

Teachable Machine for Plant Classification

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Learning Outcomes

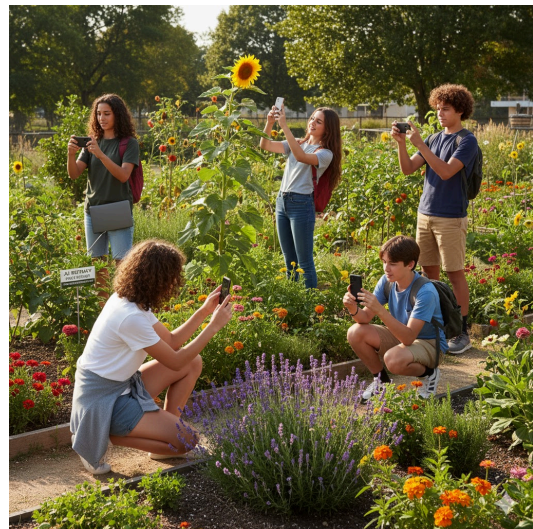
After completing this activity, students will be able to:

- Understand how AI uses images to learn patterns.
- Explain the importance of data in machine learning.
- Appreciate AI's role in environment and science projects.

Introduction

Artificial Intelligence (AI) enables computers to learn from examples, just like students learn through practice. This tutorial helps teachers and students experience how AI can learn to recognize plants using **Google Teachable Machine**—a free, browser-based platform requiring no code. This lesson links **environmental awareness** with **AI literacy**, encouraging curiosity about both nature and technology.

This tutorial shows how teachers can guide students to build a simple AI model that recognises plants—combining curiosity for nature with hands-on learning.



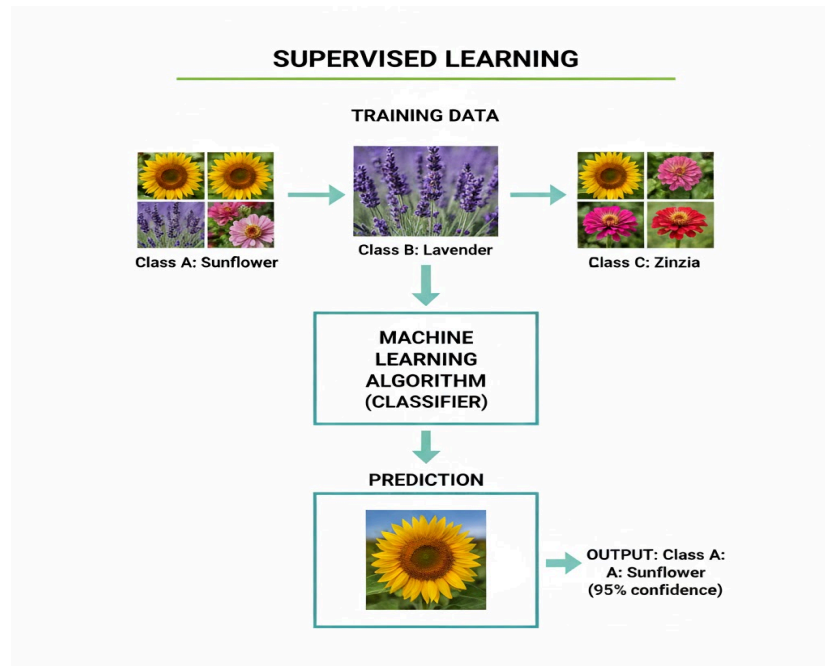
Classroom Scenario

Ms. Joshi teaches computer science in a small hill town school surrounded by greenery. During Environment Week, she challenged her class 8 students to identify local plants using an AI tool. Armed with tablets, the students took pictures of **Tulsi**, **Rose**, and **Money Plant** from the school garden. Back in the lab, they uploaded these images to Teachable Machine and trained a simple model. When the model correctly identified a rose leaf, cheers filled the room. Ms. Ritu smiled and said, “See how the computer remembers what you showed it?” The project helped students see AI as a helpful partner in learning about nature.

Understanding the Concept

The project demonstrates **Image Classification**, where the computer learns patterns like color, shape, and texture to recognize images.

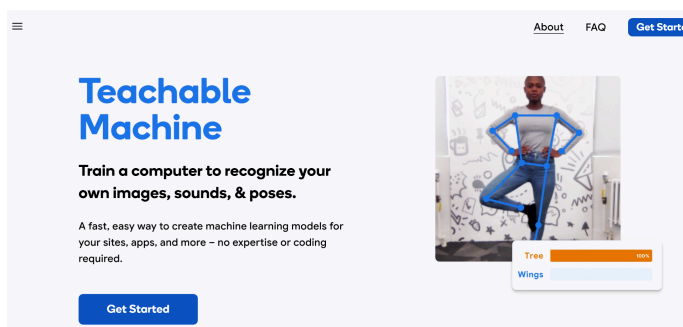
Students realize that machines learn from **data** — the more diverse and accurate the examples, the smarter the prediction.



Simple diagram illustrating supervised learning through plant images.

1. Step-by-Step Activity

(i) Open Teachable Machine → <https://teachablemachine.withgoogle.com>
→ Get Started → Image Project → Standard Image Model.

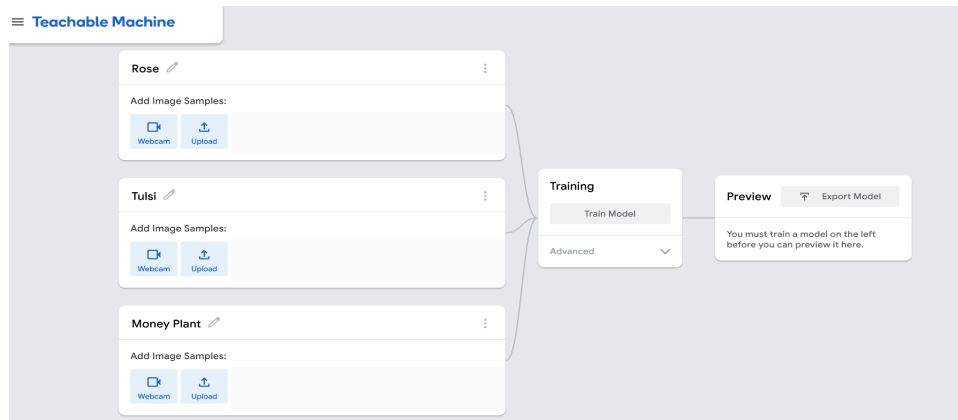


(ii) Project → Image Project

Click on Get Started → New

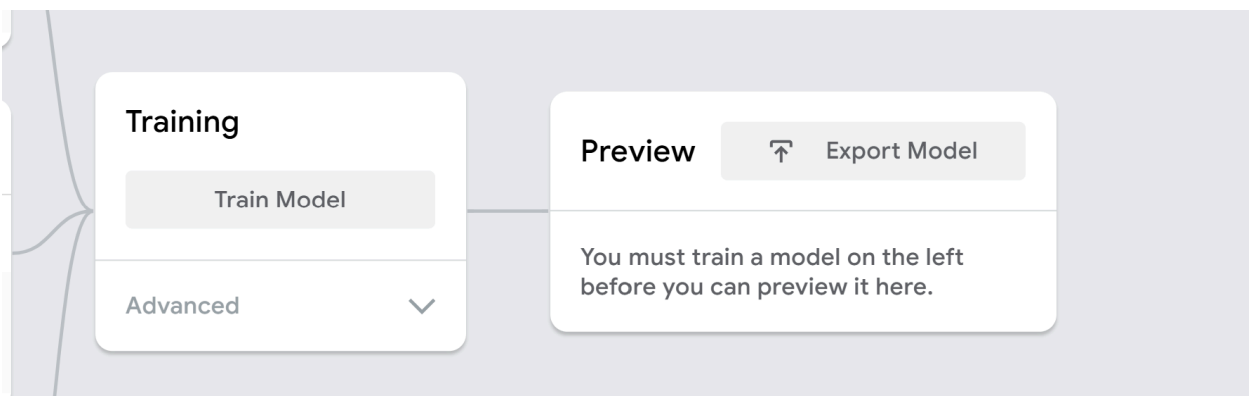
(iii) Click on standard image model.

(iv) **Create Classes** –collect samples and Rename them as *Tulsi*, *Rose*, and *Money Plant* in folders/classes.



(v) **Upload Images** – 20–30 photos per class, showing different angles.

(vi) **Train the Model** – Click *Train Model*. Discuss how computers spot edges and colors.



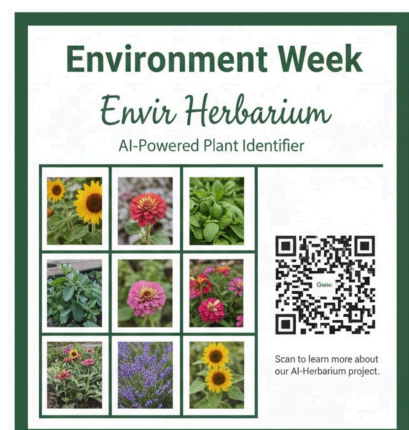
(vii) **Test the Model** – Upload a new picture. If results are wrong, add clearer images.

(viii) **Share the Model** – Export the link to share or embed on the school blog.

<https://teachablemachine.withgoogle.com/models/v3R92FN-J/>

2. Curriculum Integration

The project can be developed as a **multi-disciplinary learning experience** that integrates concepts from Science, Artificial Intelligence (AI) / Information and Communication Technology (ICT), and Environmental Studies. In **Science**, students can classify local plants and study various leaf types to understand biodiversity and plant adaptations. Through **AI / ICT**, they can learn data collection methods, image classification, and basic machine learning techniques to



identify and organize plant species digitally. In **Environmental Studies**, the focus shifts to building a **digital herbarium** of native plants, encouraging environmental awareness and conservation. This **AI-based herbarium** can be showcased during **Eco-Week** or **school exhibitions**, serving as an innovative blend of technology and nature education that promotes hands-on learning and sustainability.

Reflection Questions

- Which feature helped the computer identify the plant?
- How did adding new pictures improve accuracy?
- Can AI support farmers or gardeners in real life?

Tools & Resources

Tool	Link	Purpose
Teachable Machine	https://teachablemachine.withgoogle.com	Train the model
Google Drive	https://drive.google.com	Store plant images
Canva	https://www.canva.com	Create posters or reports
Google Sites	https://sites.google.com	Publish digital herbarium

This project inspired students to see AI as a companion in exploring and preserving nature. By blending science, creativity, and technology, it opened young minds to the possibilities of using AI for a greener, smarter future.

video link - <https://youtu.be/jNWoBwBsAbs>