



# Machine Learning For Kids :: Teachers' notes

Worksheet	Find It!
Activity	Create a mobile hide-and-seek game in App Inventor that learns to recognise objects
Objective	<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>
Difficulty level	Advanced
Time estimate	1 hour - 2 hours (depending on the students' experience with App Inventor)
Summary	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.
Topics	image classification, supervised learning, mobile apps

## Setup

Each student will need:

Device	An Android mobile phone or tablet
Print-outs	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
Access	Username and password for machinelearningforkids.co.uk
Access	Access to App Inventor at <a href="http://ai2.appinventor.mit.edu">http://ai2.appinventor.mit.edu</a>

Class account will need:

API keys	<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 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**.

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>
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## Help

Potential issues	<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>• A video of the finished app in action is available at <a href="https://youtu.be/dljU6rmuoGc">https://youtu.be/dljU6rmuoGc</a></li></ul> General troubleshooting and help at <a href="https://machinelearningforkids.co.uk/help">https://machinelearningforkids.co.uk/help</a>
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