Table 1: Possible investigations

|  |  |  |  |
| --- | --- | --- | --- |
|  | Example 1 | Example 2 | Example 3 |
| Hypothesis | If there are more leaves, the leaves will decompose slower because there is more to break down | If the temperature is higher, then leaves will decompose faster because it hot | More than one species of decomposers are needed in order for the decomposition to take place because there are a lot of leaves that need to be decompose |
| Student Planned Investigation  | Students prepare four containers each containing soil from the same sample, they moisture the soil with the same amount of water in each container. Then they prepare the bags with the leaves: in the first bag they place three leaves, in the second they place five leaves, in the third, eight leaves, and in the last one ten leaves. Place one bag per container, making sure their position is similar (i.e. not one buried and another one on the surface of the soil). | Students prepare three containers each containing soil from the same sample, they moisture the soil with the same amount of water in each container. Then they prepare the bags with the leaves: each bag will contain the amount of leaves. Place one bag per container, making sure their position is similar (i.e. not one buried and another one on the surface of the soil). One container will be placed in the classroom where the sun doesn’t come (to avoid changes in temperature as much as possible). A second container will be placed under a lamp and the third one will be placed in a fridge. | First, students, or the teacher, need to sterilize some soil. It can either be done in a microwave: 90 seconds per kilogram of soil at full power (make sure to use non-metallic container), or in the oven at 180-200°F for 30 minutes (no plastic container).Students prepare three containers: one containing sterilized soil only, one containing sterilized soil and one decomposer, earthworm for example, and one containing non-sterilized soil. They moisture the soil with the same amount of water in each container. Then they prepare the bags with the leaves: each bag should contain the same amount of leaves. Place one bag per container, making sure their position is similar (i.e. not one buried and another one on the surface of the soil). |