

Evaluation Activity

ECO-INDICATOR

The eco-indicator is a sophisticated assessment tool for post 16 students wanting to quantify the environmental impact of a product throughout different stages of its lifecycle – production, use and disposal.

The eco-indicator value indicates a score based on impact on:

- Human health (e.g. mercury would have a high score)
- Ecosystem quality (e.g. anything with a toxic by-product would have a high score)
- Resources (e.g. use of renewable resources would have a low score)

An eco-indicator value is given to every material and process and can be found in the tables in the Eco indicator 99 Manual for designers at pre-sustainability.com/content/impact-assessment-methods

Activity

Organise the class into pairs or small groups and give each group a product to evaluate.

Ask students to identify **materials** and then **weigh** them (in kgs) for each part of the product and its packaging. Ask them to write the list of materials in the **Production** section of their Eco indicator worksheet.

Now ask them to think of the **processes** involved in producing the product and list them in the **Production** section e.g. injection moulding.

Encourage students to complete the **Use** and **Disposal** sections of the worksheet with materials and processes. Ensure students use the relevant units of kgs for weight and kWh for electricity. In many cases students will have to estimate the energy use and distance the product has been transported.

Ask students to find out the eco-indicator value for each material element and process from the tables in the manual. Then ask them to multiply the weight of each of the components by its eco-indicator value to

give its eco-points. Students can then calculate the eco-points for each life-cycle stage. The higher the point score, the greater the environmental impact.

Discuss which materials, processes and stages of the products life-cycle cause most impact. This will help highlight areas for improvement when redesigning.

Preparation

In advance:

- Download the tables from the Eco-indicator 99 Manual for designers or enable students to access the tables online.
- Take photocopies for the class of the eco-indicator worksheet on the back of this evaluation sheet.
- Organise products that are easy to disassemble for the students to evaluate. Single or dual material products such as CD cases are suitable for the first attempt at this activity.
- Source electric weighing scales and calculators for each group.

ECO-INDICATOR WORKSHEET

Name of product:

Production			
Material or process	Amount (Kgs, kWh)	Indicator	Result
TOTAL			

Use			
Material or process	Amount (Kgs, kWh)	Indicator	Result
TOTAL			

Disposal			
Material or process	Amount (Kgs, kWh)	Indicator	Result
TOTAL			