LESSON PLAN
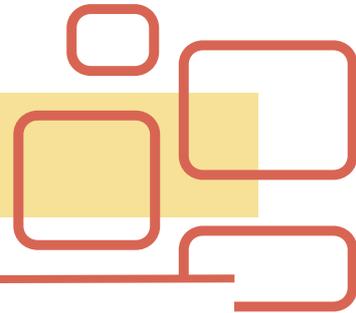
STEAMERs

Artificial Intelligence (IA)
Do you want to see how your hand-draw drawings come to life?

Summary

Date	xxx	Total duration	120 minutes
Subject	Introduction to Artificial Intelligence and its limits using body parts		
Year Group or Grade Level	5 years old		
Main topic	To introduce students to the concept of Artificial Intelligence. Using a application that automatically animate children's hand-drawn figures of people and humanlike characters.		
Subtopics or Key concepts	• Examples of AI • Definition and limits of AI	• Concept of Animated drawings	

Learning Objectives

- Every day examples of AI (adapted to the age of the pupils)
- Definition and limits of AI (adapted to the age of the pupils)

- AI is designed by people and helps us in our daily lives.
- AI does not replace people
- Concept of Animating a drawing/learning to use an AI application

Material needed

- Tablet or smartphone with camera and internet access
- Paper or cardboard cards of different colors.

- Colors felt tip pens
- Crayons with colors
- scissors

Lesson Outline

	Duration	Guide	Remarks
warm-up	10 minutes	Ask :What do you think happens when somebody ask to mobile phone or virtual assistant for a song? Who plays the song?	The teacher can use the mobile phone to demand differents songs (preferably songs that the children are familiar with)
	5 minutes	AI has its limitations (it can never replace a physical person).	Cause the virtual assistant to fail in the choice of the song (avoid vocalizing, speaking fast, giving a confusing command).
	5 minutes	Ask if they would like that their drawings of the human body to move/animate.	Explain that we are going to use an AI to animate our own drawings of the human body.
	10 minutes	Review of the main body parts we need to draw: leg, foot, arm, hand, chest, head and face.	The software has to clearly distinguish these parts in order to perform the animation correctly.
main activity	5 minutes	Definition of AI (adapted to the age of the pupils)	Definition IA: The ability of a computer/device/robot to provide a solution or answer a question by simulating the human brain.
	10-15 minutes	Main Discussion: Every day examples of AI (adapted to the age of the pupils)	Virtual assistant, self-parking car, face recognition systems, etc. Point out to students that AI is a simulation of human intelligence, and that behind these mechanisms is the previous work of real people.

	Duration	Guide	Remarks
main activity	30 minutes	Guided Activity: 1. Draw a human body on the colored carboard (not white). The cardboard and the felt tip pen used should be of similar colours. 2. Open the application and scan the drawing (Using the guide provided by the application itself). Note: Divide the class into working groups of 4 people (more or less).	As can be seen, the application is not able to differentiate correctly between body parts (it does not distinguish between paper and drawing). The AI does not work in all circumstances, it has its limitations, while the human are able to distinguish between the child's drawing and the cardboard.
	30 minutes	3. Draw a picture of a human body again (this time on cardboard or white paper) and colour it in dark tones. 4. Point out to students that the joints of the human body have to be clearly differentiated and separated. 5. Each student must show his or her animation to his or her working group. If an animation is not very successful, let the children help each other to find and solve the problem.	In this case the AI (software) has collected (scanned) our drawing, correctly processed all the body parts and made an animation with our drawing. Promote teamwork so that students help each other to use the application and to correct drawings.
assessment	30 minutes	Assessment evaluation The aim of this lesson is to introduce students to the term Artificial Intelligence and its characteristics.	• The students have been able to use Artificial Intelligence software to make an animation of their own drawings of the human body. • Through this lesson, the students should learn what AI is, several examples and its basic characteristics.

Assessment exercise

- <u>Concept of Animating a drawing/learning to use an AI application</u>: Each working group should present their animations to the rest of the class. In each animation all body parts must be perfectly defined.
- <u>Definition and Every day examples of AI</u>: Each group should be able to give an example of an AI and explain (using their own words):
  - How the IA Works : IA simulates the human brain/way of thinking
  - AI is created by humans
- <u>Limits and objectives of AI</u>: Each group must know that:
  - AI does not replace people
  - AI has its limitations (it does not always work, it depends on the data available).

The teacher can help pupils to express themselves using the examples seen during the lesson and asking appropriate questions: "Does our AI application always distinguish the body parts we have drawn...no....Why?

Conclusions and recommendations

- The idea of this lesson is that the students become familiar with the concept of Artificial Intelligence. And feel it as a positive tool that is destined to make our lives easier.
- The application "Animated Drawings" has been chosen because children are fascinated to see their drawings move and come to life.

- It is recommended that the teacher learn how to use the "Animated Drawings" application before teaching the class.
- To make it easier for students to access the application, it is recommended to create a free QR code from the website.
- Link Animated Drawings application: https://sketch.metademolab.com/canvas