Working with multiple representations – teacher notes

***Education in Chemistry***July 2017[rsc.li/EiC417-medical-plastics](http://rsc.li/EiC417-medical-plastics)

This experiment accompanies the above article ‘Body, heal thyself’.

This activity helps pupils practice working with multiple representations of substances alongside reading the article. The sheet has been designed so the representations look like those typically seen in searches on Google and Wikipedia. Some show skeletal formulae, which pupils of this age wouldn’t be expected to know, however these are used when they are the representation most commonly found online.

In addition to the information found using the article, pupils can be directed to add information from their own understanding and prior work.

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| **Representation** | **Name** | **Further information** |
|  | nylon | Synthetic polymer  Used in carpets |
|  | poly(ethylene terephthalate) (PET) | Synthetic polymer  Used in drinks bottles |
|  | acrylonitrile butadiene styrene (ABS) | Synthetic polymer  Used in computer keyboards |
|  | polycarbonate | Synthetic polymer  Used in spectacle lenses |
|  | amino acids | Monomers used in proteins |
|  | alkenes | Typical monomers of non-natural polymers |
|  | lactic acid | Chiral molecules used to make polylactic acids, a biodegradable polymer |
| Ca5(OH)(PO4)3 | nano-hydroxyapatite | Crystalline form of calcium phosphate.  A mineral that degrades to give calcium and phosphate ions |
| Ca3(PO4)2 | calcium phosphate | A building block of bones and teeth |
| F− | Fluoride | Traditionally used for remineralising teeth |