

# Machine Learning For Kids :: Teachers' notes

<b>Worksheet</b>	<b>Find It!</b>
<b>Activity</b>	Create a mobile hide-and-seek game in App Inventor that learns to recognise objects
<b>Objective</b>	<b>Teach a computer to recognise pictures</b> <ul style="list-style-type: none"> <li>How computers can be trained to recognise pictures.</li> <li>How to use machine learning in a mobile app.</li> </ul>
<b>Difficulty level</b>	Advanced
<b>Time estimate</b>	1 hour - 2 hours (depending on the students' experience with App Inventor)
<b>Summary</b>	Students will train a machine learning model to recognise pictures of objects. They use this in App Inventor to make a mobile app that classifies photos.
<b>Topics</b>	image classification, supervised learning, mobile apps

## Setup

Each student will need:

<b>Device</b>	An Android mobile phone or tablet
<b>Print-outs</b>	Project worksheet (download from <a href="https://machinelearningforkids.co.uk/worksheets">https://machinelearningforkids.co.uk/worksheets</a> ) Blocks in App Inventor scripts are colour-coded, so printing in colour will make it easier for students
<b>Access</b>	Username and password for machinelearningforkids.co.uk
<b>Access</b>	Access to App Inventor at <a href="http://ai2.appinventor.mit.edu">http://ai2.appinventor.mit.edu</a>

Class account will need:

<b>API keys</b>	<b>Watson Visual Recognition</b> 1 custom model per student  One "Lite" API key is free but can only be used to create 2 custom models One "Standard" API key can be used to create to create multiple custom models more detail at: <a href="https://github.com/IBM/taxinomitis-docs/raw/master/docs/pdf/machinelearningforkids-apikeys.pdf">https://github.com/IBM/taxinomitis-docs/raw/master/docs/pdf/machinelearningforkids-apikeys.pdf</a>
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## Customizing

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

Project worksheet is available in MS Word format so you can **modify it to suit your class**.

<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>
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## 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> </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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