**Lesson overview: Growing seeds in different soils**

**Developed with Beck Phillips**

**Materials and equipment**

|  |
| --- |
| **General classroom items** |
| Recording books  Recording equipment |
| **Special items** |
| Three types of soils and/or ground covering products  Large seeds from common plants (for Engage phase)  Small seeds that germinate within a few days (packets)  Small container (for seeds)  Plastic cups (for soils)  Pop sticks for labels |

**Science background.**Seeds germinate with the assistance of water and warmth. The condition of the soils they are planted in will determine the level of success for their growth.

**SAFETY NOTE:**Potting mix sold in plastic bags is a significant health hazard and should only be used in conjunction with facemasks and plastic gloves for each student. Soil samples from garden centres selling bulk soils or building sites with excess piles of soil can be used without the pre-stated safety equipment.

**Learning sequence.**

**Engage:**A selection of seeds that students can hold and examine. These seeds are not to be planted.

**Explore:**Examine and record features of three types of soils. Record on first table.

**Explain:**Successful germination requires water (small amounts rather than a flood) and a warm place. A small amount of fine soil on top of seeds will not inhibit germination.

**Elaborate:**

Establish science investigation based on the question ***What will happen if plant seeds are placed into different soils?***

*Model a science investigation through instructions as students construct …..*

|  |  |  |
| --- | --- | --- |
| *We are going to change ……* | *We are going to keep the same ……* | *We are going to measure our results by …* |
| *types of soils* | *cups*  *amount of soil*  *amount of seeds*  *amount and time for watering*  *Label each container on a pop stick* | *looking and counting* |

Students begin the second table with predictions.

Leave seeds for at least 5 – 7 days before completing their observations.

**Evaluate:**Individual cups will show different degrees of successful germination and growth however patterns can emerge.

Formative assessment through participation and completion of recording.