

Name:

Date:

# Understanding Artificial Intelligence (Challenge)

## AI Audit

Create an AI inventory of your morning routine. List every piece of technology you used and analyse whether it uses AI, and if so, what type.

TECHNOLOGY	DOES IT USE AI? <div>Yes or No</div>	TYPE OF AI USED	HOW IS THE AI USED?

## Deep Dive into AI

Define Artificial Intelligence in your own words (3-4 sentences). Include:

- ★ What AI is
- ★ How it learns
- ★ How it differs from traditional computer programs

# Research challenge

What is "Machine Learning"? How is it related to AI?

## TYPE 1: VIRTUAL ASSISTANTS

Advanced questions:

Explain how Natural Language Processing allows AI to understand different accents, dialects, and languages:

What challenges might virtual assistants face when trying to understand human language? (Think about: sarcasm, context, slang)

Privacy concern: Virtual assistants are always listening for their wake word. What are the potential privacy implications of this technology?

TYPE 2: RECOMMENDATION SYSTEMS

Design challenge: You are creating a recommendation AI for a music streaming service.

What data would your AI collect to make good recommendations? (List at least 5 data points)

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Create a detailed algorithm flowchart showing how your AI decides what song to recommend next. Include decision points, data analysis, and the recommendation output.

(Use the space below - make it detailed!)

Ethical consideration: Recommendation systems create “filter bubbles” - they only show you content similar to what you already like.

Why might this be a problem?

How could this be improved?

## IMAGE RECOGNITION (COMPUTER VISION)

Technical exploration:

How does AI learn to recognize faces? Explain the process from training data to recognition:

Real-world application research: Choose ONE area where image recognition AI is used:

- ☐ Medical diagnosis
- ☐ Self-driving cars
- ☐ Security systems
- ☐ Wildlife conservation

Explain how AI is used in this field:

What are the benefits?

What are the risks or concerns?

# Comparative Analysis - AI vs Human Intelligence

Create a detailed comparison table:

CAPABILITY	HUMANS	AI	WHO'S BETTER AND WHY?
SPEED			
CREATIVITY			
PATTERN RECOGNITION			
EMOTIONAL UNDERSTANDING			
ETHICAL REASONING			
EMOTIONAL UNDERSTANDING			
LEARNING NEW SKILLS			

# Critical Thinking

### Advanced questions:

AI bias: AI systems can sometimes be biased because they learn from data created by humans. Give an example of how this might cause problems:

[illegible]

Future prediction: Choose ONE area of your life (education, entertainment, transportation, healthcare). How do you think AI will change it in the next 10 years?

Ethical debate: Some people worry that AI might take jobs away from humans. Others think AI will create new types of jobs. What's your opinion? Give reasons.

[illegible]

# Design Your Own AI

Innovation challenge: Design an AI system to solve a problem in your school or community.

Problem to solve:

Type of AI needed: (Virtual Assistant / Recommendation System / Image Recognition / Combination)

How it works:

Data it needs:

Benefits:

Potential concerns:



Draw or diagram your AI system below:

A large, empty rectangular box with rounded corners and a teal border, intended for drawing or diagramming an AI system.

# Exit Ticket: Advanced Reflection

Most interesting thing I learned:

Most concerning aspect of AI:

Connection to another subject (How does AI relate to Science, Maths, PSHE, or another subject?):