**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: | WEEK: 1 | STRAND:Statistics & Probability | **SUB-STRAND:**  **Chance 1** | **WORKING MATHEMATICALLY:**  **MA1-1WM, MA1-3WM** |
| OUTCOMES: **MA1-18SP** | | **Recognises and describes the element of chance in everyday events** | | |
| **CONTENT:**  Students should be encouraged to recognise that, because of the element of chance, their predictions will not always be proven true. | | **Identify outcomes of familiar [events](http://syllabus.bos.nsw.edu.au/glossary/mat/event/?ajax" \t "_blank" \o "Click for more information about 'events') involving [chance](http://syllabus.bos.nsw.edu.au/glossary/mat/probability/?ajax" \t "_blank" \o "Click for more information about 'chance') and describe them using everyday language, such as 'will happen', 'won't happen' or 'might happen' (ACMSP024)**   * Identify possible outcomes of familiar activities and events, eg the activities that might happen if the class is asked to sit on the floor in a [circle](http://syllabus.bos.nsw.edu.au/glossary/mat/circle/?ajax" \t "_blank" \o "Click for more information about 'circle') * Use everyday language to describe the possible outcomes of familiar activities and events, eg 'will happen', 'might happen', 'won't happen', 'probably' | | |
| ASSESSMENT FOR LEARNING | | * Try to find out what the students know about ‘chance’. Ask students: “What does the word ‘chance’ mean? When have you heard this word before?” * Can the students communicate using any of the following language: **chance**, **certain**, **uncertain**, **possible**, **impossible**, **likely**, **unlikely**? | | |
| WARM UP / DRILL | | * **Weather Watch**   Is there a chance of- rain, snow, hail, wind, frost etc today? Discuss, encourage reasons for comments. | | |
| NEWMAN’S PROBLEMINVESTIGATION | | * “What is the chance of…..? Discussion cards –pictures eg. bike, car, horse, taxi, school boy, mother & baby, ferry, motor bike, helicopter etc. | | |
| QUALITY TEACHING ELEMENTS | | **INTELLECTUAL QUALITY** | **QUALITY LEARNING ENVIRONMENT** | **SIGNIFICANCE** |
| * Deep knowledge * Deep understanding * Problematic knowledge * Higher-order thinking * Metalanguage * Substantive communication | * Explicit quality criteria * Engagement * High expectations * Social support * Students’ self-regulation * Student direction | * Background knowledge * Cultural knowledge * Knowledge integration * Inclusivity * Connectedness * Narrative |
| RESOURCES | | Students should be encouraged to recognise that, because of the element of chance, their predictions will not always be proven true. When discussing certainty, there are two extremes: events that are certain to happen and those that are certain not to happen. Words such as 'might', 'may' and 'possible' are used to describe events between these two extremes.  <http://www.youtube.com/watch?v=eO9WSw1l3SI> (Ben and Hollie’s Kingdom- Snow- What’s the Chance?)  <https://interactivemaths.wikispaces.com/Chance> <http://www.abc.net.au/countusin/games/game12.htm>  <https://www.studyladder.com.au/learn/mathematics/topic/chance-456> | | |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES | |
| * **Likely or Not?**   The teacher prepares cards with ‘always’, ‘likely’, ‘unlikely’ and ‘never’ on them and orders them on the floor. Then pose the question:  ‘How likely is it that someone in another class has a vegemite sandwich today?’ Students stand behind the chance card that they think is the best answer to the question and explain their reasons.  Is It Likely Chance Cards 1   * **Is It Possible?**   Use discussion cards to elicit discussion about the chance of events being likely to happen /or unlikely to happen. eg beach scene, aeroplane, dog & bone, someone fishing, alien, cat & litter of kittens, racing car, unlikely events  Discussion Cards 2 | LEARNING SEQUENCERemediationES1 | * **Questioning**   Students are encouraged to talk and ask questions about the likelihood of events happening eg ‘Is Mr Harris coming up to visit our class?’, ‘Is Stan’s mum going to have a baby boy or girl?’  Students sort pictures to match events depicting the terms ‘likely’ and ‘unlikely’. |
| LEARNING SEQUENCES1 | **Group and Independent Activities**   * **What might you see?**   Students are divided into four groups. Each group is given a picture depicting a particular environment eg snow, forest, outback, coastline. The groups are asked to imagine they are in a house in their ‘environment’ and to list the things they would see in their yard. In turn, each group states an item on their list. Other students discuss the chance of finding the same item in their ‘environment’.   * **Will it happen tomorrow?**   Students are shown pictures of children doing a variety of activities eg eating lunch, playing in the rain, using a calculator, and visiting the zoo. Students discuss whether the activity ‘might happen’, ‘will probably happen’, or ‘is unlikely to happen’ tomorrow. Students are encouraged to discuss any differences in opinion.   * Investigation: **Weather**   In the playground, students observe the weather. They discuss how sunny, cloudy, cold or hot it is. From these observations students are asked:  - do you think it is likely or unlikely to rain?  - do you think it is likely to be very hot tomorrow?  Daily predictions of the next day’s weather are recorded on a weather chart or calendar. They are then compared to observations on the day.   * **Likely or not? Assessment Task**   The teacher issues a worksheet with the headings: ‘likely’ or ‘unlikely’. Students draw one event or match selection of event picture cards to the headings. |
| LEARNING SEQUENCEExtensionEarly S2 | * **Knock Knock**   Students brainstorm a list of possible people who could knock at the classroom door eg the principal, a teacher, a primary child, an infants child, a mother, a father, a grandmother, a grandfather. Students write the names on cards. As a class, students discuss and rate people from ‘least likely to knock’ to ‘most likely to knock’. During the day the students record who comes to the door. At the end of the day, students discuss the findings. |
| **EVALUATION & REFLECTION** | Student Engagement: Resources:  Achievement of Outcomes: Follow-up: |

* All assessment tasks should be written in **red** and planning should be based around developing the skills to complete that task.
* Assessment rubrics or marking scale should be considered.