Guide to making judgments — Year 9 Science

Name .....

Focus: Evaluate an investigation, analyse data and use understandings to provide explanations and reflect on applications of science.

Investigating	Knowledge and understanding	Investigating Reflecting	
Identifies and classifies variables and evaluates the fairness of an investigation. Presents and analyses experimental data to draw conclusions. Questions 1–5	Demonstrates an understanding of water movement in cells and how body systems balance water inputs and outputs. Questions 6–9	Interprets data and uses scientific understandings to provide explanations. Reflects on understandings to determine water needs and evaluate claims. Questions 10–15	
◀ Considers all relevant variables to justify an evaluation of the fairness of an investigation.	◀ Identifies cell structures, the direction of water movement and its effects. Lists all methods of water output and names all body systems. Names and describes the role of each organ in maintaining water balance.	◀ Clearly justifies advice about water and sodium needs during exercise. Considers all relevant data and understandings to evaluate advice in an advertisement and to generalise about the use of scientific methods to test claims.	**A**
◀ Draws valid conclusions from the results of an investigation.		◀ Uses understanding of body systems to explain Kokoda walkers' water imbalance. Provides a valid explanation for headaches, and justifies advice about water needs during exercise.	**B**
◀ Correctly graphs data. Identifies independent and dependent variables and explains how one relevant variable is controlled. Partially justifies an evaluation of the fairness of an investigation and draws a valid conclusion.	◀ Identifies most of the following: cell structures, methods of water output and names of body systems and organs. Describes the role of some organs in maintaining water balance.	◀ Suggests a valid way of avoiding low sodium concentrations. Completes the following with some justification: correctly predicts changes to Kokoda walkers' cells, provides advice about water needs during exercise, evaluates advice given in an advertisement. ◀ Makes statements with little justification.	**C** **D**
◀ Graphs data or identifies variables with some success.	◀ Identifies a method of water output. Correctly names a system or organ.		**E**

Feedback .....

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