WEEK 10

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| **Week Ending:** | | | **DAY:** | | **Subject:** Mathematics | | |
| **Duration:** | | | | | **Strand:** Handling Data | | |
| **Class:** B7 | | | **Class Size:** | | **Sub Strand:** Chance or Probability | | |
| **Content Standard:**  B7.4.2.1 Identify the sample space for a probability experiment | | **Indicator:**  B7.4.2.1.1 Demonstrate understanding of likelihood of a single outcome occurring by providing examples of events that are impossible, possible, or certain from personal contexts. | | | | | **Lesson:**  1 of 2 |
| **Performance Indicator:**  Learners can use tally to represent data in a frequency table | | | | **Core Competencies:**  Communication and Collaboration (CC) Critical Thinking and Problem solving (CP) | | | |
| **References:** Mathematics Curriculum Pg. 77-80 | | | | | | | |
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| Phase/Duration | Learners Activities | | | | | Resources | |
| PHASE 1: **STARTER** | Revise with learners on the previous lesson.  Call volunteer learners to the board to solve sample questions.  Introduce the lesson by sharing performance indicators. | | | | |  | |
| PHASE 2: **NEW LEARNING** | Describe each outcome using words like: impossible, possible, or certain.  i. The dog will fly tomorrow (impossible).  ii. Someone in the class would be a teacher in the future (possible).  iii. Ghana will still be an African country tomorrow (certain).  Ask learners to work in groups to discuss the outcome of the following events using words like: impossible, possible, or certain  A. A coin lands heads side up.  B. The day after Monday will be Tuesday.  C. A new-born baby will be a girl.  D. It will rain in Winneba in the first week of January.  Learners to classify the likelihood of a single outcome occurring in a probability experiment as impossible, possible, or certain.  In groups, learners discuss the following outcomes of throwing a dice using words like impossible, possible, or certain.  A. Obtaining the number 1  B. Obtaining the number 7  C. Obtaining the number 4  Guide them to discuss the following outcomes of throwing two dice using words like impossible, possible, or certain.  A. Obtaining a total of 12  B. Obtaining a total of 2  C. Obtaining a total of 13 | | | | | Sample questionnaire | |
| PHASE 3: **REFLECTION** | Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.  Take feedback from learners and summarize the lesson. | | | | |  | |

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| **Duration:** | | | | | **Strand:** Handling Data | | |
| **Class:** B7 | | | **Class Size:** | | **Sub Strand:** Chance or Probability | | |
| **Content Standard:**  B7.4.2.1 Identify the sample space for a probability experiment | | **Indicator:**  B7.4.2.1.2 Classify the likelihood of a single outcome occurring in a probability experiment as impossible, possible, or certain | | | | | **Lesson:**  1 of 2 |
| **Performance Indicator:**  Learners can classify the likelihood of simple events based on chance and develop critical thinking skills by analyzing probabilities. | | | | **Core Competencies:**  Communication and Collaboration (CC) Critical Thinking and Problem solving (CP) | | | |
| **References:** Mathematics Curriculum Pg. 86 | | | | | | | |
| **New words: Probability, Experiment, Chance, Likely, Impossible** | | | | | | | |
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| Phase/Duration | Learners Activities | | | | | Resources | |
| PHASE 1: **STARTER** | Play a quick guessing game!  Ask students: "What is the chance of guessing the next number I'm thinking of between 1 and 10?"  Discuss why it's uncertain (possible but not guaranteed).  Introduce the concept of probability as a way to measure how likely something is to happen. | | | | |  | |
| PHASE 2: **NEW LEARNING** | Begin with a brief discussion on probability, explaining that it is the measure of how likely an event is to occur.  Introduce the terms impossible, possible, and certain with simple examples:   * Impossible: It cannot happen (e.g., rolling a 7 on a single die). * Possible: It can happen (e.g., rolling a 1, 2, 3, 4, 5, or 6 on a single die). * Certain: It will definitely happen (e.g., rolling a number less than 7 on a single die).   Distribute a die to each pair of students.  Write the following outcomes on the board and discuss them with the class, asking students to classify each as impossible, possible, or certain:   * Obtaining the number 1 (Possible) * Obtaining the number 7 (Impossible) * Obtaining the number 4 (Possible)   Ask students to roll the die multiple times and record the outcomes. Discuss the results and reaffirm the classifications.  Write the following outcomes on the board and discuss them with the class, asking students to classify each as impossible, possible, or certain:   * Obtaining a total of 12 (Possible) * Obtaining a total of 2 (Possible) * Obtaining a total of 13 (Impossible)   Group students and give each group two dice. Ask them to roll the dice multiple times, record the outcomes, and calculate the sums.  Have students share their results with the class and discuss the frequency of each possible outcome.  Assessment  Show two dice and explain how many possible total outcomes there are when rolling them together (11 - highest sum, 2 - lowest sum).  Ask students to predict if getting a total of 12 or 2 is impossible, possible, or certain based on the number of sides on each die.  Roll the dice multiple times to demonstrate why some outcomes are more likely than others. | | | | | Dice | |
| PHASE 3: **REFLECTION** | Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.  Take feedback from learners and summarize the lesson. | | | | |  | |

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| **Content Standard:**  B7.4.2.1 Identify the sample space for a probability experiment | | **Indicator:**  B7.4.2.1.3 Calculate the probability of the event and express the  probability as fractions, decimals, percentages and/or ratios. | | | | | **Lesson:**  1 of 2 |
| **Performance Indicator:**  Learners can express probability as fractions, decimals, and percentages and develop problem-solving skills by applying probability concepts. | | | | **Core Competencies:**  Communication and Collaboration (CC) Critical Thinking and Problem solving (CP) | | | |
| **References:** Mathematics Curriculum Pg. 86 | | | | | | | |
| **New words: Probability, Experiment, Chance, Fraction, Decimal, Percentage** | | | | | | | |
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| Phase/Duration | Learners Activities | | | | | Resources | |
| PHASE 1: **STARTER** | Play a simple probability game! Flip a coin a few times and record the results (heads/tails).  Ask students: "What is the chance of getting heads (or tails)?"  Discuss how we can calculate this chance. | | | | |  | |
| PHASE 2: **NEW LEARNING** | Begin with a brief review of probability, explaining that it measures how likely an event is to occur.  Introduce the formula for calculating probability:  Probability (P)= ​  Discuss how to express probability as a fraction, decimal, percentage, and ratio.  Distribute a die to each pair of students.  Use the formula to calculate the probability of rolling a 4 on a single die: 𝑃(4) =1/6​  Have students convert the fraction to a decimal: 1/6≈0.1667  Convert the decimal to a percentage: 0.1667×100≈16.67%  Express the probability as a ratio: 1:6  Repeat the process for rolling an even number (2, 4, or 6): 𝑃(even)=3/6=1/2  1/2= 0.5  0.5×100 =50%  1:2  Discuss the total number of possible outcomes when rolling two dice (6 x 6 = 36).  Calculate the probability of rolling a sum of 7:  Possible outcomes: (1,6), (2,5), (3,4), (4,3), (5,2), (6,1)  𝑃(7) =6/36 =1/6 ​  1/6≈ 0.1667  0.1667×100≈16.67%  Have students practice with different sums and express the probabilities in all four forms.  Divide the class into small groups and provide each group with a probability experiment (coin, spinner, dice).  Challenge them to calculate the probability of specific events (e.g., rolling a double with two dice).  Encourage them to represent their probability calculations as fractions, decimals, and percentages. | | | | | Dice | |
| PHASE 3: **REFLECTION** | Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson.  Take feedback from learners and summarize the lesson. | | | | |  | |