Workshop Activity: Smart Plant Care Assistant

Step 1: Form Your Team

- Group up in **teams of 2 or 3**.
- Each team will receive **one plant.**

Step 2: Take Soil Measurements

1. Wait for your turn to use the soil sensor setup.
2. Identify which setup you're using: **Setup 1 or Setup 2**.
3. Use the sensor setup to measure the soil variables. One team member should gently insert the moisture sensor into the soil.
4. Wait up to **1 minute** for the data to appear in the **Google Sheets** file (it's automatically logged every minute).
5. **Note the exact time** you took your measurement. (You will need it)
6. Check the Google Sheet and fill out the table below using your measurement.

Setup #	Timestamp	Soil Moisture (%)	Temperature	Humidity	Pressure

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Step 3: Program Your Response in MakeCode

1. Log in to a computer using the provided credentials.
2. Open a browser and navigate to: https://makecode.microbit.org
3. Create a **New Project**.
4. Use your measurement data from the table to create a simple program that will respond based on your plant's needs. Add icons or sounds to make it fun.

Here is an example block logic:

```
if (soilMoisture < 30):
      basic.showString("Water me!")
if (temperature > 30):
      basic.showString("Too hot!")
if (humidity < 40):
      basic.showString("Air too dry!")
else:
      basic.showString("All good!")
```

Workshop Activity: Train a Plant Classifier with AI

Step 1: Get Started

- Open a browser and navigate to genAI teachable machine.

Step 2: Define Your Categories

- Decide what you want your AI model to classify.
    - Examples:
        - Types of plants (e.g., basil, mint, parsley)
        - Plants disease
- Write your chosen categories here:

Category 1	
Category 2	
Category 3	
(Optional) Category 4	

Step 3: Collect Images

- Use the **webcam** to take pictures of real plants provided to you OR search online and find pictures for each category.

Tip: Try to collect at least **3 images per category** for better results.

Step 4: Train Your Model

- After uploading your images, click **"Train classifier"**.

Step 5: Test Your Model

- Try testing your model with a few different plant images.

Expected Category	Model Prediction

Why do you think the **expected category** and the **model's prediction** were different in some cases if any?

Workshop Survey

Section 1: Background & Experience

1. Before today, how familiar/experienced were you with the following?

Concept	Not at all	A little	Somewhat	Mostly	Confident
Using sensors (e.g. for soil data)					
Block-based coding/coding					
Concepts of AI/Machine Learning					
AI-related tools or applications (e.g., voice assistants, AI image generators)					
Working in a small team to solve a problem					

Section 2: Learning & Workshop Content

2. The workshop helped me understand how sensors collect data from plants and soil.
   ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

3. The hands-on data collection activity helped me grasp the concepts better.
   ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

4. I was able to create a program in MakeCode that responded to the plant data (like soil moisture or temperature)?
   ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

5. The demonstration of training an AI model (e.g., disease detection from images) was clear and easy to follow.
   ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

6. I can explain the basic steps to train an image-based AI model.
   ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Section 3: Engagement & Interest

7. The workshop activities kept me interested and engaged.
   ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

8. I felt comfortable asking questions during the workshop.
   ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Workshop Survey

Section 4: Open-ended Feedback (Optional)

9. What part of the workshop did you find most useful or interesting?

10. What could be improved in future workshops?

11. Are there other AI or agriculture-related topics you would like to learn about?