

# Machine Learning For Kids :: Teachers' notes

<b>Worksheet</b>	<b>Quiz Show</b>
<b>Activity</b>	Make a quiz show in Scratch with a computer contestant that can answer questions on the topic of your choice.
<b>Objective</b>	<b>Use a computer that has been trained to find the answers to questions</b> <ul style="list-style-type: none"> <li>Learn how computers can be trained to find answers to questions in documents</li> <li>Learn how "Question Answering" has been a field of machine learning research</li> </ul>
<b>Difficulty level</b>	Beginner
<b>Time estimate</b>	40 minutes
<b>Summary</b>	Students create a Scratch script that can look for answers to questions in Wikipedia pages, using a pretrained machine learning model.
<b>Topics</b>	question answering, information retrieval, natural language processing

## Setup

Each student will need:

<b>Print-outs</b>	Project worksheet (download from <a href="https://machinelearningforkids.co.uk/worksheets">https://machinelearningforkids.co.uk/worksheets</a> ) Blocks in Scratch scripts are colour-coded, so printing in colour will make it easier for students.
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Class account will need:

<b>API keys</b>	None
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## Customizing

If you use **PRIMM** approaches with your class, add a step where students predict how the project template works. If you want to **increase the amount of coding** involved, delete some of the code from the project template and add steps to the worksheet so students code it themselves.

If you want to **encourage problem solving**, delete some of the detail in the worksheets and provide more general instructions instead.

Project template files & worksheets in MS Word format are available so you can **modify them to suit your class**.

<b>Project templates</b>	<a href="https://github.com/IBM/taxinomitis-docs/tree/master/scratch-templates">https://github.com/IBM/taxinomitis-docs/tree/master/scratch-templates</a> Scratch 3 templates end .sb3                      Scratch 2 templates end .sb2
<b>Worksheets</b>	<a href="https://github.com/IBM/taxinomitis-docs/tree/master/project-worksheets/msword">https://github.com/IBM/taxinomitis-docs/tree/master/project-worksheets/msword</a>

## Help

<b>Potential issues</b>	<ul style="list-style-type: none"> <li>"https://machinelearningforkids.co.uk" is a long URL to type for some children. You may find it easier to set up a bookmark that they can click on instead.</li> <li>The machine learning model used for this project is large and complex. Some computers may warn that it uses a lot of memory, and slower computers may take a long time (20-30 seconds) to find answers to questions.</li> <li>Factual questions that have short answers should perform better. Encourage your students to experiment with different styles and lengths of questions to they can discover for themselves how the machine learning model performs.</li> <li>You may want to encourage your students to modify the game show script to customize how it looks or behaves.</li> <li>Note that the machine learning model in this project has only been trained to work with English text.</li> </ul> <p>General troubleshooting and help at <a href="https://machinelearningforkids.co.uk/help">https://machinelearningforkids.co.uk/help</a></p>
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