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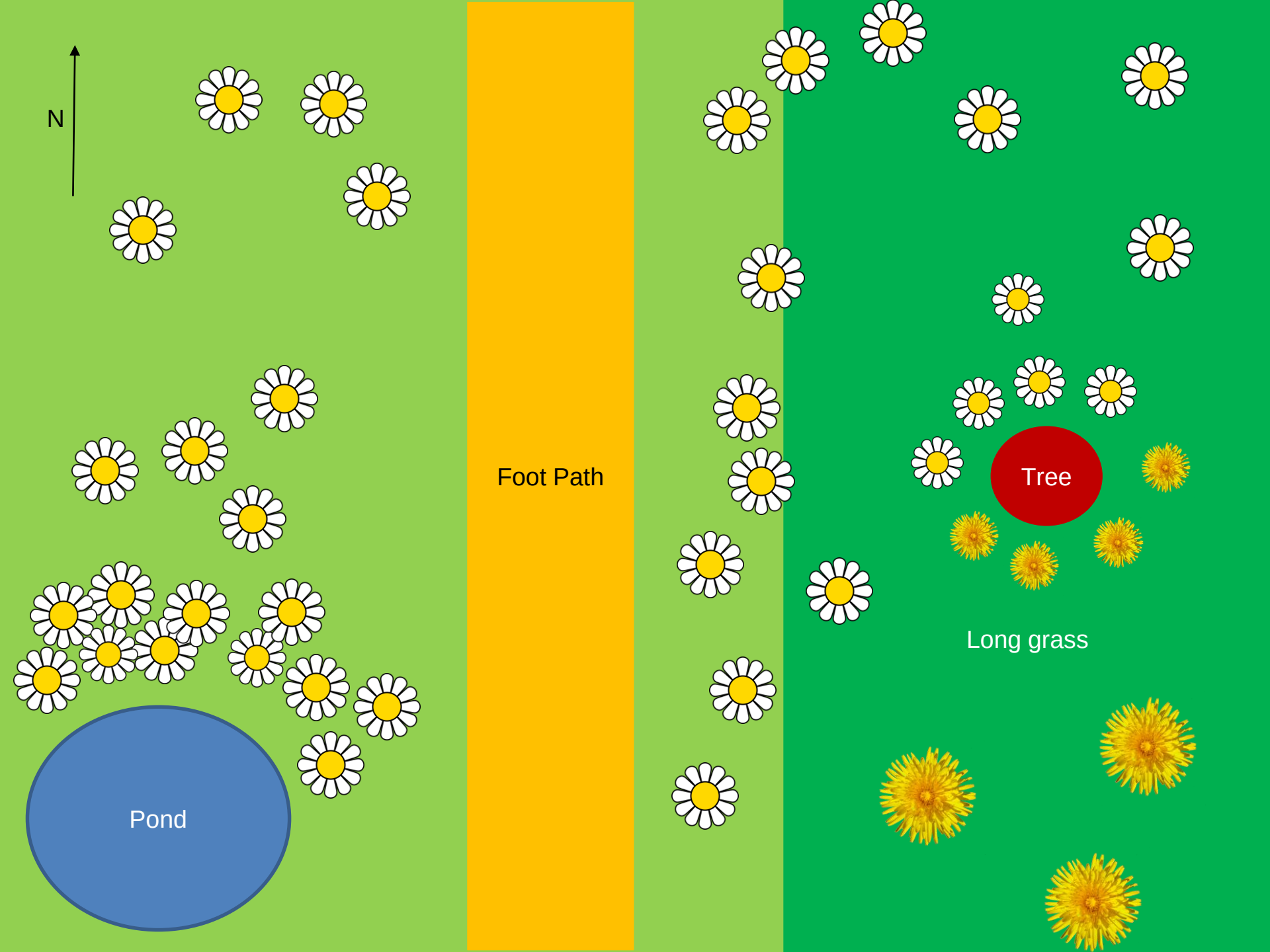
| **Topic** | Investigating ecological questions | **Level** | GCSE (or any course for students aged 14-16) |
| **Outcomes** | 1. Suggest a hypothesis to explain a given observation in ecology<br>2. Suggest a sampling method to investigate a hypothesis | | |
| **Information for teachers** | This lesson should follow lessons on random and systematic sampling. The purpose of this activity is to support students to ask relevant ecological questions that can then be investigated in the field. This could be a practice exercise before a field trip. | | |


N
Foot Path
Tree
Long grass
Pond

**Some observations from this picture that you could have made:**

1. Higher abundance of daisies around the pond
2. Low diversity of plants around the path
3. Low abundance of plants around the path
4. Dandelions tend to be on the south facing part of the tree
5. Dandelions only seem to grow in the long grass
6. Plants around the tree seem to be smaller than elsewhere

**What questions could you investigate and what sampling method would you use to do this? Use this table to help you plan your question.**

| Question | Hypothesis | Prediction | Sampling technique |
|---|---|---|---|
| Does the height of grass affect the number of daisies that grow there? | Tall grass will shade daisies and so fewer daisies will grow as they will be unable to make enough food from photosynthesis. | Areas with tall grass will have fewer daisies than areas with short grass. | Use random sampling. Divide the two grass areas into quadrants. Randomly select quadrants from each area and count the number of daisies in each quadrat. Compare results from each site to see if they are different. |