

Mechanical Bugs

DESCRIPTION OF THE LEARNING SITUATION	MATERIALS	DURATION
Preparation		
 **Activity 1: Collecting arthropods** The students carry out a hunt for creepy crawlies. Back in class, the teacher questions the students about their findings. The students then observe the specimens they collected more carefully. They draw them and note their characteristics (colour, number of legs, wings, antennae, texture, shell, etc.)	• Transparent containers for capture • Gardening gloves • Little shovels • Magnifying glass • Ruler • Various books about insects • Document to note their observations • Colouring pencils	90 minutes
Activity 2: Introduction of the scientific concepts The teacher animates a capsule about the classification of arthropods. (S)he introduces the following concepts: arachnid, insect, crustacean, myriapoda. The teacher spends more time on insects and discusses their various parts.	• Books about insects • Documents from Maison Léon Provancher	60 minutes
Realisation		
 **Activity 3: Studying the mechanism to be used for the design of an insect** The teacher presents the manipulations to be carried out. The students go from one station to the next, manipulating and answering questions that are asked. The teacher reviews the facts to be remembered by the students (the position of the axle of the crankshaft, the length of the rod and its position, the size of the crankshaft, etc.)	• See the Materials preparation guide • Student booklet pages 1 to 3	45 minutes







Integration		
Activity 4: Insect design and fabrication study The students learn about the constraints related to the fabrication of their insect. The teacher makes the most of the occasion to present the materials at the same time. They choose the materials they will use to design the various parts of their insect. The students draw their imaginary insect based on the materials they have chosen. The teacher presents different techniques to help the students carry out the creation of their insect.	• See the Materials preparation guide • Student booklet pages 4 and 5	90 minutes or more
Activity 5: Test run of their insect's operation When they have finished, the students carry out a few test runs and make the required corrections.	• Imaginary insect made in Activity 4 • Student booklet, page 6	15 minutes