asking questions. He asked so many questions that some of his teachers discouraged him and told him he would never amount to anything unless he learned to behave like all the other students.

#### C. Choose the right answer.

*Albert's ideas helped build*

- aeroplanes.
- spaceships.
- huge buildings.

**Ans:** b

#### D. Read the lines and answer the questions.

*They asked Albert to work and teach with them.*

- Who were 'they'?
- Why were 'they' interested in him?
- What did people say about Albert after this?

**Ans:** a. 'They' were scientists and professors who read about his new ideas in science magazines.

b. They were interested in him because his new ideas were interesting and intelligent.

c. People started to say that he was a genius.