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#AlinEducation



WEEK One - QUICK, DRAW

Week 1: How AI Sees and Learns

Hello there, doodlers and AI enthusiasts! This is your friendly AI guide, ready to take you on a journey into the world of neural networks and doodling. Get ready to test your drawing skills and help teach a computer to recognise doodles. Buckle up and let's get started!

WATCH AI - [FUTURE Proofing Students Today!](#)

Theme: *Understanding how AI learns to “see”, using patterns, not meaning.*

Anchor Tool: [Quick, Draw!](#) FREE no login required.

Core Concept: *AI doesn't “think” like a human, it predicts patterns based on data it has seen before. Just like Quick, Draw! learns from doodles, real-world AI learns from millions of photos, sounds, or words, that's how it recognises faces, translates languages, or even drives cars.*

Timings: 45-60mins per day

1. AI doesn't “understand”, it predicts

The AI doesn't “see” a banana like we do. It sees lines, angles and the *order of strokes*. It guesses based on patterns it learned from thousands of similar drawings.

2. AI needs lots of data to learn

Quick, Draw! has been trained on millions of doodles submitted by people worldwide. The more data it gets, the better it gets at guessing.

3. It's learning from you too

Every time you play, your drawing helps improve the model, whether it guessed right or wrong.

4. It works in probabilities

The AI calculates the likelihood that your drawing matches what it has seen before. That's why it says, “I think it's a snowman... or a duck...”

5. Mistakes reveal how AI thinks

If it confuses a cloud with a sheep, that tells us it's not “thinking” like a human, it's just matching line patterns.

Day 1 – What is AI? What is Quick, Draw!?

Goal: *Introduce students to how AI works using Quick, Draw! as an example of machine learning.*

1. Class Discussion:

What is AI?

Can computers learn? Can they draw? Can they “see”?

Introduce **Quick, Draw!**, an AI trained to guess what you draw.

2. PLAY Quick, Draw! as a class

Use an Electronic Whiteboard (EWB).

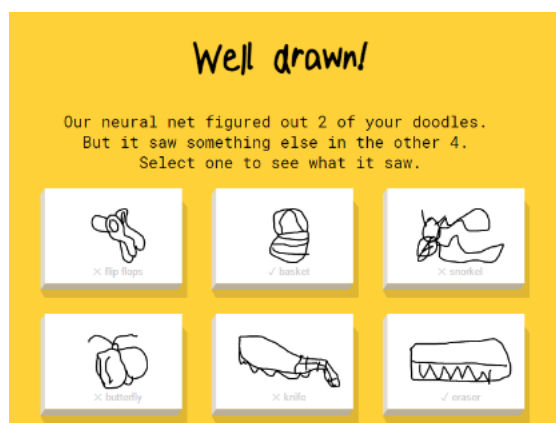
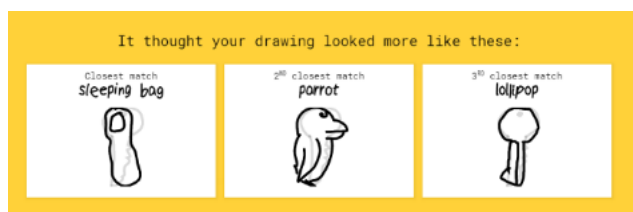
The AI will guess what the drawing is as it is drawn.

Ask: *How do you think it knew that?*

3. COMPLETE 6 drawings. (Play multiple times)

How many were correct?

What did the AI think the drawings were?



Can you write a fraction for how many were correct?

Can you simplify your fraction?

Can you write it as a percentage?

Look at the table of 30 images the AI guessed correctly.

What features are common to all the images the AI sees as correct?

4. Watch the Video A.I. Experiments: Quick, Draw! (01.40mins)

<https://www.youtube.com/watch?v=X8v1GWzZYJ4&t=73s>

CORE UNDERSTANDING:

AI doesn't "understand," it guesses based on past data.

Every time we play, we're helping it get better. It works in probabilities (not certainties).

Day 2 – What Makes a Banana a Banana?

Goal: Break down how AI recognises patterns and attributes.

1. Whiteboard Activity:

Write/draw the word “banana.” Students can use individual whiteboards or sketchbooks.

2. As a Whole Class list 5 attributes of bananas.

e.g. curved, yellow(**note:** this won't work it's a black and white drawing), has peel, it is black at both ends, when you peel it the skin is in 3-4 pieces etc.)



3. WORKING in groups of 2- 4 students.

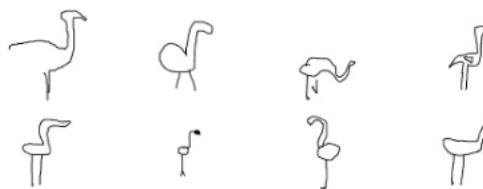
LIST 5 attributes of flamingoes.

WHAT makes a flamingo a flamingo?

CHECK [flamingoes out here on Quick, Draw](#)

This can be displayed on the EWB.

SHARE group insights with whole class



4. GROUP CHALLENGE Can you help the AI to guess the right answer?

Can you get 6 out of 6 correct responses from the AI?

a. In your group write down 5 features for each object that Quick, Draw asks you to draw before you draw it.

When you have finished the 6 drawings take a screen shot.

b. Did your score improve when you wrote down the attributes first?

Did you get them all correct and help the AI to guess correctly?

Why do you think this happened?

EXTENSION for those up for the challenge. Create a Book Creator book or word doc, Title your book something like Experiments with AI, use your screen shot, list the attributes you used. Add comments to explain the results. [Quick Guide to Book Creator](#)

4. For Younger grades they can draw the object before playing and discuss attributes of each object with the group.

CORE UNDERSTANDING: THE CLEARER YOUR INPUT, THE BETTER THE AI OUTPUT

Think of working with AI as a partnership. Your role is to guide it with careful words, examples, and details. Imagine you're playing a guessing game. If you say, 'It's an animal,' the options are endless. But if you say, 'It's a yellow bird with a big beak that loves bananas,' you've narrowed it right down. That's exactly how AI works: the better your clues, the faster and more accurately it can guess what you mean."

Day 3 – Play Quick, Draw!

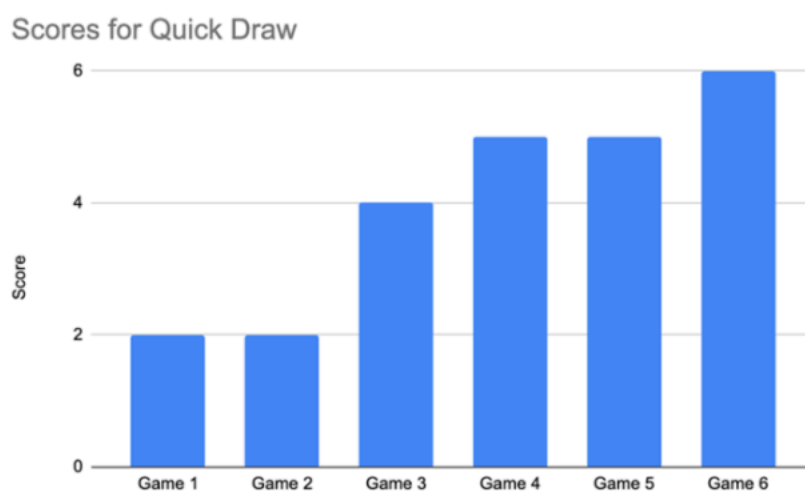
Goal: Explore how AI responds to our inputs and practise recording and representing data.

1. Play Quick Draw with a friend. Students can play Quick, Draw on iPads or on computers. It requires no login. I like students to work in pairs and talk about the task as they go.

2. PLAY 3 games each with your friend and record how many drawings the AI guessed correctly.

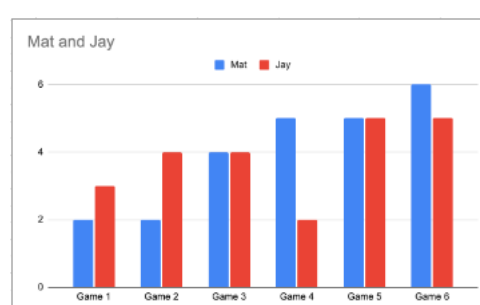
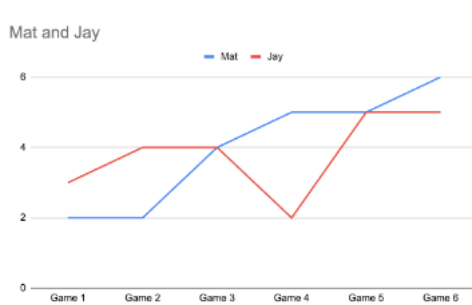
3. CREATE a results table (on paper or Google Sheets or similar):

	Score
Game 1	2
Game 2	2
Game 3	4
Game 4	5
Game 5	5
Game 6	6



4. EXTENSION if you're up for it! Play 6 games each and make a bar graph showing 2 players. Create 3 different types of graphs. Which one works best to represent the results?

A	B	C
	Mat	Jay
Game 1	2	3
Game 2	2	4
Game 3	4	4
Game 4	5	2
Game 5	5	5
Game 6	6	5



CORE UNDERSTANDING:

AI makes guesses based on patterns, and the clearer our input, the better its chance of being correct. By recording how well the AI guesses and representing the results in tables and graphs, we can see patterns in data and decide the best way to show information. This is the same process scientists use when testing AI, collecting data, recording it and choosing the best way to show what they find.

Day 4 – What Does the AI Know?

Goal: Understand how AI learns from very large datasets and use mathematics to make sense of big numbers.

1. Visit: World's largest doodling dataset

ASK: What do 50 million drawings look like?

Over 15 million players have contributed millions of drawings playing [Quick, Draw!](#) These doodles are a unique data set that can help developers train new neural networks, help researchers see patterns in how people around the world draw, and help artists create things we haven't begun to think of. That's why [we're open-sourcing them](#), for anyone to play with.

Select a drawing



2. WRITE 50,000,000 on the board. Discuss how big this data set is.

Search for “banana” – view the 286,027 examples. Go on scroll down and down and see just how big a number **286,027** is.

3. Activity: CHOOSE 5 bananas from different artists & click on them to see who drew them.

4. COMPARE: What they have in common?
What's different?



Banana drawing #138

Drawn in United Kingdom on Jan 9th 2017

[Flag as inappropriate](#)

5. SOME MATHS: Round 286,027 to nearest 100, 1,000, 100,000. Teacher demo

6. WORKING WITH A PARTNER select 6 objects from the World's largest doodling dataset.

WRITE down the object, Banana and the number of drawings 286,027

ROUND THE NUMBER UP or DOWN to the nearest 100 & the nearest 1,000 etc record your work. Select 5 objects and and repeat.

Object	Number	Nearest 100	Nearest 1,000
Bananas	286,027	286,000	286,000
Dogs	143,284	143,300	143,000
T-shirts	120,847	120,900	121,900
Soccer Balls	119,239	119,200	119,000
Flamingos	116,251	116,300	116,000

CORE UNDERSTANDING:

AI learns from very large datasets by spotting patterns across millions of examples. Numbers this big can be hard to imagine, so we use mathematical tools like ordering and rounding to make sense of them and compare different objects more easily.

Day 5 – Reflection

Goal: *Synthesise learning and express understanding.*

1. DISCUSSION Journal / Video/Book Creator

Prompt: What did you learn about how AI works?

Does AI see like we do? Why or why not?

What surprised you this week?

Can AI be creative?

FORMAT: students choose to write, draw, add to their [Book Creator](#), record a 30-second **explainer video** to answer these questions.

I like the process of Imaginairing and then Flow Writing.

Step 1 [Imaginairing](#) *Sit for 1 minute perfectly still and remember all the things you have done with AI. Do not move stay perfectly still and make images in your mind of all the things we did. You might like to say remember what we did on Monday, Tuesday etc. Time this exactly tho 60 secs.*

2. DISCUSS Ask students to share their imaginings, I like to pick 3 or so. This give other students some ideas as well.

3. [Flow Writing](#) Discuss Flow Writing and explain it to students. [Quick Guide to Flow Writing](#)

DISCUSS FLOW Explain it. Ask students if they have ever had a FLOW experience. Sometimes it occurs when you are reading, or playing sport when you're in the ZONE.

YOU will need: 1 pencil or pen and paper or notebook per student, have this ready.

4. WRITE for Younger students: 5 minutes; older students: 7–10 minutes."

Use a timer.

No talking, no moving, pencil on paper at all times. Write straight from your brain., Using what you have just imagined. DO not stop writing.

Don't worry about spelling, reading your writing, drawing pictures, using a rubber,JUST write.

SHARE writing from a few students with the whole class.

CORE UNDERSTANDING:

AI doesn't know what you drew, it looks at thousands of examples and guesses what your drawing might be. It's a great guesser and it works on probability, it is not a thinker. But every time you play, you're increasing the size of its data set!

WEEK One - QUICK, DRAW

Table of **NSW curriculum outcomes** aligned with **Week 1 Quick, Draw! AI lesson**, including outcome codes, descriptions and examples of evidence of student learning for Stage 2.

Learning Area	Outcome Code	Description	Evidence of Learning
English	EN2-1D	Responds to and composes texts.	Students compose written reflections or videos explaining how AI works.
English	EN2-2D	Uses language to shape and make meaning.	Students describe visual characteristics of drawings using precise language.
English	EN2-11E	Recognises and uses visual features of texts.	Students analyse AI-identified visual patterns and compare results.
Science & Technology	ST2-2DP-T	Selects and uses digital tools for learning.	Students use Quick, Draw! and explore the AI dataset with digital tools.
Science & Technology	ST2-4DI-T	Describes how digital systems represent data.	Students explain how AI guesses based on stored line/stroke data.
Science & Technology	ST2-5DI-T	Explains how data is used to solve problems.	Students observe how AI improves predictions using growing datasets.
Mathematics	MA2-1WM	Uses appropriate terminology to describe mathematical ideas.	Students use language like pattern, stroke, match, predict, probability.
Mathematics	MA2-2WM	Selects and uses appropriate problem-solving strategies.	Students round, tally, and calculate average scores from gameplay.
Mathematics	MA2-18SP	Collects and interprets data.	Students graph game results and interpret drawing dataset numbers.
General Capability	Critical and Creative Thinking	Explores human vs AI thinking and reflects on its strengths/limitations.	Students reflect on how AI differs from human reasoning and creativity.
General Capability	ICT Capability	Navigates and uses digital environments to investigate and create.	Students interact with Quick, Draw! and datasets using browsers and sheets.

Teacher Tips

Keep it playful: Treat mistakes as discussion points (“Why do you think the AI guessed that?”).

Connect to real life: Remind students that AI learns in the same way across many areas, recognising photos, translating speech, suggesting songs.

Maths integration: Reinforce links, precision in prompts is like precision in maths.

Differentiation: Younger students can draw and describe attributes without the maths extension; older students can extend with percentages, graphing, and rounding challenges.

Takeaway for teachers:

AI doesn't have to be intimidating. Quick, Draw! is a safe, fun entry point that helps students understand AI as a pattern recogniser, while also strengthening maths and literacy skills.