# *The Penguin Project* Assessment rubric

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **SCIENCE UNDERSTANDING** | **SCIENCE INQUIRY SKILLS** | | |
| **Physical sciences** | **Planning and conducting** | **Processing and analysing data and information** | **Communicating** |
| **Achievement Standard** | **Students use their understanding of the behaviour of heat to suggest explanations for everyday observations.** | **Students follow procedures to collect and record observations. They describe how fairness was considered.** | **Students record observations using diagrams and other representations and suggest possible reasons for their findings, based on patterns in their data.** | **Students communicate their ideas.** |
| **A** | In-depth understanding of heat transfer from one object to another. Precisely used appropriate scientific terminology related to heat. | Accurately, and independently, used appropriate tools and technologies (i.e., stopwatch, clock, thermometer) to measure and gather data. Accurately identified how to conduct a fair test. Recorded measurements using familiar formal units, such as minutes and degrees. | Accurately recorded, interpreted and analysed data. Explained and demonstrated cause and effect. | Comprehended texts independently through reading and viewing. Explained and communicated ideas clearly with others. |
| **B–C** | Understanding of heat transfer from one object to another. Used appropriate scientific terminology related to heat | Effectively used some tools and technologies (i.e., stopwatch, clock, thermometer) to measure and gather data. Identified how to conduct a fair test. Recorded measurements using familiar formal units such as minutes and degrees. | Recorded, interpreted and conducted some analysis of data. Demonstrated some understanding of cause and effect. | Comprehended texts through reading and viewing. Described their observations to others. |
| **C–D** | Minimal understanding of heat transfer from one object to another. Used some relevant scientific terminology related to heat. | Attempted to use appropriate tools and technologies (i.e., stopwatch, clock, thermometer) to measure and gather data. Some information was inaccurate or incomplete. Identified how to conduct a fair test with assistance from teacher. Recorded some measurements using familiar formal units such as minutes and degrees with some accuracy. | Partially completed the recording and analysis of data. Some evidence of scientific reasoning used. | Attempted to read some of the main ideas in a text. Made reasonable attempts at describing their observations in simple terms to others. |
| **E** | No understanding of heat transfer from one object to another. Little use of scientific terminology related to heat. | Unable to use appropriate tools and technologies (i.e., stopwatch, clock, thermometer) to measure and gather data. Unable to grasp the need for conducting a fair test. Did not record measurements accurately using familiar formal units. | Errors noted in the recording of data. Unable to complete a proper and reasonable analysis of data. | Unable to understand texts and communicate ideas. Dependent on assistance and support from others to complete reading tasks. |