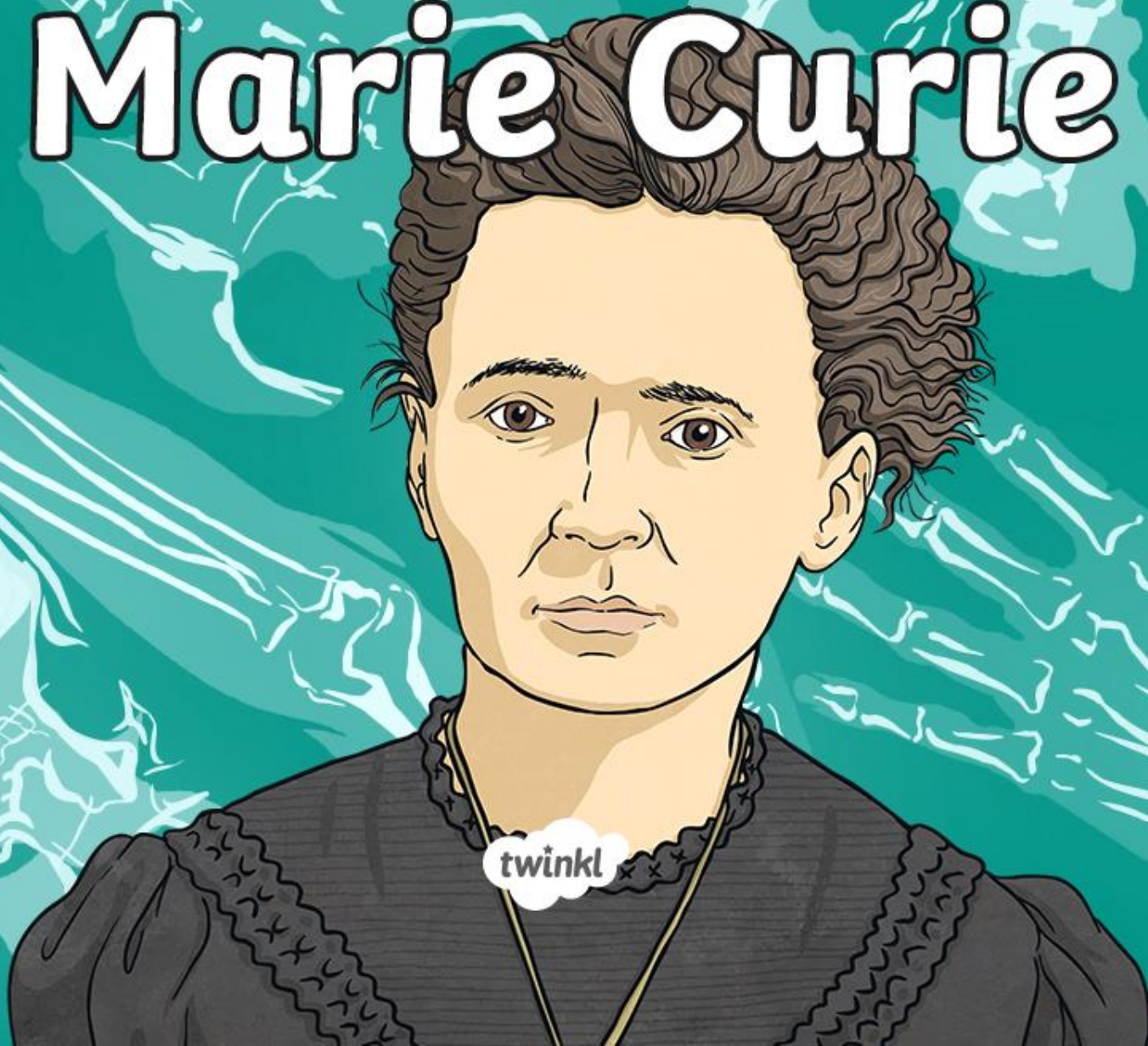


Marie Curie



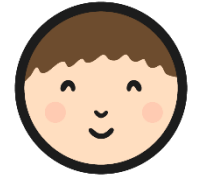
Aim

- To explain how Marie Curie's work on x-rays helped us identify bones.

Success Criteria

- I can describe Marie Curie's life and work.
- I can explain how her scientific ideas about x-rays changed health and medicine.
- I can identify the bones shown in x-rays, and explain the bones' functions.

Who Was Marie Curie?



Marie Curie was a very famous scientist who worked on physics and chemistry.

She is best known for discovering two new elements (radium and polonium) and for developing the use of x-rays and radiation in medicine.

Use the **Marie Curie Fact Sheet** to create your **Marie Curie Flip Book Biography** all about Marie's life and career and the discoveries she made.

Her Life Ideas: birth, school, Paris, Pierre, death

Her World

Her Achievements

Her Legacy How does Marie's life and work affect people today?

Marie Curie

Marie's Life

Marie Curie was born Maria Skłodowska in 1867 in Warsaw, a city in Poland. She lived with her mother, father and four brothers and sisters. Marie's parents were both teachers and her father taught her the basics of science at a young age. She went to the local schools with her friends, brothers and sisters, and was a good student who excelled in her studies.

After she finished school, Marie worked as a private tutor for children in Poland. She wanted to make some money so she could travel to Paris and study science at the university there. At that time, women were not allowed to go to university in Poland, so Marie knew she had to leave her home country if she wanted to continue her scientific work. At the age of 23 or 24, Marie moved to Paris and attended lessons at the university there. She achieved degrees in both physics and maths.

In 1895, Marie married Pierre Curie, a physics professor. She decided to stay in Paris and live with him. Even though the Curies were poor, they were still able to carry out investigations and scientific research. Marie had heard about the work of Henri Becquerel, who had been finding out about x-rays and uranium. She was inspired to do her own research in this area and this is when she discovered the two brand-new elements. She named the first of these materials 'polonium' after her home country of Poland.

In 1906, Marie was devastated when Pierre was killed in a road accident. She continued working, but she herself died in 1934 as a result of a blood disorder caused by a lifetime of exposure to dangerous radiation.

Did you know...?

Marie Curie's work books and papers are still so radioactive that it is dangerous to handle them. They are stored in lead-lined boxes and anyone who wants to read them must wear a protective suit.

twinkl plan. Science Year 3/4/5/6/7/8/9/10/11/12/13/14/15/16/17/18/19/20/21/22/23/24/25/26/27/28/29/30/31/32/33/34/35/36/37/38/39/40/41/42/43/44/45/46/47/48/49/50/51/52/53/54/55/56/57/58/59/60/61/62/63/64/65/66/67/68/69/70/71/72/73/74/75/76/77/78/79/80/81/82/83/84/85/86/87/88/89/90/91/92/93/94/95/96/97/98/99/100

X-Rays

X-rays are waves of electromagnetic radiation that can pass through many opaque materials.



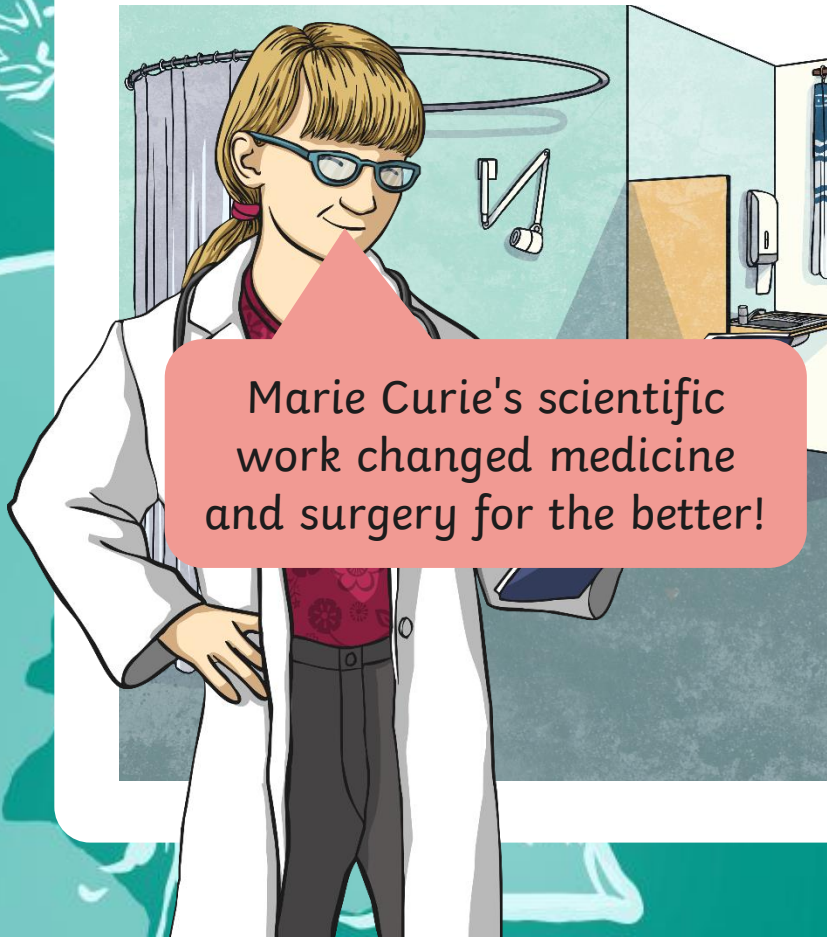
Doctors look at x-ray images to identify fractures and other problems.



- They can be used to take photographs of the inside of the body.
- An x-ray machine sends invisible x-ray particles through the body. The images produced are recorded on a computer or on film.
- X-rays cannot travel easily through dense parts of the body, such as bones, so these will appear white on the x-ray image. X-rays can pass through softer parts of the body more easily, so muscles and organs will appear grey on the image.
- X-rays can be used to examine most parts of the body. They are most often used to look at bones, teeth and joints, but are also sometimes used to investigate soft tissue, such as internal organs.

X-Rays

Before Marie Curie developed the use of x-rays in medicine, doctors had to diagnose broken bones and other problems simply by physical examination, which meant feeling for any injuries.



Marie Curie's scientific work changed medicine and surgery for the better!

Sometimes, this meant that injuries and problems were not spotted or not treated correctly. It could be dangerous for patients if their problems were not treated properly. Once x-ray machines were developed and available, doctors could identify problems much more quickly and accurately. Now, x-rays are regularly used in hospitals and patients can be cared for properly and safely.

Bone Bingo

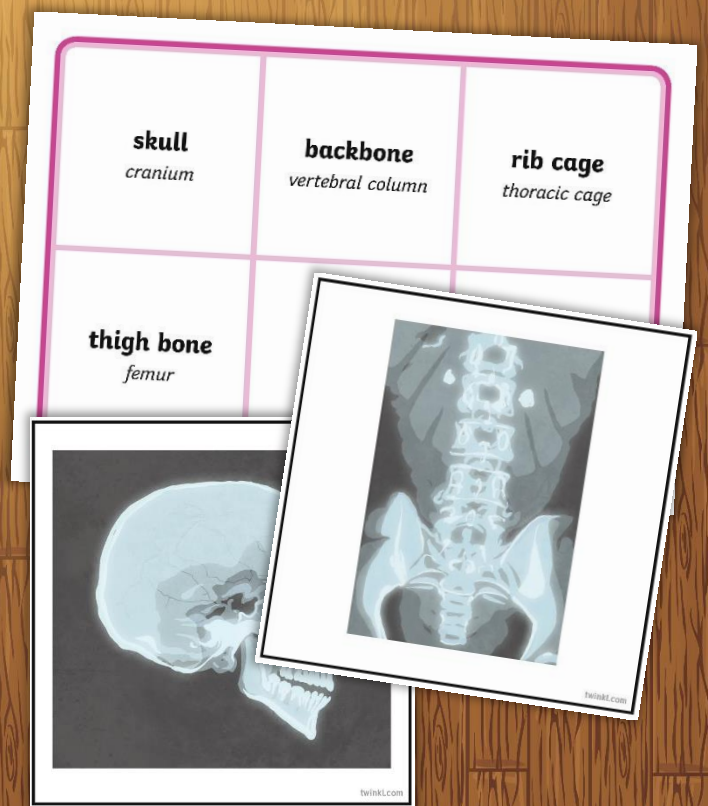


Can you identify bones by looking at x-ray images?

On your **Bone Bingo Board**, you will see the names of different bones. Look at the different x-ray images. When you see one that matches the name of a bone on your Bone Bingo card, cross it off.

The aim is to be the first person to cross off all the names of bones in a full line or row.

Good luck!



What Do Bones Do?

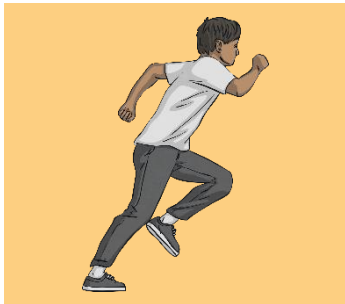


Bones have three main functions in our bodies.



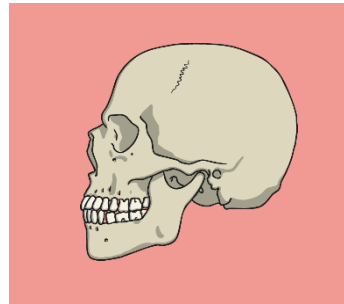
Can you recall any of these functions?

Bones are used for support, protection and movement.



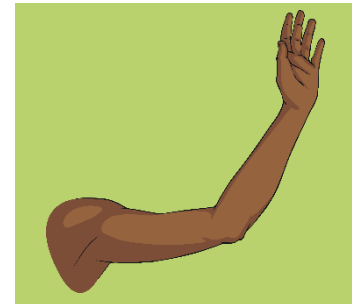
Support

Our bones support our bodies and keep us upright.



Protection

Bones protect some of our most important organs. For example, the skull protects the brain.



Movement

Joints between bones allow our bodies to move. The knee joint allows the leg to move.



Can you think of any other examples?

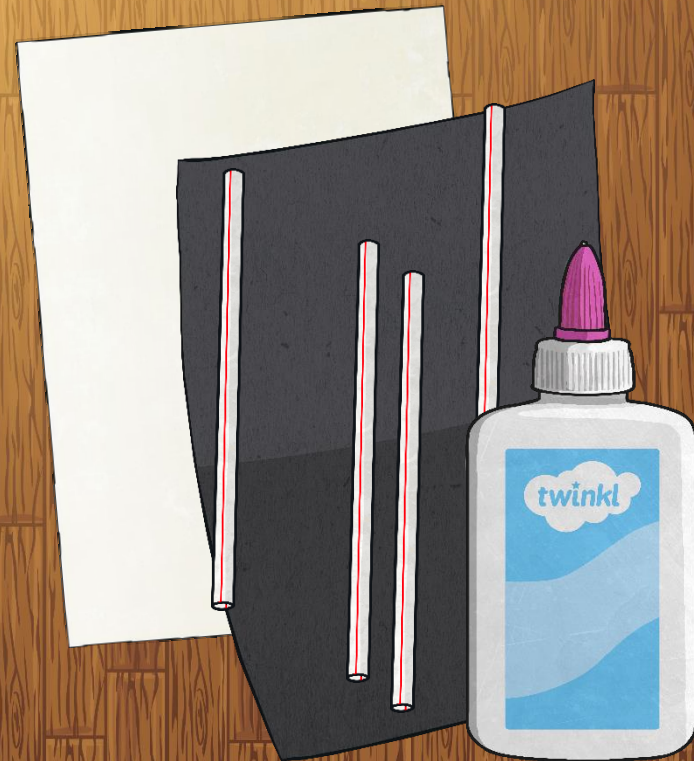
X-Ray Explanation



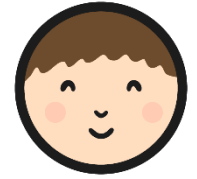
Your task is to create your own model of an x-ray image of a bone or bones, and explain the function of the bones in your x-ray.

Use black paper or card as the background of your x-ray image. Use art straws or white card to create the bones, and stick them to the background. Make sure you try your best to stick the bones on in the correct layout.

Complete the [X-Ray Explanation Activity Sheet](#) and stick it beneath your model x-ray image.



What Have You Learnt?



In this lesson, you will have found out about Marie Curie, x-rays and the skeleton.

Tell your partner five things you have learnt in this lesson, including:

two facts about
Marie Curie;



two facts about x-
rays;



one fact about the
skeleton.

