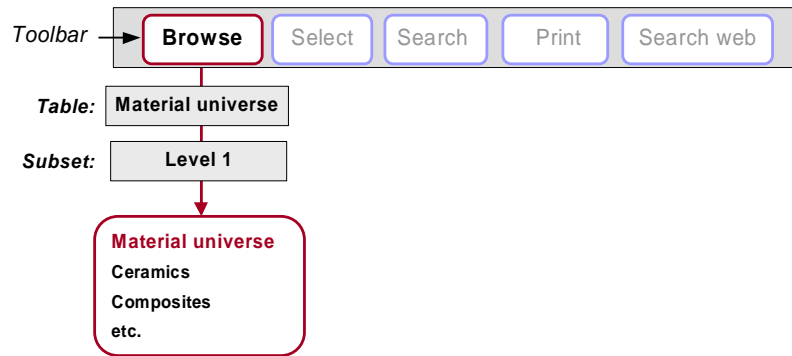


## Browsing Exercises

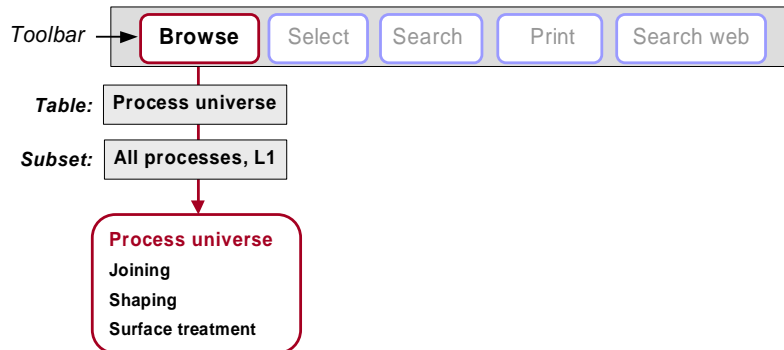
Complete the following “browsing” exercises to practice using the Cambridge Engineering Selector software.

*Browsing lets you explore records, starting from the content list or “tree”.*



- 1.1 Find the record for the thermoplastic polymer ACRYLONITRILE BUTADIENE STYRENE, commonly known as ABS. Is it transparent or opaque? What, approximately, does it cost? Is it cheaper or more expensive than POLYPROPYLENE?
  
- 1.2 Find the record for the ferrous metal STAINLESS STEEL. What is the value of its thermal conductivity? Find 4 applications it is used for.
  
- 1.3 Find the record for the BOROSILICATE GLASS, commonly known as PYREX. What is the value of its “maximum service temperature” (the highest temperature at which it can be used in a product)? What is Pyrex used for?
  
- 1.4 Find the records first for TITANIUM ALLOYS and then for ALUMINUM ALLOYS. Which has the higher tensile strength? Which has the lower density?

Now switch from the MATERIALS UNIVERSE to the PROCESS UNIVERSE by changing the Browse table, using the dialog box just below the word Browse:



- 1.5 Find the Composite shaping record for FILAMENT WINDING, a way of making very high quality composite structures. What are its typical uses?
  
- 1.6 Find the shaping record for INJECTION MOLDING, one of the most commonly used of all polymer molding processes. Find materials that can be injection molded by clicking on the LINK button, labelled Materials Universe, at the bottom of the record. Can Polyethylene be injection molded?
  
- 1.7 Find the shaping record for DIE CASTING, one of the most-used ways of shaping metals. What sort of products can be made by die casting?