



### Background

Several SPICE resources, designed for high school students, enable students to investigate soil ecosystems and feeding relationships between soil organisms. These materials may be adapted for upper primary school students to teach science inquiry skills and biological science content. The following resources are drawn from the SPICE sequence, Soil life, and an investigation program, Monitoring soil science. Further details for both of these programs are available on the SPICE website.

### Learning resources

#### *Introduction to soil science 1: Life in the soil*

*Life in the soil* comprises a presentation and teachers guide.

This presentation engages students in the comparison of a variety of ecosystems and provides the opportunity to demonstrate their prior knowledge of ecology. See the teachers guide for further information on the purpose and use of this resource.

#### *Introduction to soil science 2: Exploring soil*

*Exploring soil* includes a teachers guide, procedure sheet, interactive learning object with two associated worksheets and two instructional videos.

This resource enables students to explore the variety of life in the soil through sampling of soil and observation of soil organisms. The learning object and worksheets introduce the size range of soil organisms and their feeding relationships. See the teachers guide for further information on the purpose and use of this resource.

#### *Introduction to soil science 3: Investigating soil fauna*

*Investigating soil fauna* contains a scaffolded procedure sheet that provides opportunities for students to plan and carry out open investigations into how soil fauna may be affected by environmental change.

#### *Introduction to soil science 4: Soil science techniques*

This collection of background and procedure sheets introduces common soil science techniques.

- *Soil science* provides a general introduction to soil science and the importance of soil fauna to soil health and productivity.
- *Mites and springtails* introduces the most abundant soil-dwelling arthropods: mites and springtails.
- *Measuring soil organic matter* describes a procedure for students to measure the amount of organic matter in a soil sample and thereby compare different soils.
- *Measuring soil bulk density and moisture content* procedure sheet enables students to examine two physical characteristics of soil. These procedures are more challenging than previous activities.
- *Measuring soil pH and electrical conductivity* procedure sheet enables students to examine two further physical characteristics of soil. These procedures are more challenging than previous activities.

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