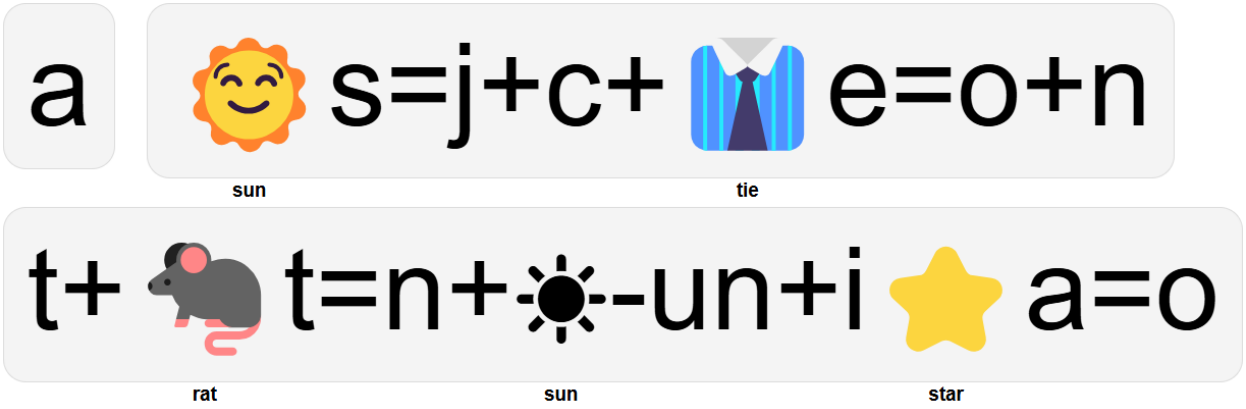
FROM THE HISTORY OF TRANSISTORS

9.1. Vocabulary

Ex. 1. *Solve the rebus puzzle.*

1.

2.



Ex. 2*. Explain the meaning of the words in Ex. 1.*

9.2. Put the words in the correct order.

1. was bell of Shockley director in telephone transistor 1947, research at labs

2. world working to that it Bell transistors next announced labs had year, invented the the

3. system, better telephone the keep communications needed tubes systems particular, its to Bell something vacuum than working in

4. biggest that no of leaps some exaggeration transistors it's have in humankind's technology enabled

5. improved on a transistor Shockley afterward, by soon developing their junction idea

9.3. Reading

Ex. 1. *Read the text.*

The history of transistors dates back to the mid-20th century. Before transistors, electronic devices relied on vacuum tubes, which were large, inefficient, and prone to failures. In 1947, three scientists at Bell Labs — John Bardeen, Walter Brattain, and William Shockley — invented the first transistor. This tiny device could amplify and switch electronic signals. Its creation marked a monumental shift in technology.

Transistors are made of semiconductor materials like silicon. They have three parts: the emitter, base, and collector. When a small electric current is applied to the base, it controls the flow of a larger current between the emitter and collector. This switching capability is fundamental for digital circuits.

The invention of transistors led to the development of smaller, faster, and more reliable electronic devices. Transistors are at the heart of modern computers, smartphones, and countless other gadgets. Over the years, they have become smaller and more powerful, following Moore's Law, which predicts that the number of transistors on a chip will double approximately every two years. This makes transistors central to the ongoing advancement of technology.

Ex. 2. *Answer the questions.*

1. Who were the three scientists at Bell Labs who invented the first transistor?

2. What were electronic devices relying on before the invention of transistors?

3. How do transistors amplify and switch electronic signals?

4. What are the three parts of a transistor made of semiconductor materials like silicon?

5. How did the invention of transistors impact the development of electronic devices?

6. What is the significance of Moore's Law in relation to transistors?

7. In what way are transistors essential for the ongoing advancement of technology?