

LESSON 5: PROBABILITY CONCEPTS



I. OBJECTIVES

The learner illustrates an experiment, outcome, sample space and event. *M8GE-IVf-1*



II. LESSON

PROBABILITY

- It is the branch of Mathematics that deals with uncertainty.
- It is a measure or estimation of how likely it is that an event will occur.
- It is the chance that something is going to happen.

IMPOSSIBLE - This means that something has absolutely no chance of happening.

Example: If I had only 3 red marbles in a bag, then it would be impossible for me to pull a blue marble out of the bag.

UNLIKELY - This means that something probably won't happen. It might happen, but usually it will not.

Example: My dad wakes up very early almost every morning. It is unlikely that he would ever sleep until noon.

EQUAL CHANCE - This means that an event is equally likely to happen or not happen, we say there is an even chance.

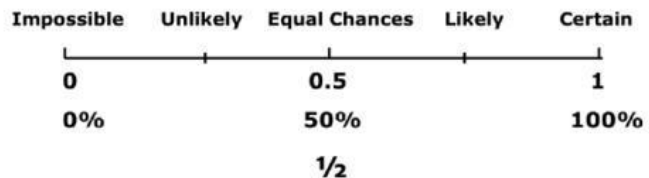
Example: Getting a head in tossing a coin.

LIKELY - This means that something will probably happen. You couldn't promise that it would happen for sure, but you could say that you think it would happen.

Example: If I played a trumpet in a room full of sleeping people, then it is likely that they would wake up.

CERTAIN - This means something definitely will happen, without a doubt.

Example: If someone pushes me into a pool, then it is certain that I will get wet.



The language of probability includes:

Experiment – a situation involving chance or probability that leads to results

Outcome – the result of a single trial of an experiment

Sample Space – the set of all possible outcomes of an experiment

Event – any set of one or more outcomes satisfying some given conditions

EXAMPLE:

☐ **Experiment** – Rolling a die

☐ **Outcome** – 1, 2, 3, 4, 5, 6

☐ **Sample Space** – {1, 2, 3, 4, 5, 6}

☐ **Event** – Getting an odd number



III. ACTIVITY

I. Determine the likelihood of the following situations.

- Rolling a 7 on a standard six-sided die.
- Guessing the gender of a baby before it's revealed.
- Feeling tired after staying up all night.
- The sun rises in the morning.
- Winning a raffle with thousands of entries.

II. Determine whether the following represents an EXPERIMENT, EVENT, OUTCOME or SAMPLE SPACE.

- Tail, Head
- {Boy, Girl}
- Spinning a wheel
- Drawing a JACK in a deck of cards
- Tossing a basketball towards a hoop.

HOW DO YOU FEEL ABOUT TODAY'S LESSON?



I NEED MORE HELP!

I'M GETTING IT!

I GOT IT!



-MTSC-