

PROBABILITY

Activity – 15

1. What we have to do?

To get familiar with the idea of probability of an event through a double colour card experiment.

2. What is required?

A card board of size 12 cm × 12 cm, red pastel sheet, green pastel sheet, pair of scissors, fevicol, sketch pens and an empty box

3. Time required: 20 min

4. What do we need to know?

Probability of an event E = $\frac{\text{No.of outcomes favourable to E}}{\text{No.of possible outcomes}}$

5. How will you proceed?

- 1) Take a card board and paste pastel sheets of different colours on both sides. (red on one side and green on the other side).
- 2) Cut the cardboard into 36 small squared cards.
- 3) Write all the 36 possible outcomes obtained by throwing two dice e.g. for the outcome (2, 1), write 2 on the green side and 1 on the red side of the squared card.
- 4) Put all the cards into a box.

For finding the required probability of an event do the following

- 5) Take out each card one by one without replacement and fill the observation table by putting (#) on favourable outcomes and (x) otherwise.
- 6) Count the total number of total possible outcomes from column 2. Write total possible outcomes.
- 7) Count the (#) marks from the columns 3, 4, 5 and 6.

6. What we have you observed?

Record the observation in the following table:

S.No	Possible Outcome on Red side	Possible Outcome on Green side	Sum > 7	Sum < 7	Sum = 7	Odd on Green and Even on Red side
1	2	1	x	#	x	x
2	3	3	x	#	x	x
3						
...						
...						
36						

- a) Total number of possible outcomes = _____
- b) Total number of favourable outcomes (Sum > 7) = _____

- c) Total number of favourable outcomes (Sum < 7) = _____
- d) Total number of favourable outcomes (Sum = 7) = _____
- e) Total number of favourable outcomes (even number on one side of the card and odd on other) = _____
- f) Sum of the probabilities of b), c) and d) above = _____
- g) Using the formula calculate the required probability of each event.

7. What have you learnt?

The above activity signifies that _____

8. What would you be interested in doing?

Repeat the above activity with tossing of two coins, recording the observations and hence finding the probability of each event.

Real Life Applications:

The above concept is used in Sports, Insurance sector, Weather forecasting, Risk assessment, Financial market, Statistics, Civil Engineering etc...
