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**Metal Recycling**

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**Acknowledgement**

Mr John Gibson is a highly regarded educator and engineer. John taught Industrial Arts at a number of high schools before taking a position at Sydney Teachers’ College, then University of Sydney. He had an engineering education consultancy and has extensive experiencing working with NESA on Engineering Studies syllabus development and the HSC examination committee. The STEM Industry School Partnerships (SISP) Program asked John for his responses to the iTeachSTEM topic discussion questions. SISP is grateful to John for submitting these example discussion responses.

# Define the term recycling.

The identification, cataloguing, collection of man’s material waste with a view to re-using these materials by future generations.

1. **Discuss an example of recycling.**

* metal: the collection, crushing, sorting and stripping steel from used motor vehicles, aluminium cans, etc.
* polymer: the collection, cleaning, sorting and pelleting of polymer waste from old chairs, bins, polymer sheets, car tyres, etc.
* compost: the collection, cleaning and separation of putrescible waste
* timber: the collection, trimming, processing of waste timber, production of chipboard, MDF, etc.
* ceramic: the collection, crushing and re-use of disused ceramics such as concrete, roof tiles, clay pipes, etc.

1. **What is the polymer (plastic) recycling code? (sketch required)**
2. **What is sustainable design?**

The design and construction of structures in such a way that great consideration is given to the use of materials that are in short supply and the materials that can be readily used as alternatives to current materials.

1. **What is a ‘closed loop’ cycle?**

A cycle where materials are produced from natural substances, or produced synthetically, for use in particular activities, where after a life period, these materials, rather than being discarded, are re-used in the same industry, or passed to another user to be recycled.