



Unit 3

2nd Physics

READING PASSAGE

Niels Bohr

Niels Bohr (1885-1962) was a Danish physicist and winner of the 1922 Nobel Prize in Physics. Bohr began his work on the Manhattan Project after fleeing to Sweden from Denmark because of German occupation in 1943. Originally he was brought to London, working with the British Tube Alloys nuclear weapons development team. Bohr was eventually brought to the United States, and worked at Los Alamos under the pseudonym Nicholas Baker, as a knowledgeable consultant. He flew back and forth between London, Washington, and Los Alamos for the next two years. Both during and after the Manhattan Project, Bohr supported peaceful applications of atomic energy and openness between nations with regard to nuclear weapons. Bohr travelled to England in 1911 to work with J.J. Thomson at the Cavendish Laboratory, but failed to impress him with his experiments, though he received an invitation for post-doctoral work with Ernest Rutherford. He adapted Rutherford's nuclear structure to Max Planck's quantum theory and created the Bohr model, the most widely accepted model of the atom. In 1922, Bohr was awarded the Nobel Prize in Physics for his research and contributions on the structure of an atom. For more information on his scientific research and achievements, visit the [Nobel Prize Website](#).

Niels Bohr's Timeline:

-1885 Oct 7th Born in Copenhagen, Denmark.

-1903 Entered the University of Copenhagen and came under the guidance of Professor C. Christiansen.

- 1908 Won a prize from the Academy of Sciences in Copenhagen for solving the scientific problem of surface tension by means of oscillating fluid jets, and his paper was published in the Transactions of the Royal Society.
- 1909 Earned his Master's degree in Physics.
- 1911 Received his Ph.D. from the University of Copenhagen.
- 1911 Traveled to England to work with J.J. Thomson at the Cavendish Laboratory.
- 1913 Returned to the University of Copenhagen to work as a docent.
- 1913-1914 Held a Lectureship in Physics at Copenhagen University.
- 1914-1916 Lectureship at Victoria University in Manchester.
- 1916 Appointed Professor of Theoretical Physics at Copenhagen University.
- 1920-1962 Head of the Institute for Theoretical Physics, established for him at the University of Copenhagen.
- 1943 Fled from Denmark to Sweden because of the Nazi occupation.
- 1943-1945 Worked on the Manhattan Project.
- 1950 Sent a letter to the United Nations calling for an "open world" freely sharing scientific and technical information.
- 1955 Organized the first Atoms for Peace Conference in Geneva, Switzerland.
- 1945 President of the Royal Danish Academy of Sciences.
- 1947 Was awarded the Order of the Elephant from Frederick IX.
- 1962 Nov 18th Died in Copenhagen, Denmark.

Grammar

I-Reported Speech :

1-In the transmitted speech, we turn the near into the far. **2**-Convert auxiliary verbs from the present to the past. **3**-Turn the speaker into absentee. **4**-The spoken word never comes in the form of a question.

Direct Speech	Reported		Direct Speech	Reported
I	He, she		Here	There
You	I, me, us		Now	Then
We	They		Tomorrow	The day after
My	His, her		Yesterday	The day before
Our	Their		Today	That day
Am, is	Was		Open	To open
Are	Were		Don't	Not to
Will	Would		Do, does, did	If
Can	Could		Simple present	Simple past
Have, has	Had		Simple past	Past perfect
This	That		The formula of question	Answer formula

I-Examples of reported speech:

-I will travel with my father to London. --- He said he would travel with his father to London.

-We visited the zoo yesterday. --- They had visited the zoo the day before.

-You are having an exam today. --- We were having an exam that day.

-Do you speak English. --- He asked me if I spoke English.

II-Personal Pronouns:

Personal pronoun		Possessive: adjective and pronoun		Reflexive pronoun
Subject form	Object form	Possessive adjective	Possessive pronoun	
I	Me	My	Mine	Myself
You	You	Your	Yours	Yourself
He	Him	His	His	Himself
She	Her	Her	Hers	Herself
It	It	Its	Its	Itself
We	Us	Our	Ours	Ourselves
You	You	Your	Yours	Yourselves
They	Them	Their	Theirs	Themselves

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II-Examples of Personal Pronouns:

-My house is small.

-Her father is strong.

-Our room is big.

-Their family is happy.

-The first person you should trust is yourself.

III-Pronunciation:

Definition	Example
The letter <u>K</u> is not pronounced if it comes at the beginning of the word and comes after it the letter <u>n</u>	Knife, Knight, Know, Knowledge, Knee, Knock.
The letter <u>C</u> is pronounced <u>K</u> if not followed by one of the following letters <u>Y, E, I</u>	Clock, Clap, Car, Cry, Cat.
The letter <u>C</u> is not pronounced <u>S</u> unless one of these letters <u>y, I, e</u> comes after it and others are pronounced <u>k</u>	Center, City, Mercy.

A website to introduce the scientist: Niels Bohr

<https://ahf.nuclearmuseum.org/ahf/profile/niels-bohr/>

A website for learning English

<https://blog.alingliziah.com/في-اللغة-الإنجليزية-grammar-القواعد-النحوية/>