### STANSW Scientific Investigation – Survey

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<th>Level</th>
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| 5     | The student has provided clear and convincing evidence that he/she:  
• completed a **valid** and **systematic** survey of a specific area of interest  
• had **well-defined** aims and **clearly expressed** the subject of the survey  
• included a **concise** summary of **relevant** prior research and its **reliability** assessed  
• exhibited a **deep understanding** of related science concepts  
• accurately **identified** and took steps to **minimise** potential survey risks  
• addressed an issue of **social** or **scientific significance**  
• **had** shown **originality** in selection of site and **creativity** in data collection procedures  
• **identified** and **assessed** a range of sampling techniques and provided **convincing arguments** for the procedure and technology selected  
• **methodically** gathered data in planned sample areas that are **representative** of the wider study area  
• recorded data in an **organised** and **logical** way using **standard** mapping techniques  
• **located** and **classified** representative areas of each feature of interest, within the wider study area, identifying **variants**  
• **analysed** and **evaluated** trends, patterns and relationships in the data collected, performing a **recognised** statistical distribution analysis  
• used **critical thinking** to **synthesise** information, explain **anomalies** and to argue the **merits** of the sampling areas and techniques selected  
• put forward creative ideas for additional survey data collection or procedures  
• included a **comprehensive** log book, detailing the surveying process, from brainstorming, through data collection, to the final conclusion  
• **formally acknowledged** those who contributed to the project  
• used **clear, concise, consistent** and **meaningful** language, visuals and sequencing to **effectively** communicate to the intended audience  |
| 4     | The student has provided substantial evidence that he/she:  
• completed a **well-planned** and structured survey of a specific area of interest  
• had **realistic** aims and **well-described** the subject of the survey  
• included a **summary** of current **relevant** information and checked its **reliability**  
• had a **detailed understanding** of the related science concepts  
• conducted a carefully **considered** risk assessment prior to experimentation  
• had been **original** or **creative** in selection of subject or methodology  
• **carefully** considered the choice of sampling technique and technology used  
• gathered data from **specified** sample areas, **representative** of the wider study area  
• recorded data in a **systematic** manner using a **recognised** mapping technique  
• **classified** features of interest in sample areas, identifying **variants**  
• used **some** statistical analysis to help explain trends and relationships in the data  
• used **critical thinking** to derive conclusions, suggesting ideas for further surveys  
• included a log book **detailing** the different stages of the surveying process  
• **acknowledged** any provided details of any assistance given  
• communicated the report with **effective** use of language, visuals and sequencing |
### JUDGING RUBRIC: Years 9–10

#### STANSW Scientific Investigation – Survey

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| **3** | The student has provided evidence that he/she:  
- completed a **broad** survey that shows evidence of **careful** planning  
- had some **measurable** aims and the subject of the survey was **clearly** described  
- collected background research with **some relevance** to the survey  
- had a **good understanding** understanding of the related science concepts  
- had some **innovative** or **creative** ideas but did not develop them  
- conducted a **risk assessment** prior to experimentation  
- gathered first-hand data from **various** sample areas or sample groups  
- **identified** features of interest in sample areas or sample groups  
- **identified obvious** trends, patterns and relationships in the data  
- formulated conclusions that were **supported** by experimental data  
- put forward **some** ideas for future improvements  
- **acknowledged** any assistance given  
- communicated the report with **good** use of language, visuals and sequencing, appropriate to the intended audience |
| **2** | The student has provided evidence that he/she:  
- completed a **broad** survey with **moderate** planning  
- had some **tentative** aims and the subject of the survey was **adequately** described  
- performed **limited** or **general** background research  
- had **minimal** understanding of the related science concepts  
- lacked **innovative** or **creative** ideas  
- considered **experimental risks** but did not conduct a formal **risk assessment**  
- gathered **some** first-hand data from one sample area only  
- **identified limited** features of interest in sample areas or sample groups  
- **identified occasional** trends, patterns and relationships in the data  
- formulated conclusions that were **not fully supported** by experimental data  
- provided **limited** or **disorganised** documentation in the accompanying log book  
- put forward **some** ideas for future improvements  
- received some assistance but **did not provide details** of the assistance given  
- communicated the report with **adequate** use of language, visuals and sequencing |
| **1** | The student has provided evidence that he/she:  
- submitted a survey with little **attention to detail**  
- had no **clear** aim and the subject of the survey was **vaguely** described  
- performed **nominal** or **irrelevant** background research  
- had an **inadequate** understanding of the related science concepts  
- gathered **insufficient** amounts of data  
- **failed** to recognise or control **variables**  
- **failed** to identify trends, patterns and relationships in the data  
- manufactured conclusions **lacking** supporting information and scientific accuracy  
- **neglected** to include a log book  
- **failed** to acknowledge assistance given  
- communicated the report with **poor expression** and **inadequate** use of visuals |