

# Machine Learning For Kids :: Teachers' notes

Worksheet	Quiz Show
Activity	Make a quiz show in Scratch with a computer contestant that can answer questions on the topic of your choice.
Objective	<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>
Difficulty level	Beginner
Time estimate	40 minutes
Summary	Students create a Scratch script that can look for answers to questions in Wikipedia pages, using a pretrained machine learning model.
Topics	question answering, information retrieval, natural language processing

## Setup

Each student will need:

Print-outs	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:

API keys	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**.

Project templates	<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
Worksheets	<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

Potential issues	<ul style="list-style-type: none"> <li>The machine learning model used for this project is large and complex. Some computers may warn that it uses a lot of memory. Slower computers may take a long time (20-30 seconds) to find answers to questions. Some older or slower computers may be unable to run the model at all (which can result in the browser tab crashing with errors such as "Aw, Snap!"). You may be able to mitigate this by using shorter Wikipedia pages and closing other applications on the computer to make more memory available for use.</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>The model in this project has only been trained to work with English text.</li> <li>If the machine learning model cannot find an answer, it will return an empty string. Note that the "say" block in Scratch won't display an empty string.</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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