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Worksheet

This Worksheet is designed to guide educators on how the comic strips can be integrated into their classroom. Teachers can adjust based on student level and depth of discussion needed.

Topic N° 1 – Rise of Robots!

Lesson Duration: 2 sessions (90 minutes total)]

Lesson Plan

1 Pedagogical objectives [15 minutes]

By the end of this activity, students will:

- Understand the basic components and functions of robots.
- Explore real-world applications of robotics in various sectors.
- Reflect on the implications of automation and AI in society.

2 Introduction: What is Robotics? [10 minutes]

Robotics is the branch of technology that deals with the design, construction, operation, and application of robots. From industrial robots on factory floors to AI-powered assistants in our homes, robotics is reshaping how we live and work. Have you ever interacted with a robot? Think of a vending machine, a robot vacuum, or even a chatbot!

3 Explore the Storyline [15 minutes]

Teacher's Role: Present the comic strip "Rise of Robots!"
Student Task: Read the comic strip and analyse:

- What is happening in the story?
- How do the characters interact with the robots?
- What challenges or ethical dilemmas arise?

Discussion:

- What components make up a robot?
- How are robots currently used in hospitals, factories, and homes?
- Are robots replacing jobs, or creating new ones?

Activities

Activity 1: Observation and Reflection [10 minutes]

Objective: Recognize key concepts in robotics.

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Instructions: Observe the following images and identify those related to robotics. Justify your choices.

Materials: (Include images such as a robotic arm, drone, vending machine, smartphone, washing machine)

Discussion Questions:

- Which images represent robots?
- How are they similar or different in function and intelligence?

Activity 2: Combine the Elements [10 minutes]

Objective: Link robotics concepts with definitions.
Instructions: Match each concept to its correct definition.

Concept	Definition
Sensor	A device that allows the robot to perceive its environment (e.g., cameras, microphones)
Actuator	A mechanism that enables movement or mechanical function in the robot
Control System	The 'brain' of the robot, which processes data and decides what actions to take
Automation	The use of systems or machines to perform tasks with minimal human input
AI	The simulation of human intelligence in machines, enabling them to learn and make decisions

Activity 3: Reflective questions (25 minutes)

Activity 3.1. Mini-challenge: Creation and Imagination [15 minutes]

Objective: Encourage creative application of knowledge.

Instructions: Imagine you are a robotics engineer. Design a robot to solve a real-world problem.

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- Describe your robot's function and design.
- Create a simple sketch or mini comic strip showing it in action.

Activity 3.2. Group or Pair Discussions (10 minutes)

Prompt:

- How do robots affect our daily lives—positively and negatively?
- Can robots ever replace human relationships and emotions?

Conclusion and Review (5 minutes)

Quick summary: Summarize the 3 most important points about the topic.

1. Robots are built from sensors, actuators, and control systems.
2. They are used in medicine, manufacturing, exploration, and daily life.
3. Robots create both opportunities and challenges for our society.

Final Quiz : Answer the following questions in one sentence.

1. What is a robot in one sentence?
   A robot is a programmable machine capable of carrying out complex tasks autonomously.
2. Give an example of a concrete application.
   Surgical robots assist doctors during operations with extreme precision.
3. What do you think will be the future of robotics?
   Robots will become even more integrated into daily life, working alongside humans in various roles.

Remember: Technology is powerful–but it' s up to us to use it wisely.