**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
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**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
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