

Science of Soils



KLAs:
Science / Agricultural Technology

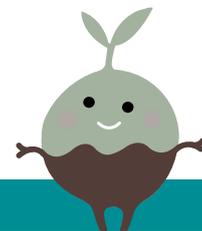
LESSON TOPIC:
Healthy Soils

YEAR LEVEL: K-10

DURATION OF ACTIVITY:
45-50 minutes

Healthy soils

This activity gives students and teachers a chance to explore the complex and important world beneath our feet. All roads lead to the quality and health of our soils when you consider what everyone had for breakfast, what clothes they like to wear or even how their house was built! Developing an appreciation for how soil is made, what lives in it and what is created from it, will open up an understanding of how essential healthy soils are to our own quality of life.



SYLLABUS OUTCOMES

ES1 – S3: SCIENCE

- Knowledge and understanding: STE-7NE; Earth and Space: ST1-8ES; Living World: ST1-10LW, ST3-11LW; Material World: ST3-12MW, ST3-13MW; Chemical World: SC4-17CW
- Skills – Working Scientifically: Ste-4WS, ST1-4WS, ST2-4WS, ST3-4WS

S4 – S5: SCIENCE

- Knowledge and understanding - Earth and Space: SC4-12ES, SC4-13ES
- Skills – Working Scientifically: SC4-4WS, SC4-6WS, SC5-4WS, SC5-6WS

S4 – S5: AGRICULTURAL TECHNOLOGY

- 4.1.2, 5.1.2, 5.3.3

LEARNING OUTCOMES

Students will:

- Develop their knowledge and understanding of what 'healthy soil' really means, including the micro- and macro-organisms that live in it, mineral compositions and pH
- Observe the properties of different soil samples presented to them, including soil from their own school environment
- Apply soil science classification techniques to identify soil characteristics including texture, pH and composition
- Identify some of the organisms that make up the living part of healthy soils
- Discuss the kinds of scientific, industrial and farming activities that utilise knowledge of healthy soils and how to improve the quality of the soils for specific purposes

EXPLORATORY AND PLAY-BASED COMPONENTS

This activity combines exploratory and play-based learning with scientific methodology. Students will observe different soil types by getting their hands dirty, feeling the textures of different soils. They will then use scientific methods to test other soil properties including moisture and pH, as well as identification of organisms that live within the soil. Secondary students will undertake a firsthand investigation to determine which soil types are most suited to different crops.

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