**English Language**

**Theme:**

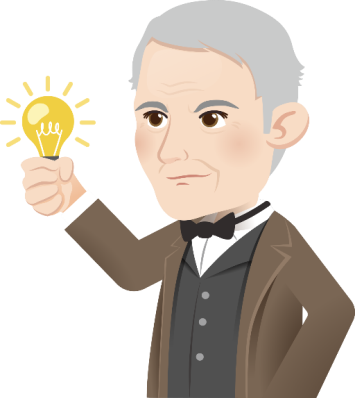
**Famous Scientists**

|  |
| --- |
| **Learning Objectives**  The reading task aims to   * enhance students’ reading skills through reading across the curriculum; * develop students’ summarising and note-taking skills through making effective use of mind maps and Venn diagrams; and * nurture students’ generic skills as well as positive values and attitudes, and kindle their interest in science through reading the inspiring life story of a famous scientist, Thomas Edison. |

**Brief Introduction to the Design of the Reading Task**

The reading task comprises two parts. The reading text for Part A is the biography of Thomas Edison. It is followed by a mind map for students to summarise the life and achievements of Edison and an open-ended question to stimulate students to think about the key qualities of a great scientist/inventor. Students are also encouraged to scan the QR code to view and learn an animated quote of Edison.

In addition to the biography, “Other information” is presented in Part B to motivate students to explore more about the inventions of light bulbs, and learn to compare the similarities and differences of two types of light bulbs using a Venn diagram. Students are then asked to choose a kind of light bulb for their new home and justify their choice with good reasons.



**Part A**

**The Biography of Thomas Edison**

Thomas Edison was a famous American scientist and inventor. He spent his whole life on inventions. He once said, “Genius is one per cent inspiration, ninety-nine per cent perspiration.”

**Childhood**

Edison was born in the United States in 1847. When he was small, his school work was not very good and his teachers thought that he was not attentive in lessons. His mum decided to teach him at home. Later, he worked on trains to sell fruit and newspapers. At night, he did experiments and printed his own newspapers on the trains. However, he became partially deaf at the age of twelve because of scarlet fever.

**Inventions**

At the age of sixteen, Edison worked as a telegraph operator and invented an automatic repeater, which sent telegraph signals between unmanned stations. In 1868, he worked twelve hours a day on different experiments and inventions. He invented an electric vote recorder which made the voting process faster.

In 1876, he started his own laboratory and invented many things. For example, he invented the phonograph, which is the first machine that could record and play sound. He also invented the carbon microphone, which made the sound of the new telephone louder. He then made a ‘domestic’ light bulb that lasted longer. In 1884, he invented the electric power distribution network so that more people could use light bulbs at home.

**Achievements**

Edison passed away at the age of 84. Throughout his life, he developed and patented more than 1,000 inventions, which helped improve the modern lives of people around the world.

1. Based on the information in the biography of Thomas Edison, complete the mind map, which summarises his life and achievements.

***Family and Education:***

**1. His school work was not** very good/ outstanding**.**

1. **His mum taught him at** home**.**

***Place and Year of Birth:***

**Place: in the** United States

**Year of birth: born in** 1847

**Thomas Edison**

***Job*: an** inventor**/ a scientist**

***Early Life:***

1. **He worked on** trains**.**
2. **He did** experiments **on trains.**
3. **He printed his own** newspapers**.**
4. **He became partially** deaf **because of scarlet fever.**

***Achievements/ Inventions:***

1. **He invented an** electric **vote recorder in 1868.**
2. **He invented the** phonograph **that could record and play sound in 1876.**
3. **He invented the carbon** microphone**, which made the sound of the new telephone louder.**
4. **He improved the design of the domestic** light bulbs **and invented the**

**electric power distribution network.**

1. **He patented more than** 1,000/ one thousand **inventions that helped**

**improve the lives of people.**



1. What made Edison a great scientist?

(Accept any reasonable answers)

He was hardworking and eager to learn even though the learning environment was not desirable. He was willing to spend long hours on different experiments and inventions.

3. Scan the QR code and write down his famous quote below.



Genius is one per cent inspiration and ninety-nine per cent perspiration.

**Part B Other information**

**Information about Incandescent and LED light bulbs**

In comparison, both the ordinary light bulbs and LED light bulbs can light up, use electricity and are good for use at home and in the office. The ordinary light bulbs are cheaper but of shorter lifespan. They are made of glass and fragile. The energy efficiency is low and they cannot be recycled. When the ordinary light bulbs get hot, there is a risk of burning your fingers. As for the LED bulbs, although they are more expensive, they are more durable, with 25,000 hours of lifespan. They are sturdy and made with epoxy lens, energy saving and recyclable. The LED bulbs remain cool even though they are switched on.

1. Based on the information in the above description, complete the Venn diagram which compares incandescent and LED light bulbs.

**Ordinary (incandescent) light bulbs** **Light emitting diodes (LED) light bulbs**



* (a) cheaper
* shorter lifespan
* made of glass and fragile
* (b) low energy efficiency
* cannot be recycled
* get hot when switched on, with the risk of burnt fingers
* more expensive
* (f) durable, 25,000 hours of

lifespan

* sturdy, made with epoxy lens
* energy saving
* (g) recyclable
* remain cool when switched on
* can (c) light up
* use (d) electricity
* good for use at home and (e) office

1. You have just moved to a new house. Your mum would like to buy some new light bulbs. She wants to buy LED light bulbs, but they are quite expensive. Give her some advice by comparing the ordinary and LED light bulbs.

(Accept any reasonable answers)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_