

History of X-rays

Class: Middle school/high school

Level: intermediate.

Time : 45 minutes

Aims:

- To learn about different types of injuries
- To learn about discovery of X-rays, their function
- To learn vocabulary connected with injuries
- To look for specific information on the internet
- To read for specific information
- To transfer the information.
- To use web pages

CLIL: Physics, Biology, Art

Materials : included photocopies, access to the internet and personal computer, speakers.

STAGE	AIMS	PROCEDURE	CLASSROOM LANGUAGE	TIME	MATERIALS
Introduction	To start the lesson	Check the register /check homework		1 min/ 6 min	
Warm – up activity	To provide students with introduction to the topic	Ask students about the injuries they had in the past, how they happened and what was done ?	Have you ever had any injury ? Have you had anything broken? What can cause an injury?	5 min	
The main part of the lesson	To learn vocabulary connected with injuries	Ask the students to work individually and complete the sentences. Check answers as a class.	Complete the sentences using the words from the box: <i>banged dislocated fell</i> <i>landed pulled slipped</i> <i>smash squashed</i> <i>stubbed stumbled tripped</i> <i>twisted</i> <i>went over</i>	10 min	Worksheet 1 Internet
	To introduce the topic of the lesson – X-rays	Ask the students what they know about the X-rays-class brainstorming	Do you know what an X-ray is ? Where are they used? How helpful are they? Who discovered them ?	3 min	
	To learn about X-rays	Ask the students to work in pairs, allow time for looking for the answers and check as a class.	Go online and find the answers to these questions: <ul style="list-style-type: none"> • Who discovered X-rays? • Why are they called X-rays? • What did the first rontgenogram show? • Why wasn't the discovery patented? 	10 min	

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	To learn how the X-rays work	Ask the students to watch a film, check the understanding by asking the students to summarise the information from the video.	Watch a short film about X-rays: http://science.howstuffworks.com/innovation/inventions/who-invented-the-x-ray.htm	10 min	
Wrap- up	To learn about X-rays and art	Ask the students to watch a gallery of photographs taken using X-rays	As it turns out X-rays can also inspire artists, have a look at the stunning gallery : http://www.x-rays.nl/WebGalerie_e.htm	5 min	

Sources:

<http://science.howstuffworks.com/innovation/inventions/who-invented-the-x-ray.htm> .

http://www.x-rays.nl/WebGalerie_e.htm

<http://www.nlm.nih.gov/medlineplus/xrays.html>

<http://science.howstuffworks.com/innovation/inventions/who-invented-the-x-ray.htm>

<http://www.unc.edu/~afulp/history.htm>