



Chance and Data

The aim of this activity is to help you achieve a better understanding of the concepts of randomness and interpretation of data in tables. You are required to do this activity working with a partner.

PART I

For this game you need a coin and a die. Play the game with a partner. One of you will be the "die" player and the other will be the "coin" player. Then you will swap roles.

Rule 1: The die player and the coin player throw together

Rule 2: If the die player throws a 6 he/she wins, unless the coin also lands heads in which case the turn is ignored.

Rule 3: The coin player wins the game when the coin has landed heads three times.

- (a) Before you play the game, which player do you think is more likely to win, the die player or the coin player? Explain why:

C&D 3.1

- (b) Play the game ten times and keep a tally of your wins and your partner's wins on the chart below.

Tally of wins						
	You and your partner	First pair of students	Second pair of students	Third pair of students	Fourth pair of students	Fifth pair of students
Die player						
Coin Player						

C&D 3.2

- (c) Swap the coin and the die and repeat the game 10 more times, recording your wins as before.
 (d) Combine your results with the results of five other pairs of students, so that you can have the results of another 100 games.
 (e) Based on the results of the game, explain how accurate your guess is. Which player is more likely to win? Why? Explain:

C&D 3.1

PART II

You will throw a pair of dice 50 times and record the sum of the two numbers on the top faces for each throw using the table below.

Before you do this experiment you are required to ask yourself three questions to which you expect to find out the answers at the end of the experiment:

Question 1:

Question 2:

Question 3:

Outcomes	Tally	Total Tally (frequency)	Percentage
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

C&D 3.2

(a) Use the results from your table to order the outcomes from least likely to most likely

C&D 4.1

(b) Comment sensibly upon how well the data in your table answers the three questions you wrote before the experiment.

C&D 4.4