machinelearningforkids.co.uk — Suggested Lesson Plan

	Introduces…	By getting kids to make a…	Teaching a machine to recognise…	What they will learn
Lesson 1: "Smart Classroom"	Confidence thresholds	Virtual Assistant	text	• How computers can be trained to recognise the intent behind writing. • The way confidence thresholds are used to handle when the machine cannot recognise the meaning. • How virtual assistants (e.g. Apple Siri, Amazon Alexa, Google Home) work.
Lesson 2: "Make me happy"	Sentiment analysis	Scratch character	text	• How computers can be trained to recognise emotional tone. • How supervised learning makes it easier to build systems that have to deal with unexpected input.
Lesson 3: "Mailman Max"	Handwriting recognition	Sorting Office game	images	• How computers can be trained to recognise handwriting • How OCR is used to automate tasks like recognising postcodes on letters
Lesson 4: "Sorting Hat"	Text classification	Harry Potter game	text	• How computers can recognise different types of language.
Lesson 5: "Noughts & Crosses"	AI in games	Noughts & crosses	numbers	• How machines have been taught to play games since the 1960's. • Decision tree learning as a way for computers to learn how to play games.
Lesson 6: "Rock, Paper, Scissors"	Image recognition	Webcam game	images	• How computers can be trained to recognise pictures. • The important of variety in training machine learning systems.
Lesson 7: "Headlines"	ML testing	Test system	text	• How computers can be taught to recognise the source of writing • How machine learning systems are tested.
Lesson 8: "Judge a book"	Image recognition	Scratch game	images	• How effectiveness of a machine learning system can be measured by comparing performance against humans.
Lesson 9: "Top Trumps"	Categorical data	Scratch card game	numbers	• How collecting training is used to make it easier to train computers than manually labelling training data. • How computers can learn to play games where the correct answer cannot be known, by predicting the likelihood of each outcome.
Lesson 10: "Tourist Info"	Training bias	Holiday app	text	• The impact of training bias on machine learning systems • Ethical questions introduced by training bias in machine learning systems.

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