Grade 6 BTS
Unit 9 , Lesson 9 -10
Learners book page 112 - 113

The Light Beam That Got Away from The Time and Space of Uncle Albert *by Russell Stannard*

Gedanken is a schoolgirl who has to decide what to write about for a school science project. She goes to see her Uncle Albert, a famous scientist, and tells him about the project. They go outside and sit in a park, looking up at the stars in the night sky ...

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'How far away are they, Uncle?'

'A long way.'

'But *how* far?'

'Ooh ...' he paused, lost for words. 'So far that it ... well ... it takes years for their light to get here.'

'What?' Gedanken was not sure she had heard him correctly.

'Yes. Years. That light we're now looking at was given out years ago. **It's taken that long** to get here.'

'But why? It doesn't take *time* for light to go from one place to another. When I put on a light at home, the light goes everywhere at the same time.'

'Not quite,' explained Uncle Albert. 'It only *seems* to get everywhere at once. That's because rooms are small. You don't notice the tiny, tiny **time it takes** for the light to go from the lamp bulb to the walls. But out there in space it's different. The stars are a long, long way off and their light **takes ages** to make the journey to us – and that's despite how fast it goes.'

'How fast?'

'Three hundred thousand kilometres a second.'

He saw her looking blank, so added, 'A hundred and eighty-six thousand miles a second.'

She still didn't seem **to take it in**.

'Five times round the Earth in the time it takes to say "rice pudding".'

'Five times ...?'

'That's right. That's how fast it goes. And it still **takes years** to get here from those stars even at that speed.'

They continued to sit there gazing up at the sky, lost in thought.

Now, Answer the following questions:

Choose a, b or c

What are Gedanken and Uncle Albert talking about?

a how many planets there are
b how people travel to the moon
c how fast light travels

Are the sentences below true or false?

True **False** 1 Gedanken is thinking about possible topics for her schoolwork.

True **False** 2 Uncle Albert is a science teacher.

True **False** 3 Gedanken and Uncle Albert are looking at the stars.

True **False** 4 It takes a very long time for light to travel to Earth.

True **False** 5 Gedanken already knew the information that Uncle Albert told her.

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Activity book page 92 - 93

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Now, Answer the following questions: (Activity book P.92)

Activity 1: Read and put the story in the correct order

a. Uncle Albert uses lots of numbers to explain about the light travelling from the stars to Earth. ____

1 b. Gedanken and her uncle look at the night sky. 1

c. Gedanken asks her uncle how far away the stars are from Earth. ____

d. Gedanken finds the idea of light travelling from the stars difficult to understand. ____

e. Gedanken says that light doesn't take time to travel. ____

Activity 2: Complete the sentences:-

home	kilometres	Earth	five	room	years	fast	far	~~night~~

The speed of light

When we look at the stars in the sky at *night* (1), the light that we see has taken _____ (2) to travel to Earth. This is because the stars are so _____ (3) away from _____ (4). But light still travels very _____ (5) at 300,000 _____ (6) a second! At this speed, light could travel _____ (7) times around the world in about one second! When we put on a light at _____ (8), we don't notice the time it takes for the light to travel from the bulb to fill the _____ (9) because it is so short.

Now, Answer the following questions: (Activity book P.93)

Activity 1: Label the pictures -

1 **Vocabulary** Label the picture with the words in the box and then colour it in.

a plane	a planet	a spaceship	a satellite
Mars	space	stars	the Earth	the moon

a _____

b _____

c _____

d _____

e _____

f _____

g _____

h _____

i _____