

1. READING

a) Read the following phrases. Can you guess the person?

- “The father of the Soviet atomic bomb”
- Three times Hero of Socialist Labor
- Airport in Chelyabinsk named after him

b) Read 5 facts about this person. Do you know any of them?

1. He created the first cyclotron in Europe.
2. He saved the Soviet fleet from German mines.
3. He headed the Soviet atomic project.
4. He and his team created the strongest explosive device in history.
5. He became a pioneer of nuclear power engineering.

c) Read the details on those facts and discuss the questions below.

1. Born in a small village in Simsky Zavod, in Ufa (now the town of Sim, Chelyabinsk Oblast), Igor Kurchatov was one of the first in the USSR to study atomic nucleus physics. In 1937 a team including Kurchatov created Europe’s first cyclotron. In 1945, the facility produced the first Soviet preparation of plutonium in pulsed quantities — the key element of the atomic bomb.
2. In 1941, the scientist was engaged in the development of demagnetization of warships. The system, installed on hundreds of ships, protected the Black Sea Fleet from German magnetic mines. A year later, the physicist headed the armour laboratory for the creation of materials to protect aircraft and tanks.
3. After the start of the Manhattan Project¹ in 1942, the USSR began to work on creating their own atomic bomb. To do this, it was necessary to establish the production of nuclear fuel — uranium and plutonium.

The project was completed successfully and in 1949 Igor Kurchatov’s team detonated a plutonium implosion bomb, called RDS-1 or First Lightning, at the Semipalatinsk test site (currently in Kazakhstan).

4. In parallel with the RDS-1, in 1951 the Kurchatov team successfully developed the RDS-2 bomb, which was twice as light and powerful.



¹ Manhattan Project - U.S. government research project (1942–45) that produced the first atomic bombs.

Ten years later, Igor Kurchatov's team of physicists developed a hydrogen bomb called the Tsar Bomba (nickname for AN602), which was the largest and the most powerful nuclear weapon ever detonated in human history.

5. After testing one of the bombs, the scientist devoted the rest of his life to nuclear disarmament and the peaceful use of atomic energy. Kurchatov headed the construction of the Obninsk Nuclear Power Plant in the Kaluga Region, which was the first civilian nuclear power station in the world. In 1959, his team built 'Lenin', the world's first nuclear-powered icebreaker.

KEY WORDS:

- bomb - бомба
- atomic bomb - атомная бомба
- implosion bomb - взрывная бомба
- hydrogen bomb - водородная бомба
- construction - строительство, сооружение
- explosive device - взрывное устройство
- German mines - немецкие мины
- nuclear disarmament - ядерное разоружение
- nuclear power - атомная энергия
- nuclear power engineering - атомная энергетика
- nuclear power station - атомная электростанция
- nuclear weapon - ядерное оружие
- peaceful use - мирное использование
- pioneer - родоначальник
- Soviet fleet - советский флот
- to be engaged in - заниматься, участвовать в
- to detonate - взрывать
- to head - возглавлять
- to install = to launch = to establish - устанавливать

Questions:

- What projects was Kurchatov engaged in?
- What was his position on the atomic bomb?
- What was his influence on the nuclear industry?

2. DISCUSSION

- Choose one of Kurchatov's projects and find information about when, where, how, why it happened. Make a presentation in class.
- Discuss in mini groups the benefits of using atomic energy.
- Discuss in mini groups the danger of utilising nuclear power.

3. PROJECT

Choose one of the areas where atomic energy is used.

You should:

- tell how it is used in your region.
- express your own opinion on possible ways of its development.
- use at least 5 words from the vocabulary list.