

See how AI learns: train an image model

40 minutes

Publishing Online

Built in Teachable Machine

Outcome 4.6

WHAT THIS LESSON DOES

Students train and test a browser-based image model from their own webcam examples, then explore how training data shapes what AI gets right, gets wrong, and how that links to the media they use every day.

CURRICULUM OUTCOMES

Outcome	What the specification asks for
4.6	debate the advantages and disadvantages of new and emerging technologies including AI

WHAT STUDENTS SHOULD BE ABLE TO DO

- reuse: platform Teachable Machine Part 1 of 2 (codesite 9136)
- Train, test and improve an image-recognition model from your own examples (LO 4.6)
- Explain what training data is and connect it to how AI content and recommendations are built

BEFORE THE BELL

- Devices with a working webcam and browser access (or one shared IWB webcam for a whole-class build)
- No accounts or sign-ins needed for Teachable Machine
- Plan how the class will save the exported model link (shared drive, email to self, or class note) for the next session
- Quiet enough lighting so hand gestures read clearly on camera

WHAT YOU NEED

Item	Qty	Per	If you do not have it
tablet or laptop with Teachable Machine	1	pair	run the lesson on the IWB with students taking turns

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HOW THE LESSON RUNS

4 min	introduction	Start: what we're exploring
2 min	content	Introduction
2 min	content	Open Teachable Machine
3 min	content	Create an Image Project
2 min	content	Create the Classes
4 min	content	Add Images to the Rock Class
2 min	content	Add Images to the Paper Class
2 min	content	Add Images to the Scissors Class
3 min	content	Train the Model
5 min	content	Test the Model
3 min	content	Export your Model
2 min	content	Conclusion
3 min	content	Make sense: what did the model learn?
2 min	content	Reflect
1 min	summary	What you covered

TEACHING MOVES

- Model the first class (e.g. Rock) on the board or IWB before pairs work independently so everyone sees clear frames, varied angles and how to drop blurry shots
- Keep the opening short; the literacy payoff comes from testing, fooling and fixing the model
- Ask pairs to try deliberately to fool the model with an odd angle, a partial hand or a cluttered background, and then to add better examples and retrain, because seeing the model fail and then improve is what makes the point about data and bias concrete
- Use media language throughout: this is how recommendation, filter and moderation systems learn from someone else's chosen examples

WHAT TO WATCH FOR

- Too few or too similar examples, model only works for one hand, one angle or one person; fix by adding varied positions, distances and (if appropriate) both partners' hands, then retrain
- Blurry or mixed-up images left in a class, scissor frames in Rock, motion blur, empty frames; fix by deleting poor samples before training
- Testing without retraining, students add images but forget Train Model again; remind them the live preview only updates after a fresh train

DIFFERENTIATION

- Support: pair stronger readers with peers; allow a whole-class build on the IWB for the first class; provide gesture photos as a visual checklist
- Extension: deliberately bias one class (only one skin tone, only left hand, only dark background), retest, and explain who the model would unfairly favour in a real media tool
- Extension: compare confidence scores across gestures and argue which class needs richer training data and why