**Area of Learning: MATHEMATICS — Statistics Grade 12**

**BIG IDEAS**

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| **Statistics** plays an integral role in research, decision making, and policy in society. |  | The research question and practical and ethical issues determine whether a **statistical study** should be observational or experimental. |  | **Statistical analysis** allows us to explore, describe, model, and explain variation. |  | We can develop **statistical thinking** to help make inferences intuitive. |  | Statistical findings gain value through **effective communication**. |

**Learning Standards**

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| **Curricular Competencies** | **Content** |
| *Students are expected to do the following:*  Reasoning and modelling   * Develop **thinking strategies** to solve puzzles and play games * Explore, **analyze**, and apply statistical ideas using **reason**, **technology**, and **other tools** * **Estimate reasonably** and demonstrate **fluent, flexible, and strategic thinking** about number * **Model** with statistics in **situational contexts** * **Think creatively** and with **curiosity and wonder** when exploring problems   Understanding and solving   * Develop, demonstrate, and apply conceptual understanding of statistical ideas through play, story, **inquiry**, and research * **Visualize** to explore and illustrate variation within and between variables * Apply **flexible and strategic approaches** to explore statistical questions in abstract and situational contexts * Explore research questions with **persistence and a positive disposition** * Engage in **statistical thinking** to answer questions **connected** with place, story, cultural practices, and perspectives relevant to local First Peoples communities, the local community, and other cultures | *Students are expected to know the following:*   * **role of statistical thinking** in research and the scientific method * **observational** and **experimental** studies * common **graphical** representations of variation * use of **summary statistics** to describe variation * **association** between two variables * probability **models** for variation * intuition and appreciation of **inferential concepts**, such as confidence intervals and hypothesis tests * use of **software and technology** to enhance statistical ideas * **communication** of statistical findings |

**Area of Learning: MATHEMATICS — Statistics Grade 12**

**Learning Standards (continued)**

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| **Curricular Competencies** | **Content** |
| Communicating and representing   * **Explain and justify** statistical ideas and **decisions** in **many ways** * **Represent** statistical ideas in concrete, pictorial, and symbolic forms * Use statistical vocabulary and language to contribute to **discussions** in the classroom * Take riskswhen offering ideas in classroom **discourse**   Connecting and reflecting   * **Reflect** on statistical thinking * **Connect statistical concepts** with each other, other areas, and personal interests * Use **mistakes** as **opportunities to advance learning** * **Incorporate** First Peoples worldviews, perspectives, **knowledge**,  and **practices** to make connections with statistical concepts |  |