Te Kura
Te Aho o Te Kura Pounamu
THE CORRESPONDENCE SCHOOL

CHEMISTRY CHO1O21Y1D
TOPIC RESOURCE INFORMATION

ACHIEVEMENT STANDARD 90931 (VERSION 3) CHEMISTRY 1.2
Demonstrate understanding of the chemistry in a technological application
Level 1, Internal
2 credits

D. MANUFACTURE AND USE OF STEEL

Achievement	Achievement with Merit	Achievement with Excellence
The student submits a report that: • Describes terms used in report. • Describes the uses of steel. • Briefly describes the manufacture of steel. • Makes some links between the physical and chemical properties and their use. • Describes some of the properties of the starting materials • Includes at least three relevant chemical equations to support their understanding of the chemistry. • Uses typical chemistry vocabulary, symbols, conventions and equations.	The student submits a report that: • Explains terms used in report. • Describes the manufacture/production of steel. • Explains how the physical and/or chemical properties apply to its use. • Explains some of the properties of the starting materials and how this is used in the manufacture of steel. • Includes relevant symbol chemical equations showing the chemistry of their use. • Uses typical chemistry vocabulary, symbols, conventions and equations.	The student submits a report that: • Uses chemistry terms correctly showing understanding of terms. • Elaborates in detail how the physical and/or chemical properties apply to how the starting materials are obtained and used to make steel. • Elaborates on the uses of steel relating to its chemistry • Includes relevant symbol chemical equations showing the chemistry of their manufacture and of their use. • Uses typical chemistry vocabulary, symbols, conventions and equations.

ASSESSMENT TIPS

In order to achieve this standard, your presentation must be in your own words and show your understanding of level 1 chemistry.

TIP 1

If you have difficulty in transforming the text given in the links into your own words, then it is useful to ask yourself questions, such as those listed below. You can get friend or family member to ask you the questions and then record your answers. Transcribe your answers and then weave them into your report.

Please note that these questions are only **some** of the questions you could ask yourself, so don't limit your report to these only!

Terms (CHO1041 and CHO1042 are useful)

1. What is a metal?
2. What is an alloy?
3. What is coke?
4. What is limestone?
5. What is pH?
6. What is cryogenic separation?
7. What chemical equations have I used to support my explanations?

Application: Steel (CHO1042 is useful)

1. What is the formula for limestone?
2. Where is steel manufactured in New Zealand?
3. What properties of iron sands is used to help separate it from sand?
4. How is steel made?
5. Can I describe the different starting materials to make steel?
6. Can I explain the role of coke and limestone in the manufacture of steel?
7. Can I explain the chemistry of the different steps in making steel?
8. Can I explain some of the chemistry of how steel is useful?
9. Can I use bonding models to help explain the properties of steel?
10. Have I written my equations using correct chemical language (e.g. using subscripts)

TIP 2

When you read through the links or watch the videos given on *My Te Kura* or in the task, make notes using key words or phrases. When you write your report, use these key words rather than the text given in the links.

TOPIC RESOURCES

MANUFACTURE AND USE OF STEEL

Your first source is the modules you have completed – CHO1041 and CHO1042. SCO1052 and CHO1054 are also useful.

EXTRA SOURCES FOR MORE DETAIL

https://youtu.be/u6U6BXEwUws

www.nzsteel.co.nz/new-zealand-steel/the-story-of-steel/the-history-of-ironsand/

www.nzsteel.co.nz/new-zealand-steel/the-story-of-steel/the-science-of-steel/the-ironmaking-process/

www.nzsteel.co.nz/new-zealand-steel/the-story-of-steel/the-steel-making-process/steel-making/

https://sciencing.com/chemical-physical-properties-steel-5548364.html

Additional sources may be used and must be quoted (full web link) in the bibliography to verify the source.