

Communicating with light

■ What is light?

Visible light is the only type of electromagnetic energy that we can see with the **naked** eye. The sun is our main source of visible light, but it can also be emitted by fire, light bulbs, and other devices. Light is what gives things their visible form, shape, texture, and colour, but, over the centuries, light has been used as a form of communication, too.

■ Light messages

In ancient times, light was used to convey messages through fire, and the Romans used polished metallic **plates** for sunlight reflection to carry out long distance signalling. Later on, ships started using signal lamps to transmit messages in Morse code.

■ Light in art

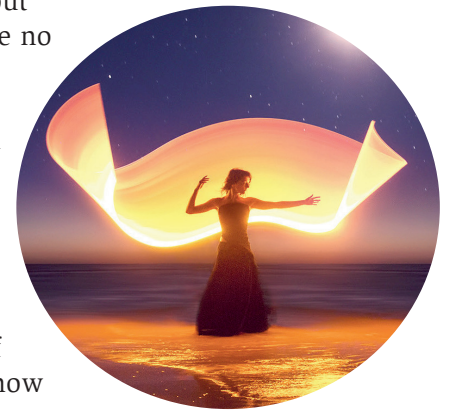
Light and **shadow** have always been extremely important in art to communicate concepts and have viewers focus on specific details, too. For example, Caravaggio created dramatic paintings that showed the mass of the human form and the three-dimensional experience of space through the use of *chiaroscuro*, a strong contrast of light and darkness achieved by a single directional light source that **shone** intensely on the main subject.

■ Light in medicine

The use of light in medicine produces successful results in the treatment of a variety of illnesses, and light is necessary to the human body to avoid diseases such as **rickets** and depression. Also, medicine has found other ways to use light: x-rays, **CAT** and **MRI scans**, for example, would be useless were there not contrasts of light and shadows to analyse.

■ Light in photography

One of the most modern forms of communicating using light is photography. In fact, *drawing with light* is a way of describing photography: without light, there could be no photography. Since its creation, the possibilities offered by the **exploitation** of light in photography have evolved so much that its role as a crucial form of communication is now **indisputable**.



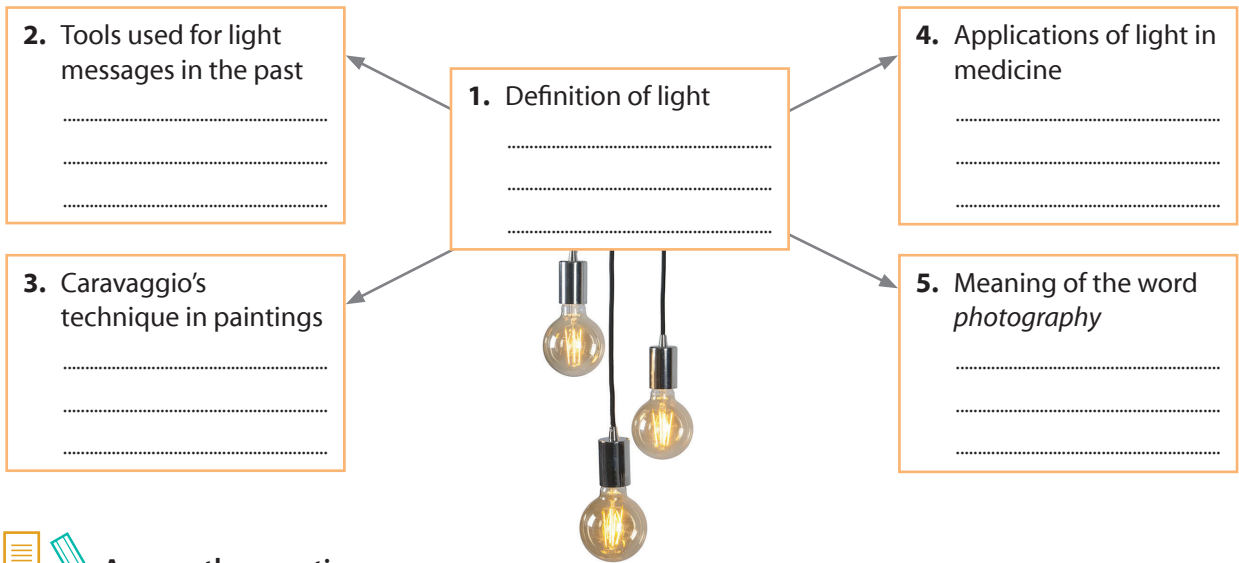
CAT (Computed Axial Tomography): TAC
exploitation: *sfruttamento*
indisputable: *incontestabile*

MRI (Magnetic Resonance Imaging): *risonanza magnetica*
naked: *nudo*
plate: *piastra*

rickets: *rachitismo*
scan: *scansione*
shadow: *ombra*
to shine: *brillare*



1  Read the passage and complete the chart.



2  Answer the questions.

1. What visible qualities does light give to things?
2. What amazing effects in painting did Caravaggio create with the technique of *chiaroscuro*?
3. What does *chiaroscuro* consist of?
4. What kind of diseases can be treated in medicine with the use of light?
5. Which of these assertions best describe the writer's purpose? There may be more than one answer.
 - a. To explain the use of light in the past.
 - b. To describe the technique of Caravaggio's paintings.
 - c. To say that light is getting more and more important in communication.
 - d. To explain how light can be used in different fields of human activity.
 - e. To state that there is no photography without light.

3   Fill in the blanks with the given words. There are two extra words.

sheet • paper • everyday • exposing • form • object • painters • camera • images • space • material • sun

A photogram is a picture made on photographic **1.** without the aid of a **2.** You can make one yourself by placing an **3.** directly on some light-sensitive **4.**, which is then exposed to light or the **5.** In 1922, the American photographer Man Ray made his "rayographs" without a camera, by placing objects such as a coil of wire, and other circular forms on a **6.** of photosensitised paper and **7.** them to light. He had photographed **8.** objects before, but these unique, visionary **9.** immediately put the photographer among the most prominent avant-garde **10.** of the 20th century.



LIGHT AND RELIGION

The concept of light has also been debated and interpreted since ancient times in the holy scriptures of the world religions especially Hinduism, Buddhism, Judaism, Christianity and Islam. In religious symbolism, light is strongly connected to our ability to see: sacred texts use the theme of blindness to describe those who are spiritually lost. Recovering sight is associated with 'seeing the light' and spiritual awakening.

