# Machine Learning For Kids :: Teachers' notes

| Worksheet | **What does Twitter think?** |
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| **Activity** | Use machine learning in Scratch to analyze sentiment of discussion in social media |
| **Objective** | **Teach a computer to recognise the sentiment of public discussion**<br>• How computers can be trained to recognise the sentiment behind writing.<br>• How sentiment analysis is used to measure public opinion |
| **Difficulty level** | Intermediate |
| **Time estimate** | 1 hour |
| **Summary** | Students will choose a topic and search for tweets about that. They'll copy examples and use these to train a machine learning model to classify the sentiment of tweets. They will use this in Scratch to analyze live discussions on Twitter and represent this in a live graph. |
| **Topics** | sentiment analysis, supervised learning |

## Setup

Each student will need:

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| **Print-outs** | Project worksheet   (download from https://machinelearningforkids.co.uk/worksheets )<br><br>Blocks in Scratch scripts are colour-coded, so printing in colour will make it easier for students. |
| **Access** | Username and password for machinelearningforkids.co.uk |
| **Access** | Access to twitter.com (no username needed) |

Class account will need:

| **API keys** | **Watson Assistant**<br>1 workspace per student<br><br>One "Lite" API key is free but can only be used to create 5 workspaces<br>One "Standard" API key can be used to create to create 20 workspaces<br><br>more detail at: https://github.com/IBM/taxinomitis-docs/raw/master/docs/pdf/machinelearningforkids-apikeys.pdf |
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## Help

| **Potential issues** | • This activity involves reading unfiltered messages from Twitter. As such, it is not appropriate for younger students, as there is a chance that they will come across offensive language or content.<br>• Not all topics will lead to an effective project. Try to help the students find a topic that people are more likely to express an opinion about. If they choose a very common word (e.g. "Starbucks") they may find that the vast majority of tweets mention it as a location without expressing an opinion.<br>• "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.<br>• Scratch 3 will be new to many students, however the worksheet should have enough screenshots to mitigate this.<br><br>General troubleshooting and help at https://machinelearningforkids.co.uk/help |
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