Gordon Moore and his law

Gordon E. Moore was born in 1929, studied chemistry at university and graduated with a Ph.D. in chemistry and physics in 1954. Moore was particularly interested in the potential of the transistor, and in 1956 he went to work at Shockley Semiconductor Laboratory, property of William Shockley, one of the inventors of the transistor. After a year and a half, Moore and seven colleagues resigned and joined together to form a new company, the Fairchild Semiconductor Corporation. In 1957 Fairchild was trying to enter the transistor business and with investments from the founding members, the new company became one of the most important transistor manufacturers. Moore became director of the new company's research and development division in 1959.

During his years at Fairchild, Moore understood that the skills associated with the production of silicon chips were the most important factor for their development. Gordon Moore and Bob Noyce• left Fairchild in 1968 to establish the Intel Corporation. They decided to combine theory and practice by putting together research scientists and engineers to work on the production of chips, especially the magnetic oxide semiconductor memory chips that became Intel's first big commercial success.

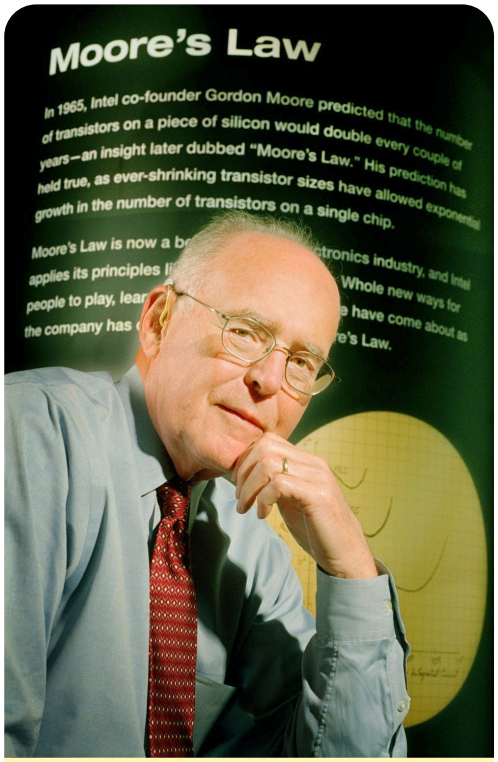
Moore had leading roles at Intel until 1997. In 1990 he was awarded the National Medal of Technology and Innovation, the highest US honour given for technological achievements.

Moore's law

Despite his brilliant career as a scientist and a manager, Gordon Moore is best known for the so-called "Moore's law" which he formulated in 1965. Moore's law is considered as a very important mirror of the growth of technology, as it predicted the speed of technological developments over the next decades.

In reviewing past increases in the number of transistors per silicon chip, Moore stated that this number doubled each year. This enabled producers to get twice as much computing power for little more money. In 1975, as the rate of growth began to slow, Moore revised his time frame to two years; in fact, in the 40 years after 1961, the number of transistors doubled approximately every 18 months, making the revised law a bit pessimistic.

Adapted from: https://www.britannica.com/biography/Gordon-Moore



achievement: *traguardo, risultato*
PhD: *Dottorato di Ricerca*
rate: *tasso*
to review: *rivedere, riesaminare*
to state: *stabilire*
time frame: *arco temporale*
twice as much: *il doppio*

See Online resources, Section 3 Unit 1 for more information on R. Noyce.

1 Match each sentence with its correct ending. There are two unnecessary endings.

1.	Gordon Moore received a…	☐	**a.** were a priority for Gordon Moore.
2.	William Shockley had…	☐	**b.** contributed to the invention of the transistor.
3.	The manufacturing techniques for transistors…	☐	**c.** the number of transistors doubled every 18 months.
4.	The Intel Corporation was…	☐	**d.** was a particular type of memory chip.
5.	Intel's first big commercial success…	☐	**e.** created by Gordon Moore and Bob Noyce.
6.	Moore's law is…	☐	**f.** was founded by eight people.
7.	The rate of growth of the number of transistors…	☐	**g.** began to slow down in 1975.
8.	From 1961 to 2001…	☐	**h.** PhD in chemistry and physics.
		☐	**i.** a mirror of technological development.
		☐	**j.** became director of the research and development division.

2 For each of the words given, write a sentence containing it.

➤ *Transistor – The transistor is a key component in electronics.*

1. Investment .....

2. Silicon .....

3. Founder .....

4. Technological .....

5. Rate .....

6. Research .....