



Investigate Elements of Chance Using a Simulation

Achieved	Merit	Excellence
Investigate a situation involving elements of chance using a simulation.	Investigate a situation involving elements of chance using a simulation, with <u>justification</u> .	Investigate a situation involving elements of chance using a simulation, with <u>statistical insight</u> .
<u>Justification</u> - Linking components of the investigation process to the context, explaining relevant considerations, and supporting findings with evidence from the experiment.		
<u>Statistical Insight</u> - Integrating statistical and contextual knowledge throughout, reflecting on the process, discussing variation, considering other relevant variables.		

Simulation Methods

The process of carrying out a simulation involves:

- Designing the simulation
 - Identifying tools to be used
 - Defining a trial
 - Deciding the number of trials
 - Determining data recording methods
- Carrying out the simulation and recording outcomes
- Selecting and using appropriate displays and measures
- Communicating findings in a conclusion

Key Considerations

- For Merit, link components of the simulation process to the context and explain relevant design considerations. Support findings with evidence from the simulation.
- For Excellence, integrate statistical and contextual knowledge throughout the process. Reflect on the process and consider other variables.

Key Vocabulary

Students should understand and use terms related to simulations and probability, such as:

- | | | |
|---------------------------------|--------------------------------------|-------------------------------------|
| <input type="checkbox"/> Chance | <input type="checkbox"/> Outcome | <input type="checkbox"/> Population |
| <input type="checkbox"/> Random | <input type="checkbox"/> Probability | <input type="checkbox"/> Simulation |
| <input type="checkbox"/> Trial | <input type="checkbox"/> Sample | |