OS MECHANICA

Activity One - Insects

Ages 9 – 12

Equipment – Laptops, Adobe Photoshop™, Internet and data projector (for teacher)

Introduction

The class will explore different species of insects and their importance in the Earth's food chain. As an introduction to this activity the teacher may wish to lead the class in a discussion about the importance of insects to the environment. Other class discussion topics may include,

- Human impact on the environment and its effects on insects

- What would the world be like without insects?

- Actions that the class can take to help the environment (eg recycling, using less power etc)

Part One – Research

Each student will select an insect and prepare a brief researched report that includes,

- General information about the student's chosen insect

- Information about the insect's role in the food chain

- Reference images and diagrams of the insect

Part Two – Design

Students will begin the construction of their robots by creating a paper design.

- Break the insect into basic components (ie legs, body etc)

- Decide on a power source (eg leg movement, wings, jets etc)

- Look at the Parts Master File for shapes that may be suitable

Part Three – Construction

Teachers can opt to either work through the video tutorials as a class or set them as self paced learning modules, whichever suits the particular class. Using the techniques shown the students will construct their own mechanical insect.

Part Four – Presentation

Students will save their work as a Photoshop™ document as well as exporting a Jpeg version to show the class. Each student will also write about their robotic insect and include,

- The insect's name (tip: use Google™ translate to get cool Latin names)

- Two paragraphs about its origins and the way it works

- Technical data about Speed, Engine type, Weight, Size and Special abilities