

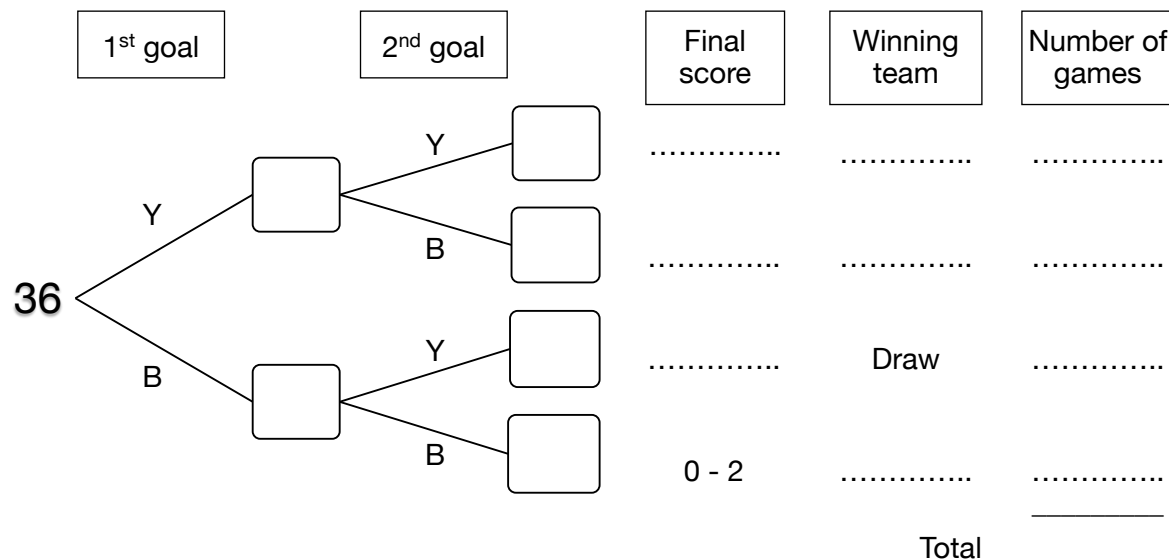


# Which team will win?

You will need your results for the 36-game season. You are going to put them on the **tree diagram** and **2-way table**.

- Count how many times each team scored the first goal - these go in the two boxes on the 1<sup>st</sup> goal tree branches.
- Then count how many times each of these occurred: YY, YB, BY, BB - and put the totals into the boxes on the 2<sup>nd</sup> goal branches.
- Complete the columns for the final score, the winning team, and the numbers of games for each set of branches.
- Check that the overall total number of games is 36.
- Now put values in the cells in the 2-way table, and check that the grand total is 36.
- Which cells in the 2-way table correspond to the boxes in the tree diagram?
- Are there any values which only occur on one of them?

## Tree Diagram



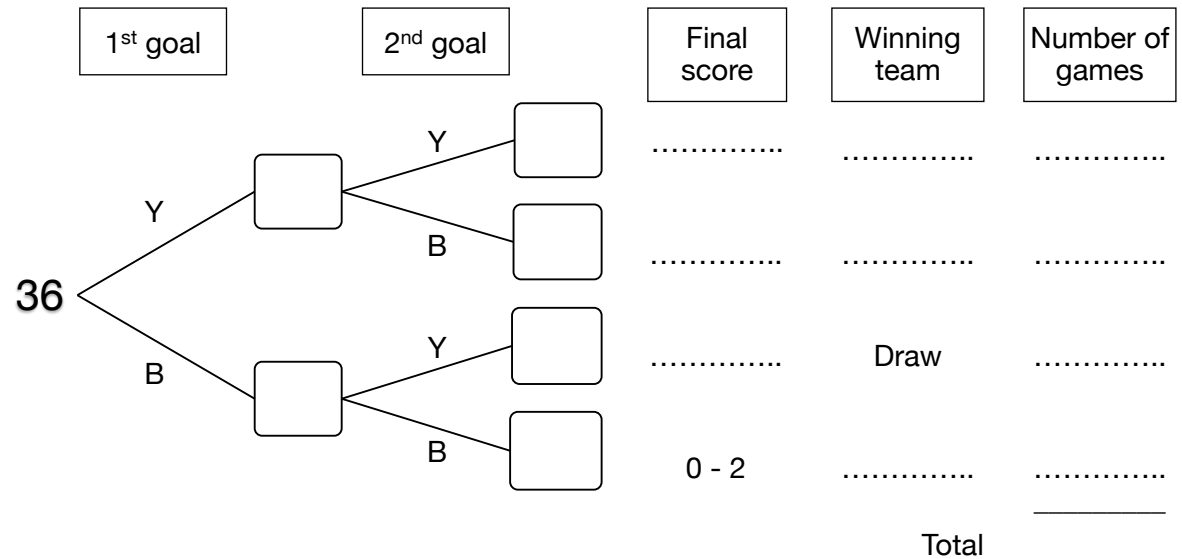
## 2-way table

		2 <sup>nd</sup> goal		Total
		Y	B	
1 <sup>st</sup> goal	Y			
	B			
Total				

What do we **EXPECT** to happen in 36 games?

- Calculate how many times each team would be **expected** to score the first goal - enter these into the two boxes on the 1<sup>st</sup> goal tree branches.
- Then calculate how many times we would **expect** each of these to occur: YY, YB, BY, BB - and enter them into the boxes on the 2<sup>nd</sup> goal branches.
- Complete the columns for the final score, the winning team, and the numbers of games we would **expect** for each set of branches.
- Check that the overall total number of games is 36.
- Now put values in the cells in the 2-way table, and check that the grand total is 36.
- Which cells in the 2-way table correspond to the boxes in the tree diagram?
- Are there any values which only occur on one of them?

### Tree Diagram



### 2-way table

		2 <sup>nd</sup> goal		Total
		Y	B	
1 <sup>st</sup> goal	Y			
	B			
Total				

Use your tree diagrams and/or 2-way tables to complete the table, comparing what happened in your experiment with what we would expect to happen:

For the 36 games you modelled with dice, how often did:			Over 36 games, how often would we expect:		
	Number of games	Proportion of 36		Number of games	Proportion of 36
1. The Yetis score the first goal?			1. The Yetis to score the first goal?		
2. The Beavers score the first goal?			2. The Beavers to score the first goal?		
3. The Yetis win?			3. The Yetis to win?		
4. The Beavers win?			4. The Beavers to win?		
5. The Yetis score first, then draw?			5. The Yetis to score first, then draw?		
6. The Beavers score first, then draw?			6. The Beavers to score first, then draw?		

**Questions to discuss in your group:**

- How well does what actually happened compare with what we would expect?
- Are any of the results (experimental or expected) surprising?