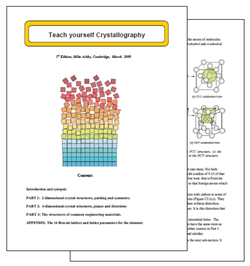
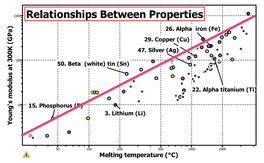
Not So Different After All

Material Scientists, Engineers and Product Designers all design things. Whether it be experiments, new materials, components or products, students of these subjects need to acquire skills in researching, assessing data, modelling, testing, and making their ideas a reality. This poster shows how CES EduPack, its tools and supporting teaching resources can support students as they develop these skills.

Understanding the Fundementals

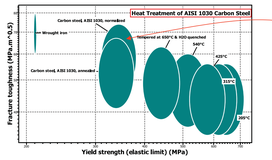
The Elements database of CES EduPack, coupled with online exercises, helps students understand the fundementals.





Exploring Heat Treatments

The effects of heat treatments on properties can be mapped and displayed visually.
The accompanying lecture unit, Manipulating Materials, shows many examples.

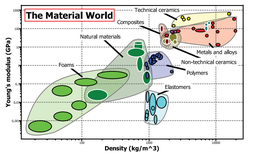




Normalised Ferrite + Pearlite

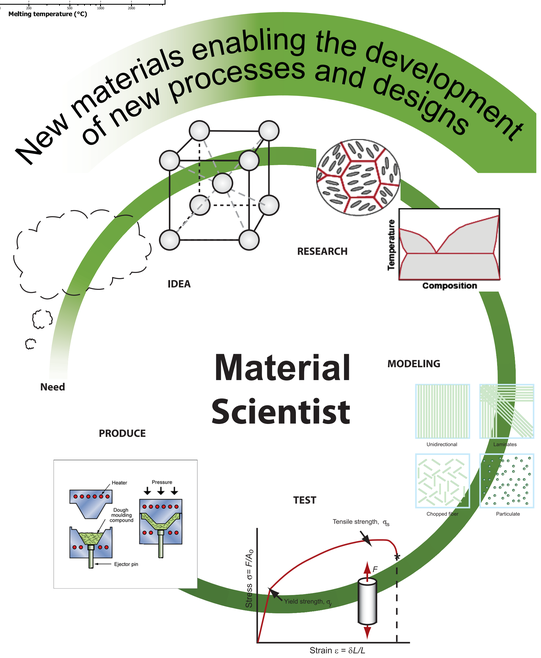
Getting Material Inspiration

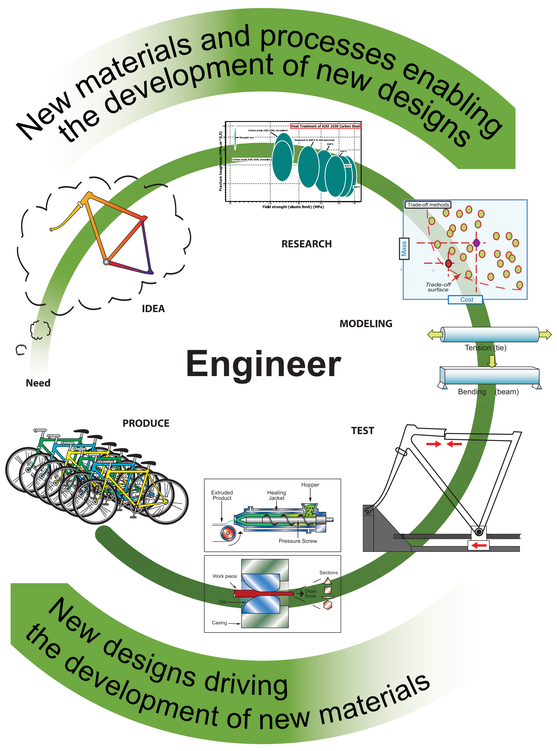
Visualise the materials world and get ready access to data on 4000+ materials.
Typical use images and searching can help students see what's been done before.



Advanced



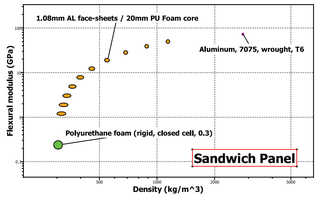






Modelling Materials

THe Hybrid Synthesizer helps students to calculate the properties of hypothetical composites and foams.
Highlights one aspect of new material design.

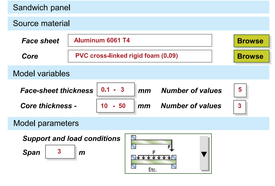




Cellular structures
- *Foams*
- *Triangulated lattices*

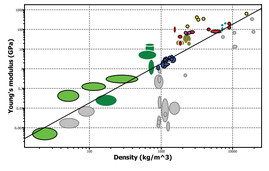
Sandwich structures
- *Symmetric sandwiches*

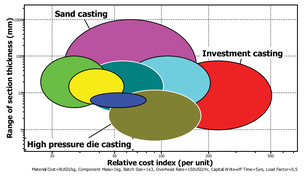
Composites
- *Unidirectional*
- *Quasi-isotropic*
- *Particulate*



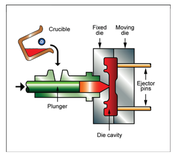
Materials and Process Selection

Helping to teach a rational selection methodology.
Students can hone their skills on the many exmaples and case studies.









Evaluating Environmental Performance

Technical performance isn't good enough any more. The Eco Audit Tool and the new Sustainable Technology Database help students evaluate the Eco performance of a design and then take into consideration the many stakeholders when choosing a material.

