

## CLASS 8

In this class, students will discover how to apply the proportional representation system of counting as is used in this country for elections at local, national and European levels. This system is deemed to be more representative of the voice of the people than a straight majority or first past the post system. In this class students will apply this system to elect a candidate to the student council from a class of 32 students. All the instructions are given in an easy to follow way and students will be able to see how this system works to elect a representative. Students should be allowed some time to discuss the activity and what they think of this particular system before the class finishes

### ACTIVITY

- Photocopy a set of the 4 sheets of ballot papers, the grid sheet and an instruction sheet enough for each group of students.
- Cut out the individual ballot papers so that each group will have their own set.
- Distribute an instruction sheet to each group.
- Read through each individual instruction with the students so that all of the groups are at the same stage at the same time.
- As each instruction has been followed fill in the appropriate space on the grid sheet.
- Make sure that each group has the right answer.
- When the count has finished allow the students to discuss the results.
- Explain to students that if a first past the post or majority system was being used that the result would have been very different. In fact Barney would have won in this case.
- Ask the students to consider whether this would in fact have been representative of what the students wanted. Barney received 12 first preference votes which is 37% of the total. If he had been elected how would the other 63% be represented?

#### IMPORTANT NOTE

In this application of the PR system votes have been transferred using the elimination system. In a situation where there is more than one position available and there are many candidates some candidate may achieve over the quota on the first or second count. In this case the surplus votes are transferred on a percentage of the over quota however, in a student council election in a school, whether it is on a class group or a year group basis this is not impossible but unlikely to happen. The elimination system has been demonstrated

#### FOLLOW – UP ACTIVITY

To gain more practice at counting do a mock-election in the class and apply the PR method as demonstrated in this activity.

# BALLOT PAPERS

Andrew Archer	<input type="text" value="4"/>
Barney Brown	<input type="text" value="3"/>
Carla Clancy	<input type="text" value="2"/>
Denise Daniels	<input type="text" value="1"/>
Eddie Evans	<input type="text" value="5"/>

Andrew Archer	<input type="text"/>
Barney Brown	<input type="text" value="2"/>
Carla Clancy	<input type="text"/>
Denise Daniels	<input type="text" value="3"/>
Eddie Evans	<input type="text" value="1"/>

Andrew Archer	<input type="text"/>
Barney Brown	<input type="text" value="Yes"/>
Carla Clancy	<input type="text"/>
Denise Daniels	<input type="text" value="Yes"/>
Eddie Evans	<input type="text"/>

Andrew Archer	<input type="text" value="5"/>
Barney Brown	<input type="text" value="4"/>
Carla Clancy	<input type="text" value="1"/>
Denise Daniels	<input type="text" value="3"/>
Eddie Evans	<input type="text" value="2"/>

Andrew Archer	<input type="text" value="1"/>
Barney Brown	<input type="text" value="4"/>
Carla Clancy	<input type="text" value="2"/>
Denise Daniels	<input type="text" value="3"/>
Eddie Evans	<input type="text" value="5"/>

Andrew Archer	<input type="text" value="3"/>
Barney Brown	<input type="text" value="1"/>
Carla Clancy	<input type="text" value="2"/>
Denise Daniels	<input type="text" value="4"/>
Eddie Evans	<input type="text" value="5"/>

Andrew Archer	<input type="text" value="5"/>
Barney Brown	<input type="text" value="4"/>
Carla Clancy	<input type="text" value="1"/>
Denise Daniels	<input type="text" value="3"/>
Eddie Evans	<input type="text" value="2"/>

Andrew Archer	<input type="text" value="1"/>
Barney Brown	<input type="text" value="3"/>
Carla Clancy	<input type="text" value="2"/>
Denise Daniels	<input type="text" value="4"/>
Eddie Evans	<input type="text"/>

# BALLOT PAPERS

Andrew Archer	<input type="text" value="1"/>
Barney Brown	<input type="text" value="3"/>
Carla Clancy	<input type="text" value="2"/>
Denise Daniels	<input type="text" value="5"/>
Eddie Evans	<input type="text" value="4"/>

Andrew Archer	<input type="text"/>
Barney Brown	<input type="text" value="2"/>
Carla Clancy	<input type="text" value="1"/>
Denise Daniels	<input type="text"/>
Eddie Evans	<input type="text" value="3"/>

Andrew Archer	<input type="text" value="2"/>
Barney Brown	<input type="text" value="1"/>
Carla Clancy	<input type="text" value="3"/>
Denise Daniels	<input type="text" value="4"/>
Eddie Evans	<input type="text" value="5"/>

Andrew Archer	<input type="text" value="2"/>
Barney Brown	<input type="text" value="1"/>
Carla Clancy	<input type="text" value="3"/>
Denise Daniels	<input type="text" value="5"/>
Eddie Evans	<input type="text" value="4"/>

Andrew Archer	<input type="text" value="4"/>
Barney Brown	<input type="text" value="1"/>
Carla Clancy	<input type="text" value="3"/>
Denise Daniels	<input type="text" value="2"/>
Eddie Evans	<input type="text" value="5"/>

Andrew Archer	<input type="text" value="3"/>
Barney Brown	<input type="text" value="1"/>
Carla Clancy	<input type="text" value="2"/>
Denise Daniels	<input type="text" value="5"/>
Eddie Evans	<input type="text" value="4"/>

Andrew Archer	<input type="text"/>
Barney Brown	<input type="text" value="3"/>
Carla Clancy	<input type="text"/>
Denise Daniels	<input type="text" value="2"/>
Eddie Evans	<input type="text" value="1"/>

Andrew Archer	<input type="text"/>
Barney Brown	<input type="text" value="2"/>
Carla Clancy	<input type="text" value="1"/>
Denise Daniels	<input type="text" value="3"/>
Eddie Evans	<input type="text"/>

# BALLOT PAPERS

Andrew Archer	<input type="checkbox"/>
Barney Brown	<input type="checkbox" value="3"/>
Carla Clancy	<input type="checkbox" value="1"/>
Denise Daniels	<input type="checkbox" value="2"/>
Eddie Evans	<input type="checkbox"/>

Andrew Archer	<input type="checkbox" value="2"/>
Barney Brown	<input type="checkbox" value="1"/>
Carla Clancy	<input type="checkbox" value="3"/>
Denise Daniels	<input type="checkbox" value="4"/>
Eddie Evans	<input type="checkbox" value="5"/>

Andrew Archer	<input type="checkbox" value="4"/>
Barney Brown	<input type="checkbox" value="3"/>
Carla Clancy	<input type="checkbox" value="2"/>
Denise Daniels	<input type="checkbox" value="1"/>
Eddie Evans	<input type="checkbox" value="5"/>

Andrew Archer	<input type="checkbox" value="3"/>
Barney Brown	<input type="checkbox"/>
Carla Clancy	<input type="checkbox" value="2"/>
Denise Daniels	<input type="checkbox" value="1"/>
Eddie Evans	<input type="checkbox"/>

Andrew Archer	<input type="checkbox" value="4"/>
Barney Brown	<input type="checkbox" value="1"/>
Carla Clancy	<input type="checkbox" value="2"/>
Denise Daniels	<input type="checkbox" value="3"/>
Eddie Evans	<input type="checkbox" value="5"/>

Andrew Archer	<input type="checkbox" value="2"/>
Barney Brown	<input type="checkbox" value="1"/>
Carla Clancy	<input type="checkbox"/>
Denise Daniels	<input type="checkbox" value="3"/>
Eddie Evans	<input type="checkbox"/>

Andrew Archer	<input type="checkbox"/>
Barney Brown	<input type="checkbox" value="1"/>
Carla Clancy	<input type="checkbox" value="2"/>
Denise Daniels	<input type="checkbox"/>
Eddie Evans	<input type="checkbox"/>

Andrew Archer	<input type="checkbox" value="4"/>
Barney Brown	<input type="checkbox" value="1"/>
Carla Clancy	<input type="checkbox" value="5"/>
Denise Daniels	<input type="checkbox" value="3"/>
Eddie Evans	<input type="checkbox" value="2"/>

# BALLOT PAPERS

Andrew Archer	<input type="text" value="5"/>
Barney Brown	<input type="text" value="1"/>
Carla Clancy	<input type="text" value="2"/>
Denise Daniels	<input type="text" value="3"/>
Eddie Evans	<input type="text" value="4"/>

Andrew Archer	<input type="text"/>
Barney Brown	<input type="text" value="1"/>
Carla Clancy	<input type="text" value="2"/>
Denise Daniels	<input type="text"/>
Eddie Evans	<input type="text" value="3"/>

Andrew Archer	<input type="text" value="1"/>
Barney Brown	<input type="text" value="4"/>
Carla Clancy	<input type="text" value="2"/>
Denise Daniels	<input type="text" value="3"/>
Eddie Evans	<input type="text" value="5"/>

Andrew Archer	<input type="text"/>
Barney Brown	<input type="text" value="2"/>
Carla Clancy	<input type="text" value="1"/>
Denise Daniels	<input type="text" value="3"/>
Eddie Evans	<input type="text"/>

Andrew Archer	<input type="text"/>
Barney Brown	<input type="text"/>
Carla Clancy	<input type="text" value="1"/>
Denise Daniels	<input type="text"/>
Eddie Evans	<input type="text"/>

Andrew Archer	<input type="text"/>
Barney Brown	<input type="text" value="3"/>
Carla Clancy	<input type="text" value="2"/>
Denise Daniels	<input type="text" value="1"/>
Eddie Evans	<input type="text"/>

Andrew Archer	<input type="text"/>
Barney Brown	<input type="text"/>
Carla Clancy	<input type="text" value="2"/>
Denise Daniels	<input type="text" value="1"/>
Eddie Evans	<input type="text"/>

Andrew Archer	<input type="text"/>
Barney Brown	<input type="text" value="X"/>
Carla Clancy	<input type="text"/>
Denise Daniels	<input type="text"/>
Eddie Evans	<input type="text"/>



# INSTRUCTIONS FOR THE COUNT

1. Count all of the votes
2. Separate the spoiled votes and count how many of them there are.
3. Subtract the number of spoiled votes from the total number of votes.  
THIS IS YOUR TOTAL VALID POLL
4. Work out the quota on the sheet. You cant start counting until you know how many votes a person needs to be elected.

## **COUNT 1**

Count all of the votes. Make a pile for each candidate with their number 1 preferences. Fill in the grid with the totals for each person.

## **COUNT 2**

Eliminate the person with the lowest number of votes. Now look at that persons votes and find out who was the number 2 preference on these ballot papers. Add these number 2 votes to the candidates piles and fill in the grid.

## **COUNT 3**

If nobody has reached the quota eliminate the next person with the lowest number of votes. Find out who the number 2 first preferences were for and add those to the candidates piles and fill in the grid.

## **COUNT 4**

If nobody has reached the quota eliminate the next person with the lowest number of votes. Find out who the number 2 preferences were for and add those to the candidates piles. If this person (that you are currently eliminating) received transfers from an already eliminated person check the number 3 preferences and add them on to the candidates pile. Fill in the grid.

# TEACHER SHEET

TOTAL POLL	32
SPOILED VOTES	2
VALID POLL	30

$\text{QUOTA} = \left[ \frac{\text{VALID POLL}}{\text{NUMBER OF SEATS} + 1} \right] + 1$
$\text{QUOTA} = \left[ \frac{30}{1 + 1} \right] + 1 = \text{QUOTA } 16$

CANDIDATES	Count 1	Count 2	Count 3	Count 4	Total
Andrew Archer	4		Eliminated		
Barney Brown	12	+ 1		+ 1	14
Carla Clancy	7		+ 4	+ 5	16
Denise Daniels	5	+ 1		Eliminated	
Eddie Evans	2	Eliminated			

# STUDENT SHEET

TOTAL POLL	
SPOILED VOTES	
VALID POLL	

$$\text{QUOTA} = \left[ \frac{\text{VALID POLL}}{\text{NUMBER OF SEATS} + 1} \right] + 1$$

$$\text{QUOTA} = \left[ \frac{\quad}{+ 1} \right] + 1 = \boxed{\text{QUOTA}}$$

CANDIDATES	Count 1	Count 2	Count 3	Total	Elected
Andrew Archer					
Barney Brown					
Carla Clancy					
Denise Daniels					
Eddie Evans					