COMPONENTS OF NATURE OF TECHNOLOGY: INDICATORS OF PROGRESSION

Characteristics of Technological Outcomes

INFORMS WITHIN A LEVEL

PROGRESSION TO FOLLOWING LEVEL/S

LEVEL

1

- Identify technological outcomes in a group of technological and non-technological objects and systems.
- Identify who might use particular technological outcomes.
- Identify the physical attributes of technological outcomes.
- Identify the functional attributes of technological outcomes.

2

- Describe what technological outcomes are and explain how they are different to natural objects and other things created by people.
- Describe the physical and/ or functional attributes of a technological outcome that provide clues as to who might use it.
- Identify a technological system and describe relationships between the physical and functional attributes.
- Identify a technological product and describe relationships between the physical and functional attributes.

3

- Describe possible users and functions of a technological outcome based on clues provided by its physical attributes.
- Explain why a technological outcome could be called a 'good' or 'bad' design.
- Describe examples of technological outcomes with different functional natures that have similar physical natures.
- Describe examples of technological outcomes with different physical natures that have similar functional natures.

4

- Explain possible physical and functional attributes for a technological outcome when provided with intended user/s, a purpose, and relevant social, cultural and environmental details to work within.
- Explain the proper function of existing technological outcomes.
- Explain how technological outcomes have been successfully used by end-users for purposes other than what they were originally designed for.
- Explain how technological outcomes have been unsuccessfully used by end-users for purposes other than what they were originally designed and discuss the impacts of this.

5

- Explain why time and context are important criteria for judging the fitness for purpose of technological outcomes.
- Evaluate past technological outcomes in the light of experiences subsequent to their development and/or contemporary understandings.
- Explain the cause/s of particular technological outcome malfunction.
- Explain what is meant by the malfunction of technological outcomes.

6

- Explain why understanding socio-technological environments allow technological outcomes to be better understood.
- Describe socio-technological environments and the relationships of technological outcomes involved.
- Discuss the interactions between technological outcomes, people, and social and physical environments within particular socio-technological environments.
- Explain why some technological outcomes can be described as both a product and a system.

7

- Justify the fitness for purpose of technological outcomes in terms of their physical and functional nature and socio-technological environment/s they are used within.
- Justify how the design elements appear to have been prioritised in technological outcomes.
- Explain how malfunction can impact on the design and/or manufacture of similar and related technological outcomes.

8

- Justify the fitness for purpose, in its broadest sense, of technological outcomes.
- Discuss the implications of viewing fitness for purpose in its broadest sense on the design and development of technological outcomes.
- Discuss the implications of viewing fitness for purpose in its broadest sense on the manufacture of technological outcomes.
- Debate the value of employing the notion of 'fitness for purpose in its broadest sense' as related to: the design and development, manufacture, evaluation and analysis of technological outcomes.

This diagram is one of eight showing how learning in the components of the technology curriculum, assessed in relation to the indicators, progresses within and across curriculum levels. Copyright © Ministry of Education 2010.