



WILLOW WOOD COMMUNITY PRIMARY SCHOOL

Medium Term Planning

Artificial Intelligence (AI)

***Statements in bold are taken directly from NC documents. Statements not in bold are skills we think are important for the topic.**
Key art skills to be taught across all topics and considered when making an assessment judgement include:

Year 1

Autumn 1 - What is a Machine?

L.I: Understand machines vs living things.

Activities:

- “Machine or Not?” sorting game using picture cards.
- Build a pretend machine using cardboard boxes and have children act out “inputs and outputs.”

Useful External Resource:

- Kids AI Literacy Sorting Activity (pattern recognition): <https://www.kidsaitools.com/en/articles/teaching-kids-ai-literacy-practical-guide>

Autumn 2 - What is a Robot?

L.I: Recognise robots as machines that follow commands.

Activities:

- “Human Robot” unplugged: children follow simple step by step commands.
- Draw a robot and label its “sensors.”

External Resource:

- aiEDU Elementary Warm-Up: “What is a Robot?” <https://www.aiedu.org/ai-explorations>

Spring 1 - Real or Made-Up?

L.I: Spot the difference between real photos and fictional images.

Activities:

- Compare real animal photos vs cartoon animals.
- “True or Fake?” picture discussion circle.

External Resource:

- Google’s “Say What You See?” (image analysis warm ups): <https://www.controlaltachieve.com/2024/02/teach-students-ai.html>

Spring 2 - Computers Follow Instructions

L.I: Understand step-by-step instructions.

Activities:

- Build a “sandwich robot” sequence (children produce exact steps).
- Use arrows to map a path around the classroom.

External Resource:

- Intro to Algorithms (unplugged) <https://teachai.org>

Summer 1 - Patterns All Around Us

L.I: Machines notice patterns just like people.

Activities:

- Pattern making with cubes, beads, natural materials.
- “Spot the pattern” relay race.

External Resource:

- Pattern recognition for kids: <https://learningmole.com>

Summer 2 - Technology in Our Community

L.I: See where technology helps people.

Activities:

- Walk around school identifying helpful digital devices.
- “Future School” drawing activity.

External Resource:

- BBC Bitesize Tech for Kids: <https://www.bbc.co.uk/bitesize/topics/zs7s4wx>

Year 2

Autumn 1 - Information vs Imagination.

L.I: Identify whether information is real, made-up, or uncertain.

Activities:

- Sort statements into “true,” “made-up,” and “maybe.”
- Create simple posters about checking facts.

External Resource:

- Common Sense “Real or Fake?": <https://commonsense.org/education>

Autumn 2 - How Computers Sort Things.

L.I: Sort objects into groups and explain our choices.

Activities:

- Sort shapes, animals, or objects using Venn diagrams.
- Children explain “why” something belongs in a set.

External Resource:

- aiEDU “Sorting Game” activity (unplugged): <https://www.aiedu.org/ai-explorations>

Spring 1 - Spot the difference between real photos and fictional images.

L.I: Understand that images can be changed and may not always show the truth.

Activities:

- Compare original vs edited magazine photos (teacher-selected).
- Children create a story about how images change meaning.

External Resource:

- Teaching altered images (KS1): <https://www.tes.com/teaching-resource/teaching-artificial-intelligence-in-primary-school-age-appropriate-lessons-ks1-ks2-13396706>

Spring 2 - Spotting Good vs Bad Information

L.I: Decide whether information is helpful, unclear, or confusing.

Activities:

- Classify website screenshots as “helpful,” “unclear,” or “confusing.”
- Group discussion: Who should we ask if we aren’t sure?

External Resource:

- Google “Internet Awesome” resources: <https://beinternetawesome.withgoogle.com>

Summer 1 - Sequencing for Machines

L.I: Give clear step-by-step instructions.

Activities:

- Children create “instruction mats” for everyday tasks.
- Lego build instructions written as steps.

External Resource:

- TeachAI sequencing activities: <https://teachai.org>

Summer 2 - Fairness for People and Computers

L.I: Understand what is fair and unfair in rules and decisions.

Activities:

- Sorting game where the rule is “unfair,” then fix it.
- Talk about what’s “fair” and “unfair” with simple examples.

External Resource:

- Kids AI Literacy (Fairness examples): <https://www.kidsaitools.com>

Year 3

Autumn 1 - How Computers Spot Patterns

L.I: Recognise patterns and describe rules.

Activities:

- “Guess the Rule” card game.
- Spot repeated patterns in classroom data.

External link:

- ISTE Hands-On AI Activities: <https://ailiteracyday.org/resources/hands-on-ai-projects-for-the-classroom-a-guide-for-elementary-teachers>

Autumn 2 - What Is a Dataset?

L.I: Understand that computers use groups of information (data) to learn.

Activities:

- Collect class favourite fruit and sort into groups.
- Talk about how “more examples help computers learn.”

External link:

- aiEDU Elementary Data Activities: <https://www.aiedu.org/ai-explorations>

Spring 1 - How Search Engines Work

L.I: Understand how computers organise and find information.

Activities:

- Children act as “indexers,” sorting cards into topics.
- Explaining how “the computer guesses what you want.”

External link:

- Google Search Education: <https://applieddigitalskills.withgoogle.com>

Spring 2 - Why Computers Get Things Wrong

L.I: Understand that computers can make mistakes.

Activities:

- Teacher intentionally mis-sorts items; children fix them.
- Draw “a computer trying its best.”

External link:

- “AI Makes Mistakes Too” lesson: <https://www.controlaltachieve.com/2024/02/teach-students-ai.html>

Summer 1 - Responsible Digital Behaviour

L.I: Make safe choices when something online seems wrong.

Activities:

- What should we do if something online seems wrong?
- Role play scenarios.

External link:

- Common Sense Digital Citizenship: <https://commonsense.org/education>

Summer 2 - Everyday AI Systems

L.I: Recognise how AI is used in everyday life.

Activities:

- Identify AI systems at home (no tech use in class).
- Class poster: "Where AI Helps People."

External link:

- "AI in Daily Life": <https://www.controlaltachieve.com/2024/02/teach-students-ai.html>

Year 4

Autumn 1 - How Machines Learn

L.I: Understand that computers learn from examples.

Activities:

- “Training Game”: children teach the teacher how to sort shapes.
- Discuss what happens if the examples are limited.

External link:

- aiEDU: Machine Learning Games: <https://www.aiedu.org>

Autumn 2 - Bias in Data

L.I: Understand that missing or limited information can lead to unfair results.

Activities:

- Give a dataset that only has “one type” in it; children notice what’s missing.
- Explore how missing data causes unfair results.

External link:

- Teach With ICT — AI Bias Game: <https://www.teachwithict.com/fooled.html>

Spring 1 - Truthfulness Online

L.I: Check whether information online is trustworthy.

Activities:

- Compare headlines; decide which need “checking.”
- Sorting game: “real,” “fake,” or “needs checking.”

External link:

- Fake News Teaching Tools: https://www.teachwithict.com/fake_news.html

Spring 2 - Recognising AI Media

L.I: Identify when images or media may be computer-generated.

Activities:

- Identify clues in images that look computer generated.
- Discuss why someone might create fake media.

External link:

- Real or Fake? KS1–KS2 PowerPoints: <https://www.tes.com/teaching-resource/teaching-artificial-intelligence-in-primary-school-age-appropriate-lessons-ks1-ks2-13396706>

Summer 1 - AI Assistants: What They Can & Cannot Do

L.I: Understand what AI assistants can and cannot do.

Activities:

- Debate: "What could an AI assistant help with?"
- Create a poster: "Ask an adult if unsure."

External link:

- Common Sense "Digital Assistants" Unit: <https://commonsense.org/education>

Summer 2 - Responsible Automation

L.I: Understand how machines can help people and why human roles still matter.

Activities:

- Compare human jobs vs machine jobs.
- Draw an invention that helps people without replacing them.

External link:

- AI Education for Kids (automation overview): <https://www.littlelit.ai>

Year 5

Autumn 1 - What Is AI?

L.I: Understand what artificial intelligence is and what it does.

Activities:

- Teacher uses safe AI tool to show simple text generation.
- Class identifies what was good / confusing about the output.

External link:

- Intro to AI (Day of AI): <https://dayofai.org>

Autumn 2 - Prompting Responsibly

L.I: Ask clear questions and check the accuracy of AI responses.

Activities:

- Pupils try prompts for factual topics using approved AI.
- Pupils highlight which parts require fact-checking.

External link:

- Prompting Skills Lessons (Control Alt Achieve): <https://www.controlaltachieve.com/2024/02/teach-students-ai.html>

Spring 1 - Checking AI for Mistakes

L.I: Identify and correct mistakes in AI-generated information.

Activities:

- Pupils intentionally ask AI difficult factual questions.
- Identify errors and correct them in groups.

External link:

- "AI Can Be Wrong" resources: <https://www.kidsaitools.com>

Spring 2 - AI Ethics: Fairness, Copyright, Safety

L.I: Understand safe and fair use of AI.

Activities:

- Scenario cards on plagiarism, harmful outputs, bias.
- Whole-class discussion.

External link:

- Ethics of AI Curriculum: <https://www.controlaltachieve.com/2024/02/teach-students-ai.html>

Summer 1 - AI-Supported Ideation

L.I: Use AI for ideas while creating our own original work.

Activities:

- AI generates ideas for stories; pupils create their own original final products.
- Compare pupil ideas vs AI suggestions: *use this in conjunction with character descriptions for 'Little Freak'.*

External link:

- Creative Writing with AI (Sherbert Learning): <https://www.sherbertlearning.com>

Summer 2 - AI in the Real World

L.I: Understand how AI is used safely in different jobs and industries.

Activities:

- Case studies of AI in hospitals, shops, transport.
- Pupils choose a sector and describe safe AI use: *link with Careers Day.*

External link:

- AI in Daily Life lessons: <https://www.controlaltachieve.com/2024/02/teach-students-ai.html>
- Doctor uses robot to perform telesurgery on patient thousands of miles away: https://www.youtube.com/watch?v=_fTq59kADrU&t=6s

Year 6

Autumn 1 - How Large AI Models Work

L.I: Understand how AI uses large amounts of information to generate responses.

Activities:

- Analogy: “AI is like a giant library of examples.”
- Build “token chains” using words on cards.

External link:

- AI Literacy Foundations (Digital Promise): <https://digitalpromise.org>

Autumn 2 - Investigating Bias in AI Outputs

L.I: Identify bias in AI and improve prompts to make outputs fairer.

Activities:

- Pupils compare several outputs and highlight unfair assumptions.
- Groups rewrite the prompt to reduce bias.

External link:

- Bias + Fairness Lessons (aiEDU): <https://www.aiedu.org>

Spring 1 - Spotting Deepfakes

L.I: Identify signs that media may be fake or manipulated.

Activities:

- Compare approved deepfake demo with real footage.
- Identify visual/audio anomalies.

External link:

- Understanding AI Manipulation: https://www.teachwithict.com/fake_news.html

Spring 2 - AI for Research

L.I: Use AI to support research while checking accuracy.

Activities:

- AI used to generate a reading summary; pupils verify details.
- Teach shortcut vs cheating.

External link:

- Responsible AI Use in Education: <https://teachai.org>

Summer 1 - AI Ethics Debate

L.I: Form and justify opinions about the use of AI.

Activities:

- Teams debate “Should AI be used in schools?”
- Pupils create ethical principles for AI.

External link:

- Ethics Debate Resources: <https://www.controlaltachieve.com>

Summer 2 - Secondary Ready: AI Habits for Life

L.I: Apply safe and responsible AI habits in real-life situations.

Activities:

- Create personal rules for responsible AI use.
- Scenario assessment: pupils decide what's safe/unsafe.

External link:

- AI Safety for Students: <https://www.littlelit.ai>