

Grades 9-12: Applications of AI

# Types of AI

**Time Estimate:** 35-50 minutes

## Learning Objectives

A lesson in differentiating types of AI based on their functionality and use cases.

## Materials Needed

- ✓ **AI Categories Video:** "What is AI? Narrow AI, General AI, and Artificial Superintelligence" by the Code Institute) <https://youtu.be/9CMYhIk1WAE?si=c88cilK9huG-P5ju>
- ✓ Skill Struck Platform (optional)

# Activities

## WARM UP

### Time

5 minutes

### Description

- Think of an AI Character:** Ask students to think of a robot, machine, or AI program from a movie or TV show. Would it be possible with today's AI technology?
- Explain Why:** After naming their example, have them justify their choice using what they know about AI (e.g., machine learning, natural language processing, robotics).
- Discuss in Pairs:** Pair students to share and compare their examples. This encourages interaction and critical thinking.
- Class Poll:** Conduct a quick class poll to determine consensus on whether each example is "realistic" or "not realistic" based on current AI capabilities.

## (CONT.) WARM UP

Potential Student Examples:

- JARVIS (*Marvel Cinematic Universe*)
- R2-D2 or C-3PO (*Star Wars*)
- BB-8 (*Star Wars*)
- Baymax (*Big Hero 6*)
- Hiro's Microbots (*Big Hero 6*)
- Wall-E (*Wall-E*)
- TARS (*Interstellar*)
- ChatGPT-style AI (from various media)
- Smart assistants like those in *The Mitchells vs. The Machines*

## TEACHER PRESENTATION: AI CATEGORIES

### Time

10 minutes

### Description

#### 1. Introduction and Video

##### ◦ Setup

- Introduce the lesson by briefly explaining that AI can be classified into three categories based on its capabilities and scope:
  - **Narrow AI:** Specialized in specific tasks (e.g., voice assistants, recommendation systems).
  - **General AI:** Hypothetical AI capable of performing any intellectual task a human can do.
  - **Super AI:** Theoretical AI surpassing human intelligence in all fields.
- Tell students they'll watch a short video explaining these categories.

##### ◦ Watch the Video

- [Play this video by The Code Institute](https://youtu.be/9CMYhIk1WAE?si=VW_BvSbf5C3CXNgW) that explains the differences between Narrow AI, General AI, and Super AI.

[https://youtu.be/9CMYhIk1WAE?si=VW\\_BvSbf5C3CXNgW](https://youtu.be/9CMYhIk1WAE?si=VW_BvSbf5C3CXNgW)

#### 2. Prediction Activity

##### ◦ Step 1: Frame the Task

- After the video, explain to students that General AI and Super AI do not yet exist, but researchers and futurists are working toward them.
- Tell students their task is to predict when they think these two types of AI will become reality and explain their reasoning.

## (CONT.) TEACHER PRESENTATION: AI CATEGORIES

- **Step 2: Individual Predictions**

- Ask students to write down their predictions for:
  1. When General AI might emerge.
  2. When (or if) Super AI might be developed.
- Encourage them to include reasons for their answers, such as technological progress, ethical considerations, or challenges in replicating human cognition.

- **Step 3: Pair and Share**

- Pair students up to share and compare their predictions.
- Ask them to discuss:
  - Why they chose their predicted timeline.
  - Factors they think might speed up or delay AI development.

### 3. Class Discussion

- **Facilitate a Class Poll:**

- Take a quick poll by asking students to raise their hands for different prediction ranges (e.g., 10 years, 20–50 years, 100+ years, or "never").
- Record the results on the board to visualize class consensus.

- **Highlight Key Factors:**

- Summarize common themes from student explanations, such as technological progress, ethical challenges, resource limitations, or public acceptance.

## CLASSROOM ACTIVITY: OPERATION CLASSIFICATION

### Time

15 minutes

### Description

Put students into pairs.

Provide a list of AI systems or scenarios (e.g., self-driving cars, a robot housekeeper, a supercomputer solving world hunger).

Students work to classify each of the following examples as **Narrow AI**, **General AI**, or **Super AI**:

- **Siri or Alexa:** A smart assistant that responds to voice commands.
- **Netflix Recommendation System:** Suggests shows or movies based on viewing history.
- **Self-Driving Cars:** Vehicles that navigate roads and make driving decisions.
- **Sophia the Robot:** A humanoid robot that can interact in conversations.
- **Google Translate:** Translates text or speech between languages.
- **Chess-Playing AI:** AI programs like Deep Blue that play chess against human opponents.
- **Healthcare Diagnosis System:** Analyzes symptoms and medical data to suggest diagnoses.
- **AI in Movies** (e.g., HAL 9000 from 2001: A Space Odyssey): A fictional AI system with advanced reasoning and human-like decision-making.
- **Weather Prediction Supercomputer:** Analyzes large datasets to forecast weather patterns.
- **Robot Vacuum** (e.g., Roomba): Cleans floors autonomously using sensors.
- **Facial Recognition System:** Identifies individuals in photos or video feeds.
- **AI-Powered Writing Tool:** Generates essays, articles, or stories based on prompts.
- **A Hypothetical AI Overlord:** A theoretical AI system that controls all aspects of society.
- **Smart Traffic Management System:** Uses AI to optimize traffic flow in a city.
- **AI-Based Game Opponent:** Adapts to players' skills in video games to provide challenging gameplay.

## ★ BONUS: DIGITAL PLATFORM ACTIVITY

### Time

15 minutes

### Description

Want to extend this lesson with an interactive digital experience designed for students in grades 9–12?

Students can explore the key categories of AI through a guided online textbook and quiz on the Skill Struck AI literacy platform.

Set up a **free** AI literacy account for your class:

[Create a Free AI Literacy Account](#)

[skillstruck.com/free-ai-literacy-2025-2026-skill-struck](https://skillstruck.com/free-ai-literacy-2025-2026-skill-struck)

[Access the lesson here](#) once you've created your free account.

## WRAP UP

### Time

5 minutes

### Description

Open up your AI platform of choice (ensure that it is school-approved before doing so), like [Chat for Schools](#), and input the following prompt:

"Write a short story about the emergence of Super AI and how it transforms the world. Include details about its origins, its capabilities, and the impact on society."

After receiving a response, ask students to refine the prompt by specifying a genre (e.g., utopian, dystopian, sci-fi thriller), a particular perspective (e.g., a scientist, a regular citizen, or the AI itself), or a key theme (e.g., ethics, economy, or daily life).

Students will then compare how their refinements changed the storytelling and discuss which prompts led to the most creative or thought-provoking responses.

#### Critical Thinking Questions:

- Why do you think most AI systems today are Narrow AI?
- What would be the biggest challenge in creating General AI?
- Do you think Super AI will ever become a reality? Why or why not?