

Activity 10

OBJECTIVE

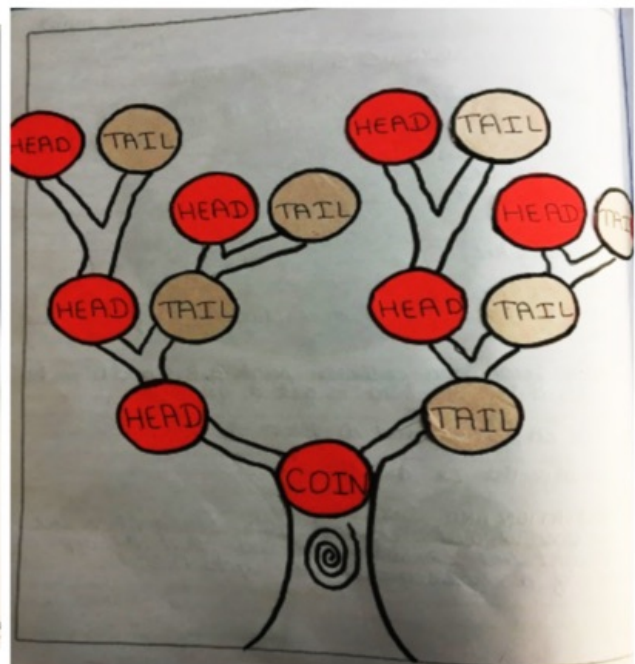
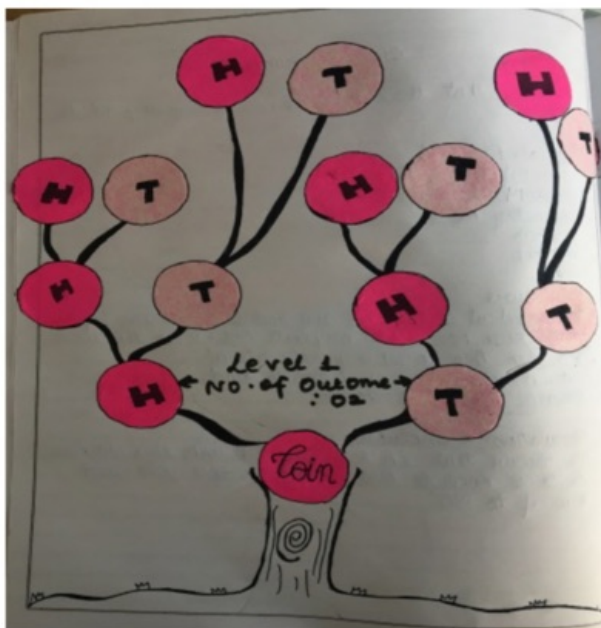
To verify sequentially that the number of outcomes when a coin is tossed n times is given by 2^n .

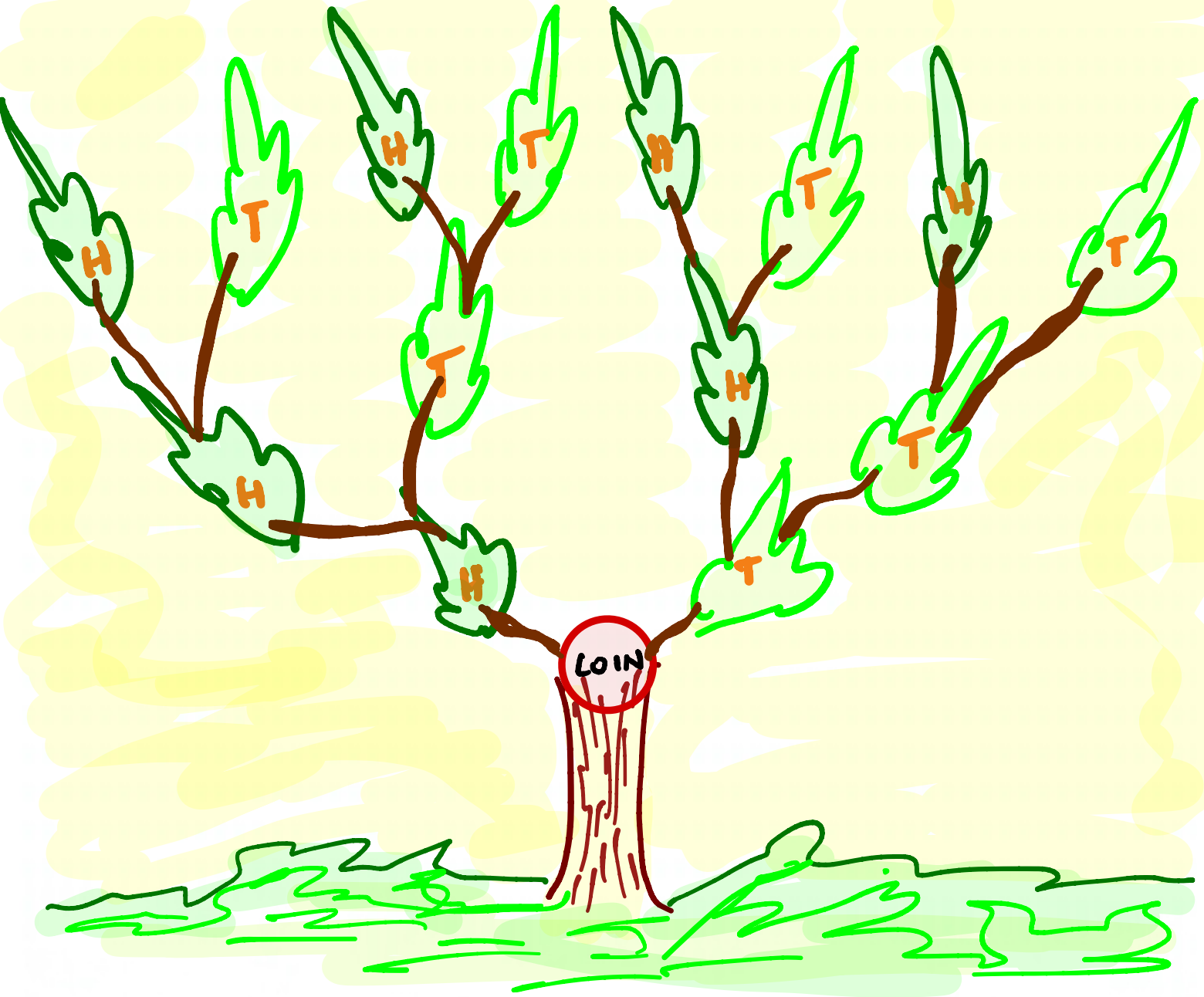
MATERIALS REQUIRED

- Coins of same type/ coloured glaze paper
- Fevistic
- A pair of scissors
- Black Marker

PROCEDURE

1. Take two coins of same type to record the number of outcomes when the coin is tossed once.
2. Take four coins of same type to record the number of outcomes when the coin is tossed twice.
3. Take eight coins to record the number of outcomes when the coin is tossed for the third time.
4. Continuing this process to record the number of outcomes each time the coin is tossed , paste the coins(representing the two faces) as shown to form a coin tree.
(This activity can also be done with coloured circular cut-outs)





OBSERVATION:

| Number of times a coin is tossed | Set of possible outcomes/Sample Space | Total number of possible outcomes |
|----------------------------------|--|-----------------------------------|
| 1 | HT | $2^1 = 2$ |
| 2 | HH, HT, TH, TT | $2^2 = 4$ |
| 3 | HHH, HHT, HTH, HTT TTH, THT, THT, TTT | $2^3 = 8$ |

CONCLUSION:

Thus it is verified that the number of outcomes when a coin is tossed n times is given by 2^n .