

Problems with Politics in the Animal Kingdom

Presenter: Yasha Pushak

Slide content/examples by: C.G.P. Grey

www.CGPGrey.com/blog/

The Lion Royal Family





'King' is now an elected office



First Past The Post (FPTP)



'King' is now an elected office

Two Rules to Win:

1. one vote per citizen

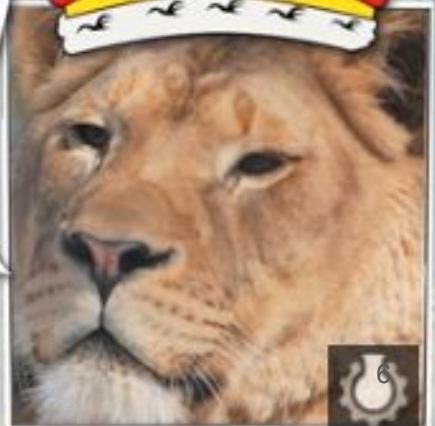




'King' is now an elected office

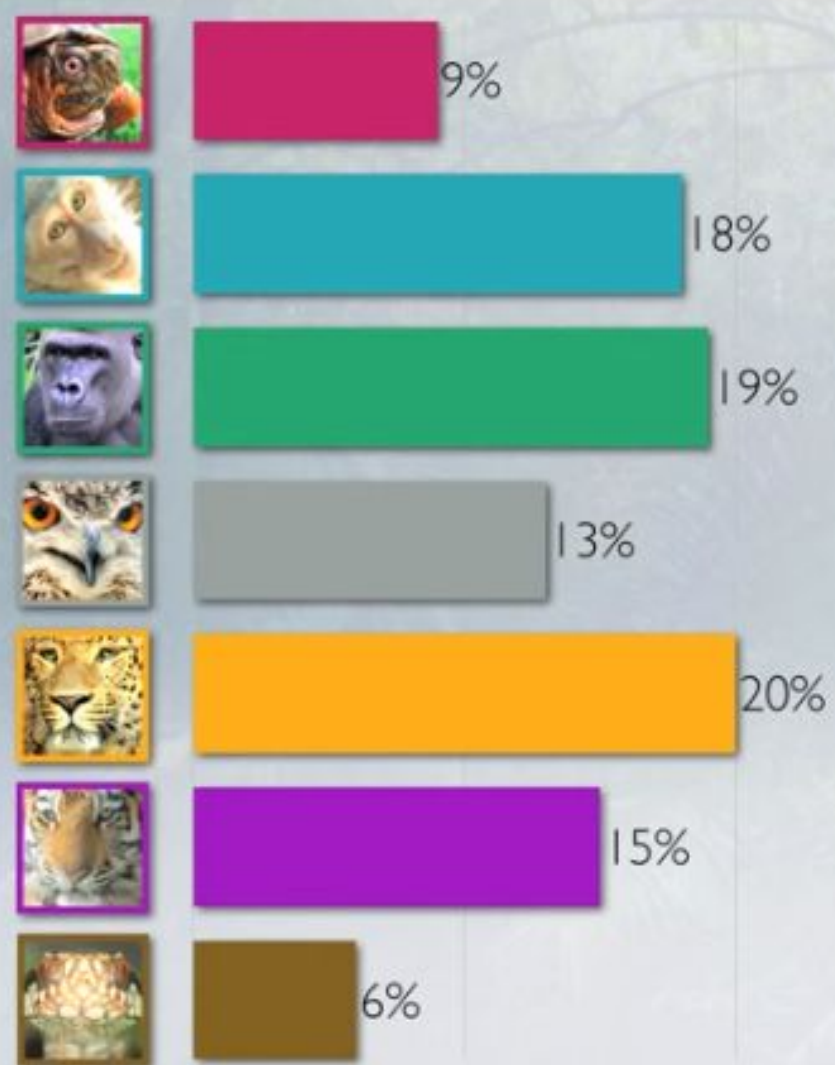
Two Rules to Win:

1. one vote per citizen
2. most votes wins

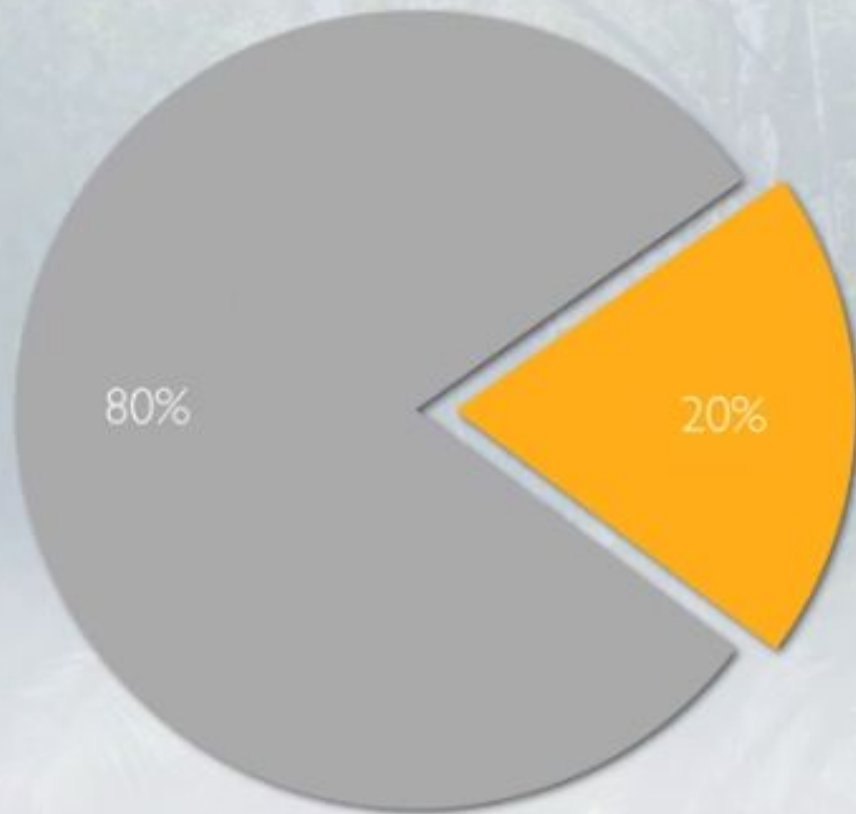


Candidates:





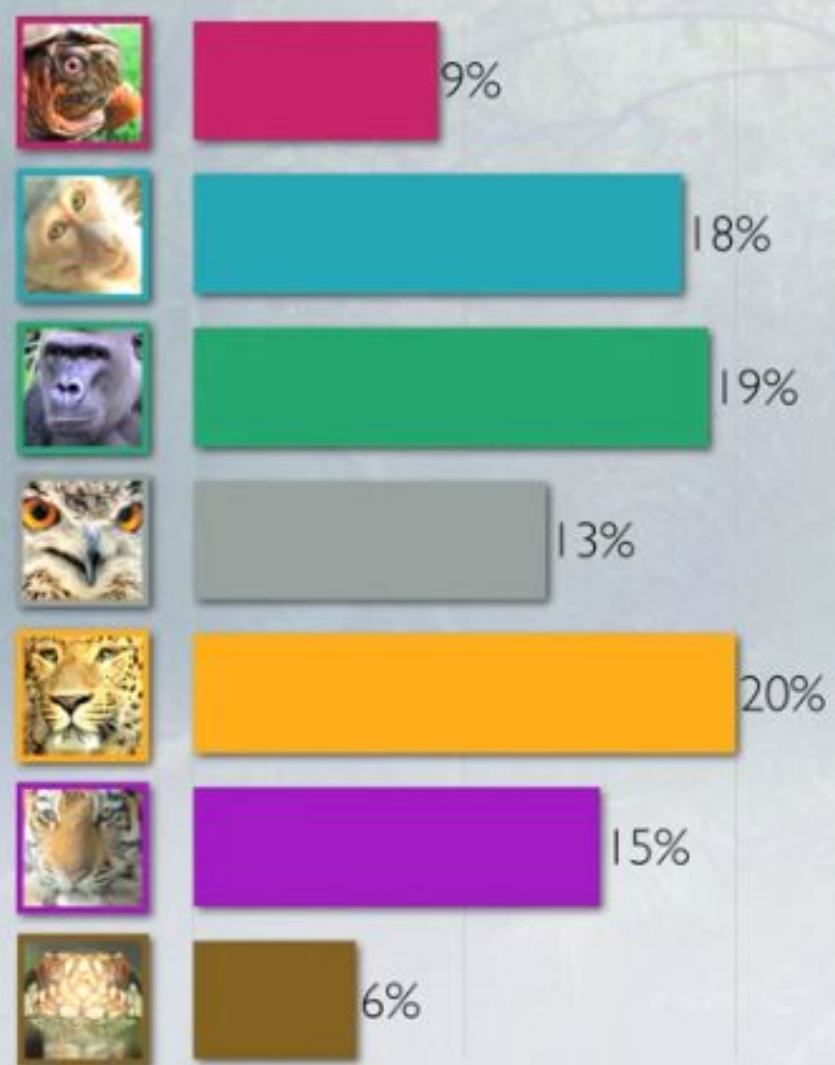
Problem 1:



Minority rule.



The Next Election...





Vote Leopard!



**Don't let a damn,
dirty ape throw
poo at you!**



0%



18%



28%



13%



26%



15%



0%

The Next Election...



18%



28%



13%



26%



15%



Vote Leopard!



**Or Gorilla will
throw poo at you!**

Vote Gorilla!



**Or Leopard
will eat you!**



18%



28%



13%



26%



15%





18%



33%



0%



34%



15%

The Next Election...



18%



33%



34%



15%







0%



51%



49%



0%

The Next Election...



51%



49%



49%



51%





51%



49%



49%



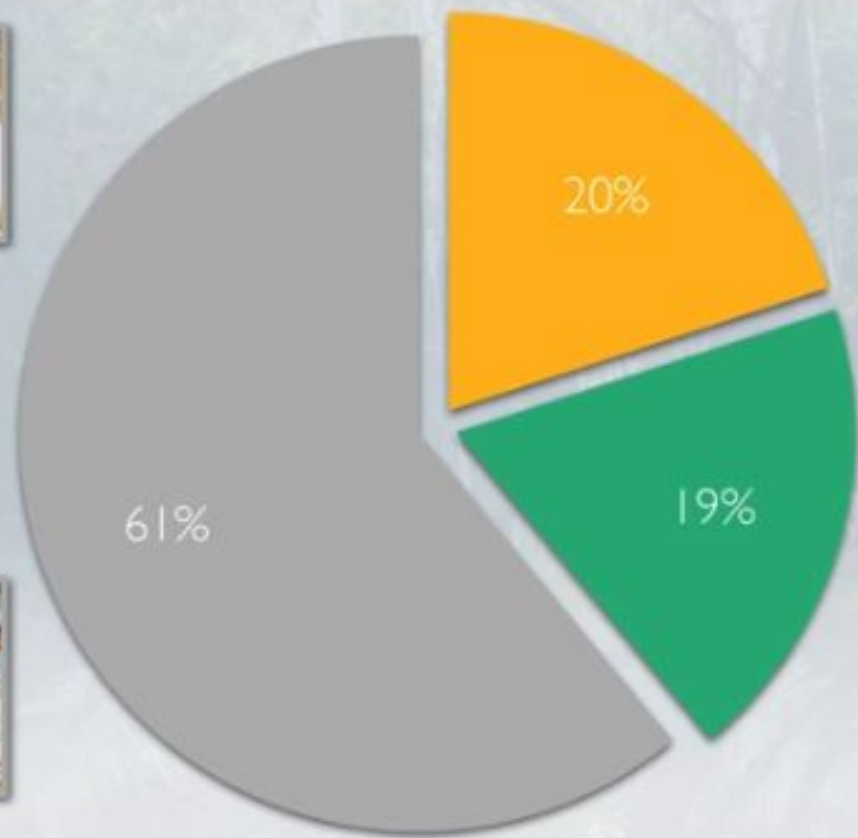
51%



of political parties

Time





Vote 3rd party!





Bernie Sanders
Jill Stein



49%



36%



15%






49%



36%

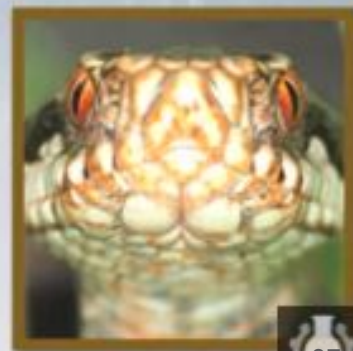


15%

	Prevents Minority Rule (PR)	Allows Political Diversity	Prevents Strategic Voting
First Past The Post (FPTP)			

Alternative Vote

Candidates:





WHO WILL BE KING?



meh...



OMG WTF!



Tiger

Gorilla

Turtle

Leopard

Owl



Tiger

Gorilla

3

Turtle

1

Leopard

Owl

2





5%



25%



25%



30%

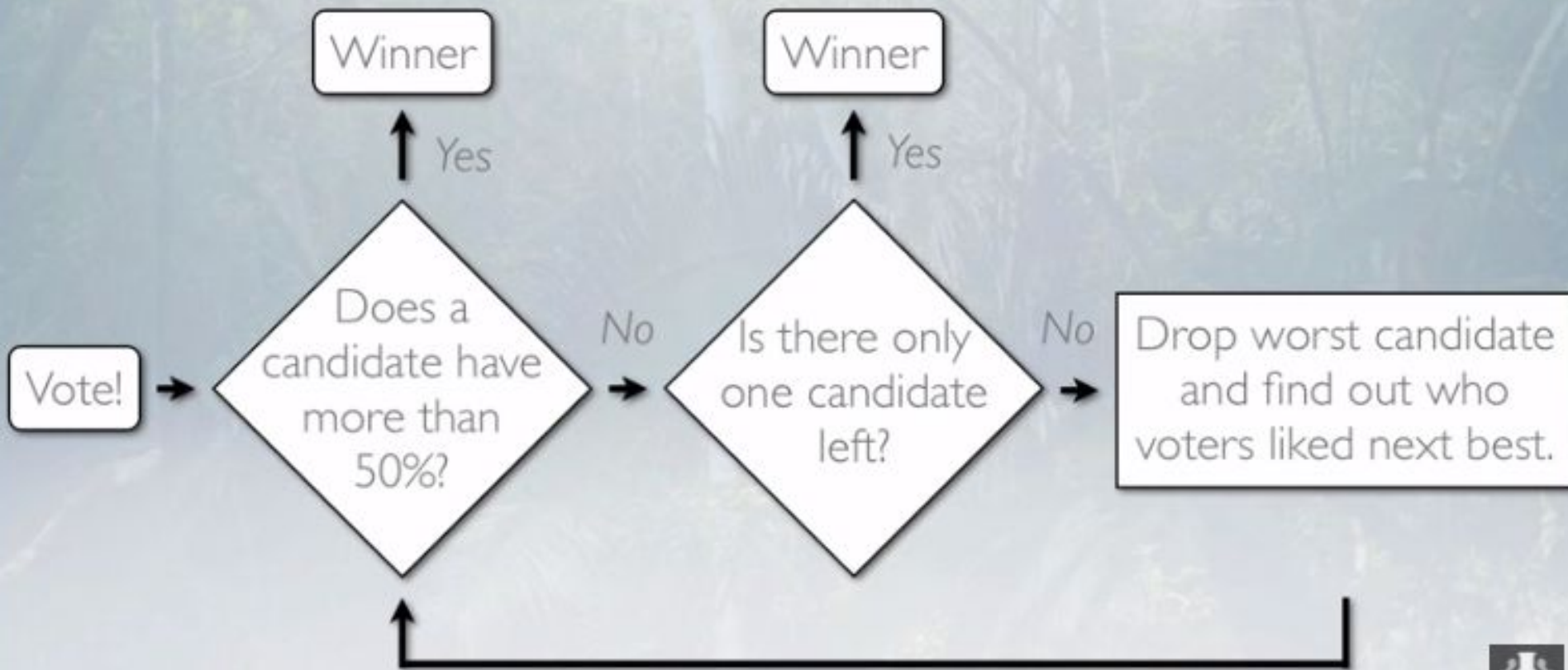


15%



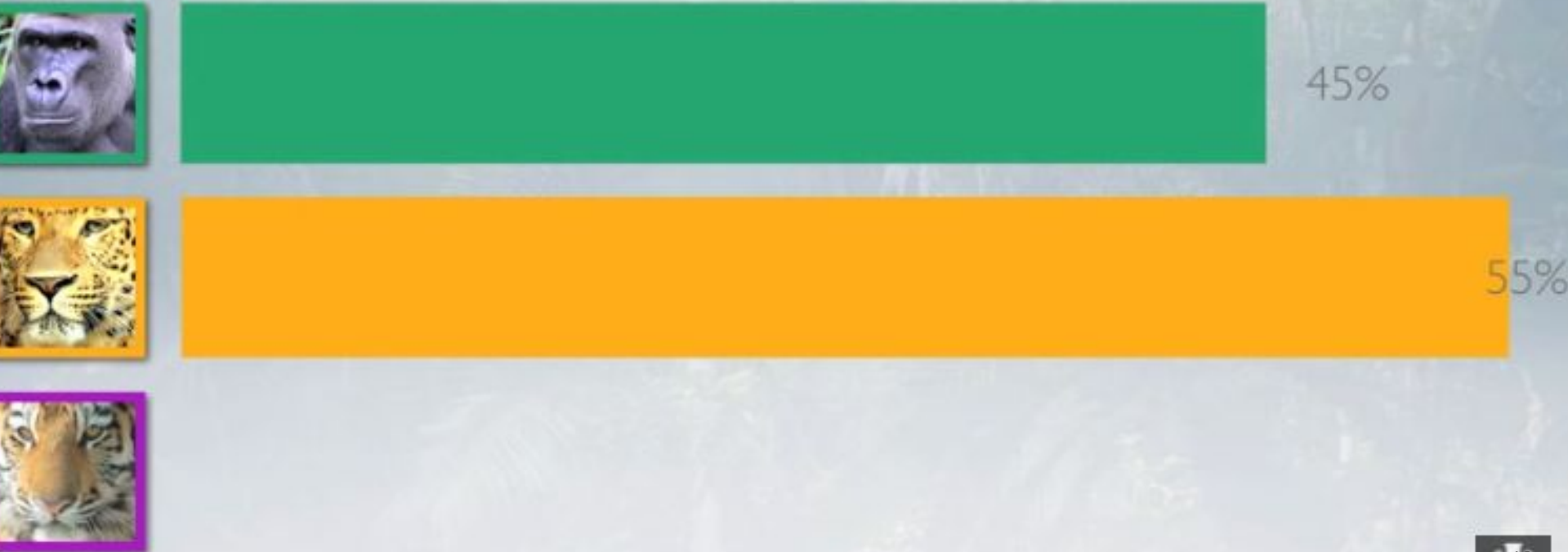


AV/Runoff Flowchart:





The Spoiler Effect in FPTP



The Spoiler Effect in FPTP



45%









40%



15%

No Spoiler Effect in AV



	Prevents Minority Rule (PR)	Allows Political Diversity	Prevents Strategic Voting
First Past The Post (FPTP)			
Alternative Vote (AV)			

AV
FTW!



Gerrymandering



More democracy!





VOTE BUFFALO!



VOTE JACKALOPE!







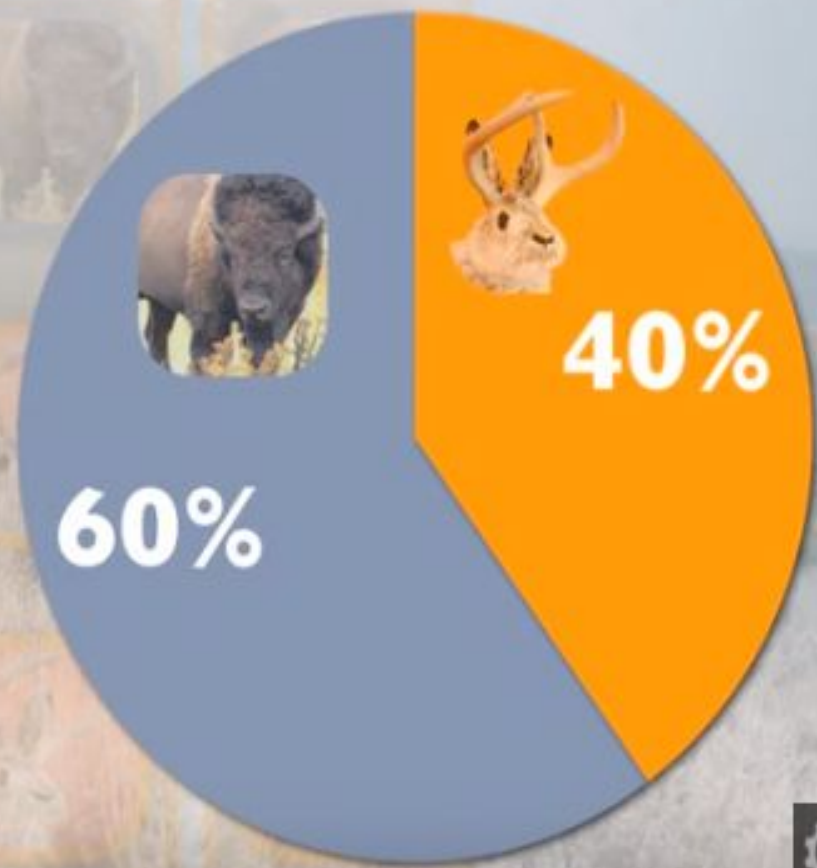
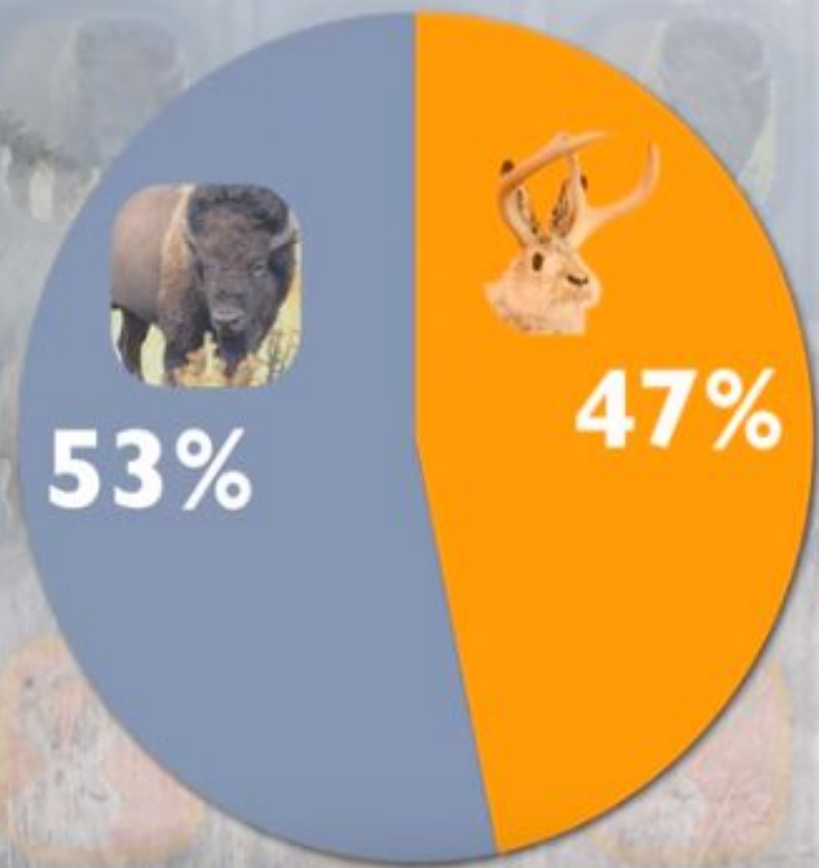
Jungle Council Representatives

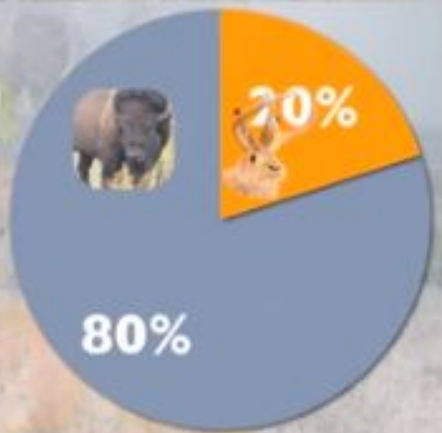




Voters

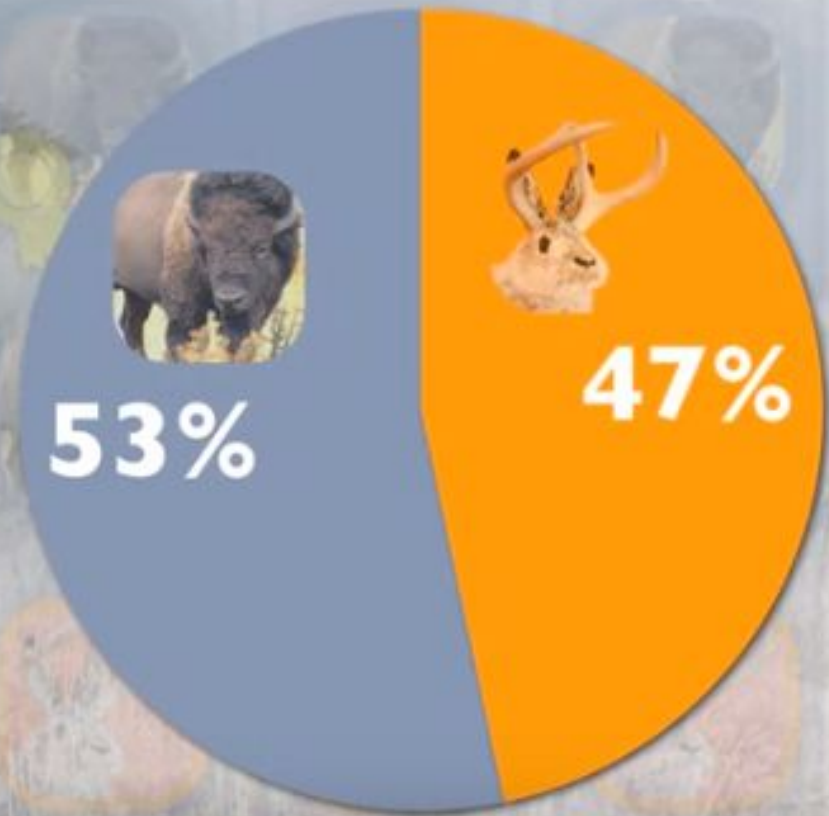
Representatives



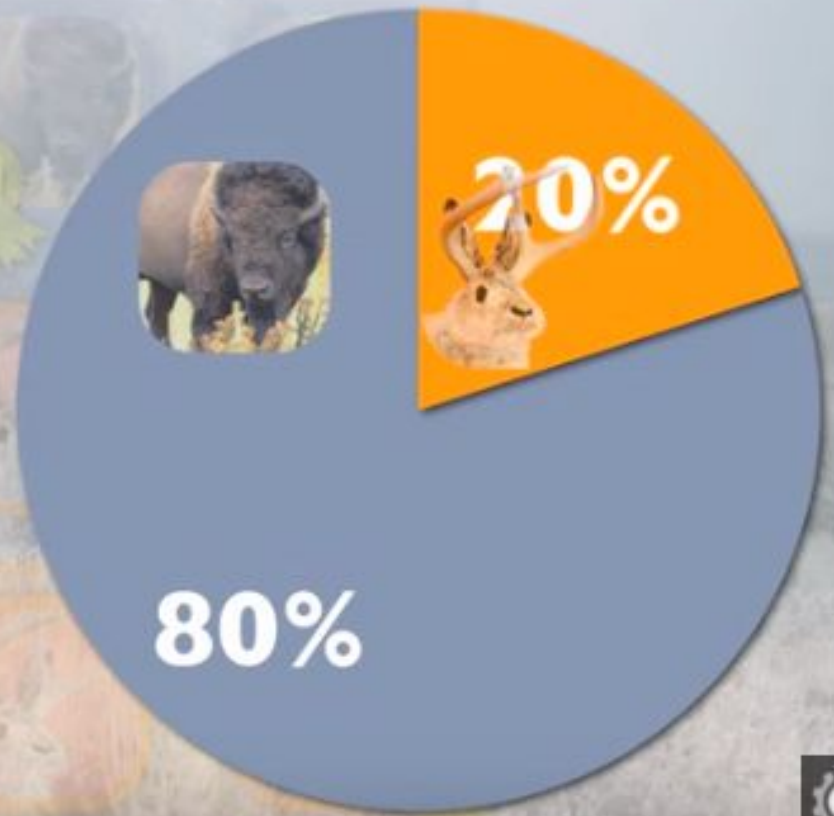


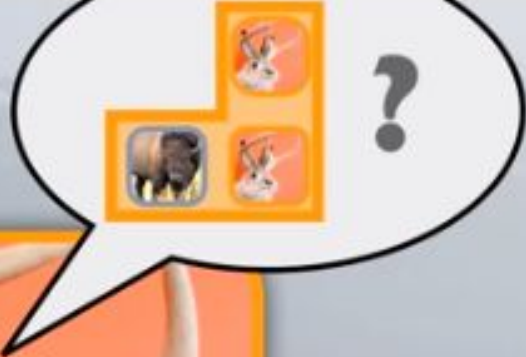


Voters



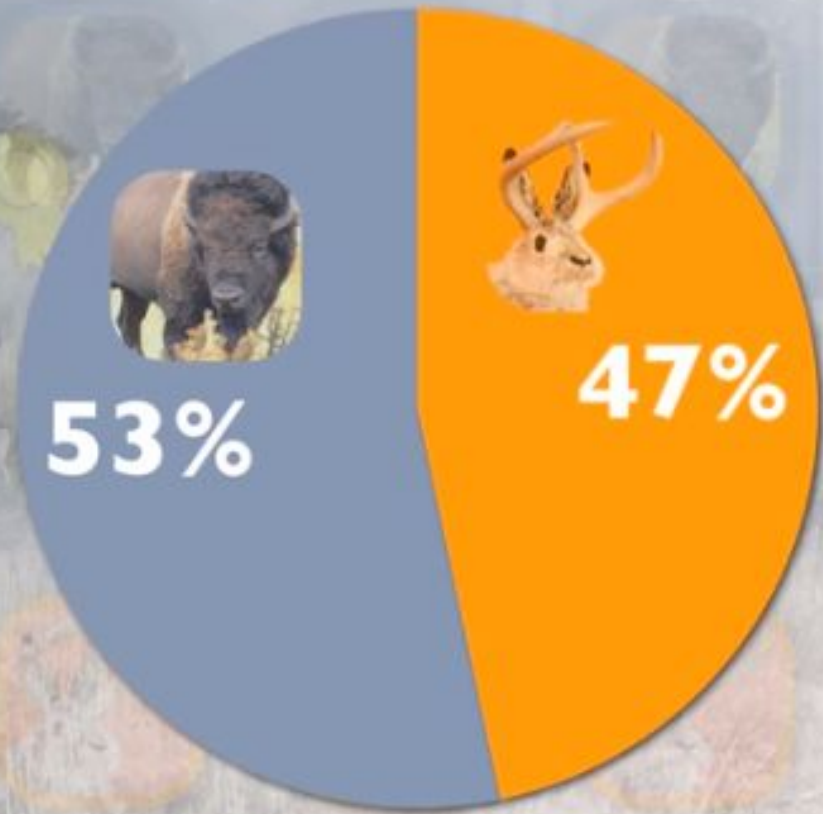
Representatives



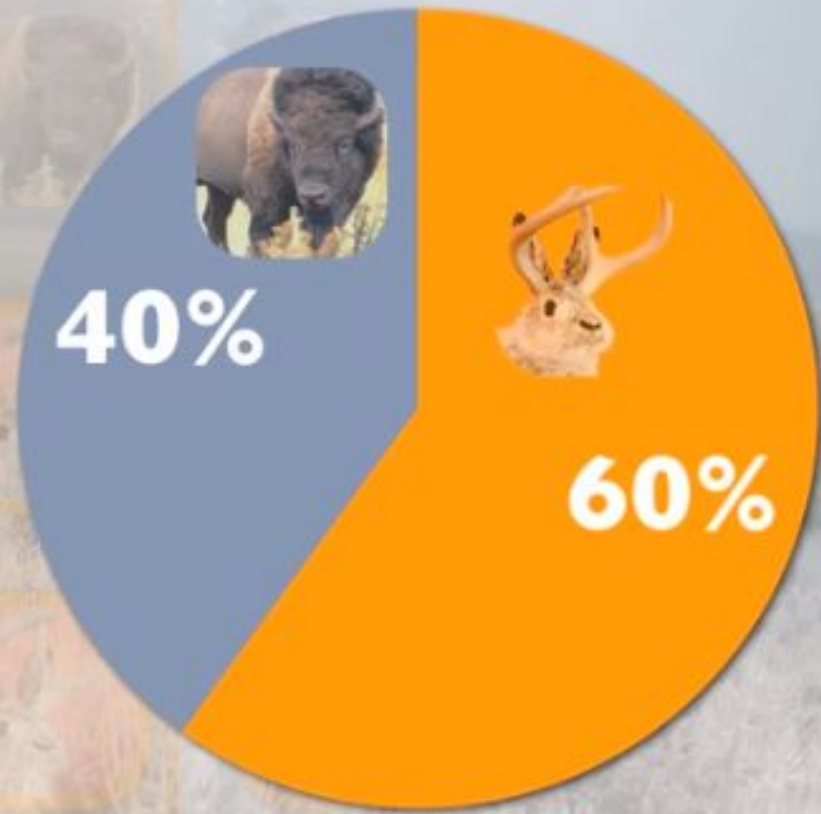




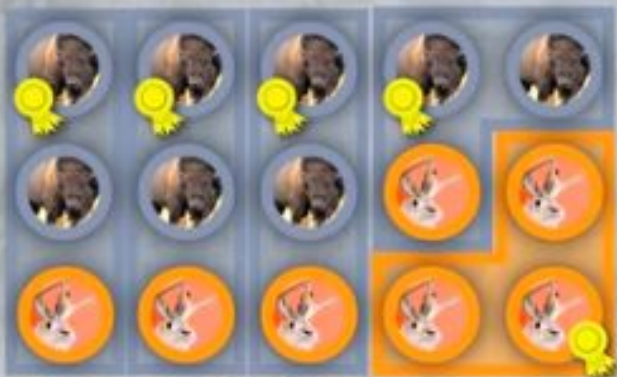
Voters



Representatives



I HAVE THE
POWER!





ROAR!





Your kingdom
is still growing.

You must
construct additional
ranges.



Get busy
agreeing or I'll get
busy eating.



**Bi-partisan electoral
boundary committee.**

Representatives

of the 5th

Jungle Council ... & 6th & 7th

& 8th & 9th & 10th

& 11th & 12th

& 13th & 14th

& 15th & 16th

& 17th & 18th

& 19th & 20th

& ∞th







3 Options:

The Court of Lions



The Court of Lions



```
shortestSplitLine( state, N )
```

```
  if N=1 then output entire state as the district;
```

```
  A = floor(N/2);
```

```
  B = ceiling(N/2);
```

```
  find shortest splitline resulting in A:B pop ratio (breaking ties,  
  if any, as described in notes);
```

```
  Use it to split the state into the two Hemistates SA and SB;
```

```
  shortestSplitLine( SB, B );
```

```
  shortestSplitLine( SA, A );
```

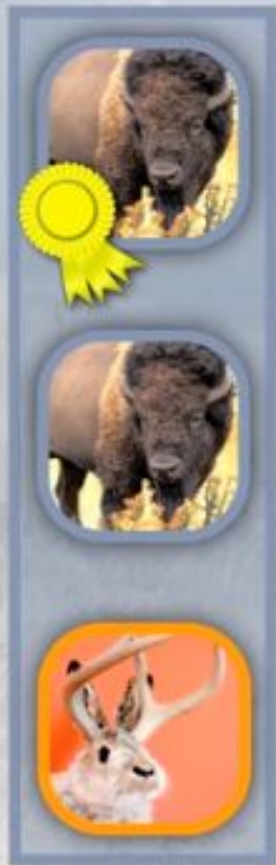
```
}
```

Would you like to know more?

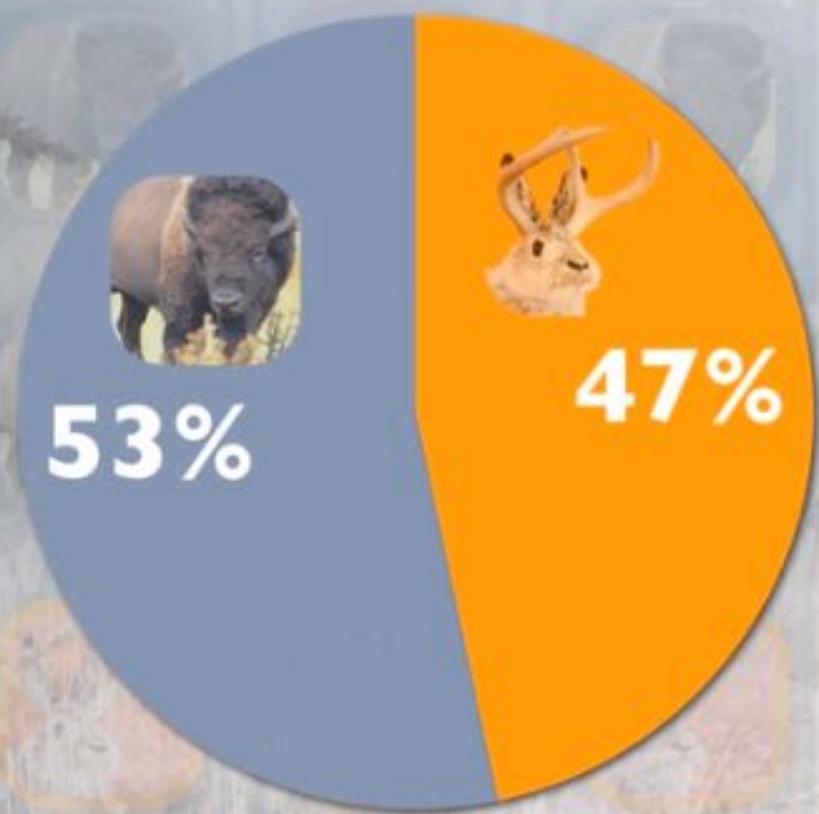
Shortest Split-Line Method



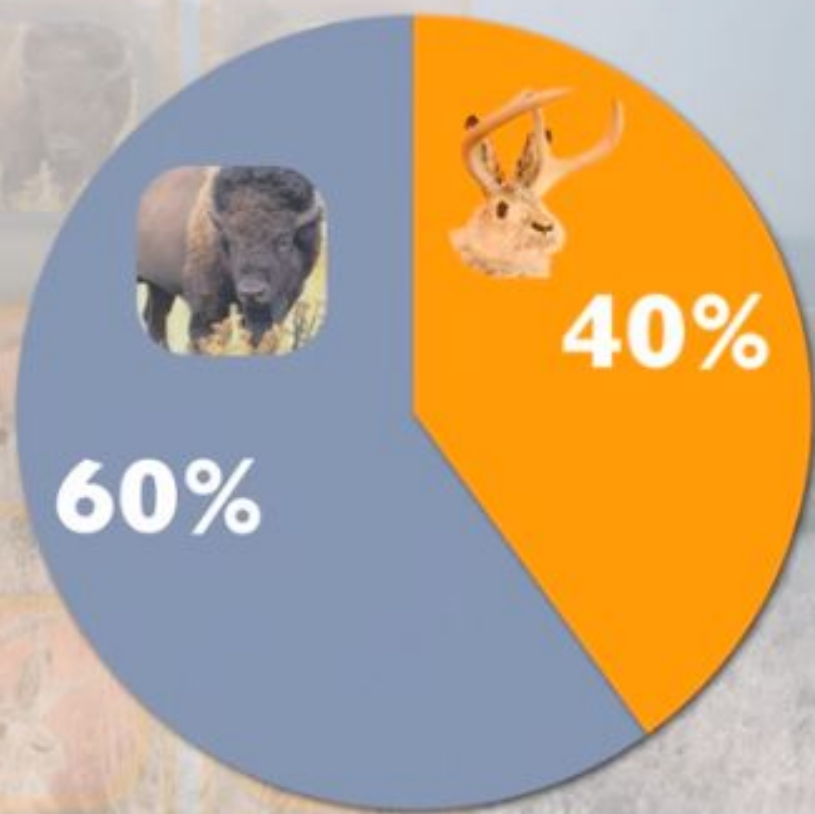




Voters











Representatives



Most Proportionate Result Possible



	Prevents Minority Rule (PR)	Allows Political Diversity	Prevents Strategic Voting	Prevents Gerrymandering
First Past The Post (FPTP)				
Alternative Vote (AV)				

Mixed-Member Proportional Representation (MMP)

Kiwi Island!



Kea

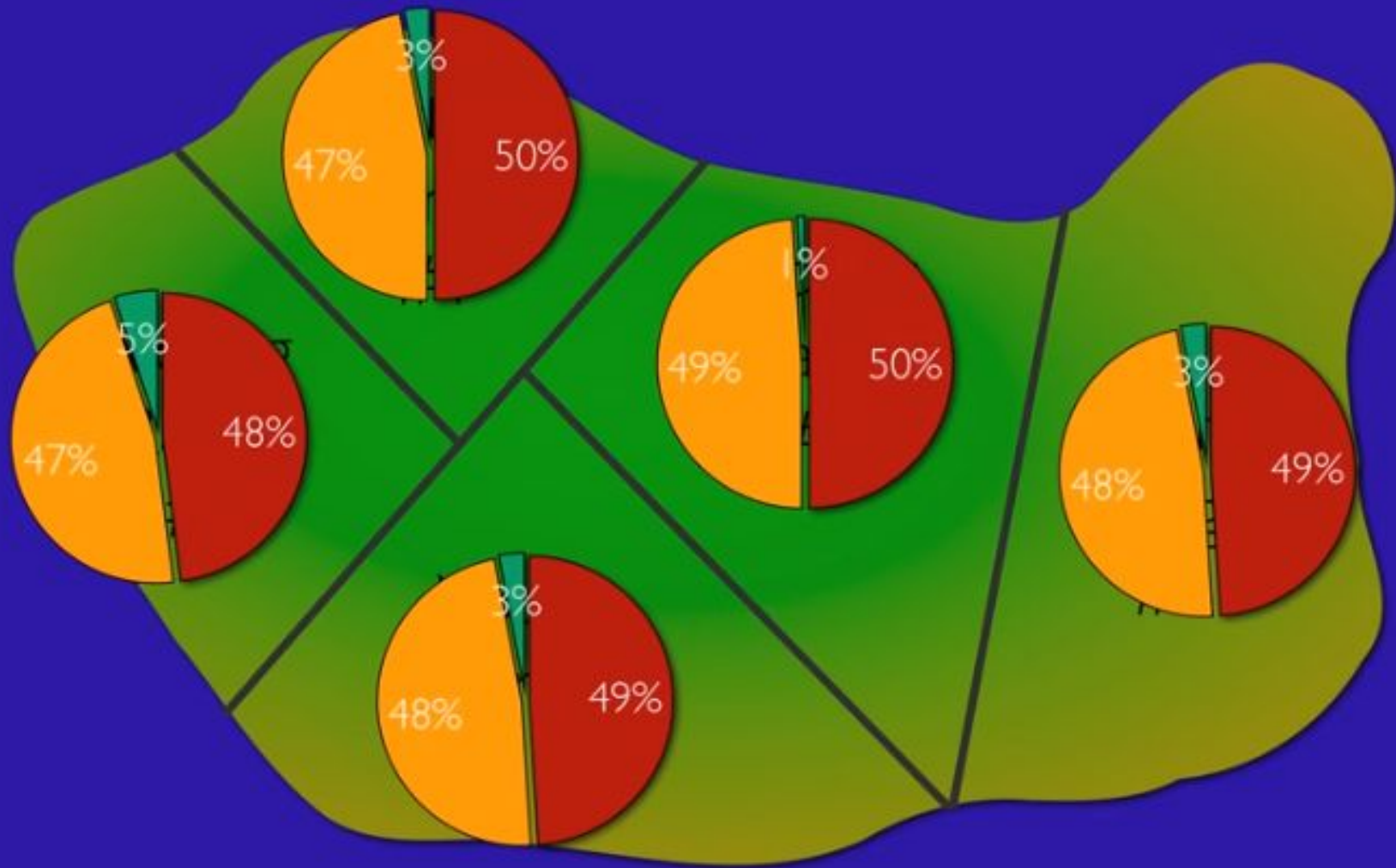


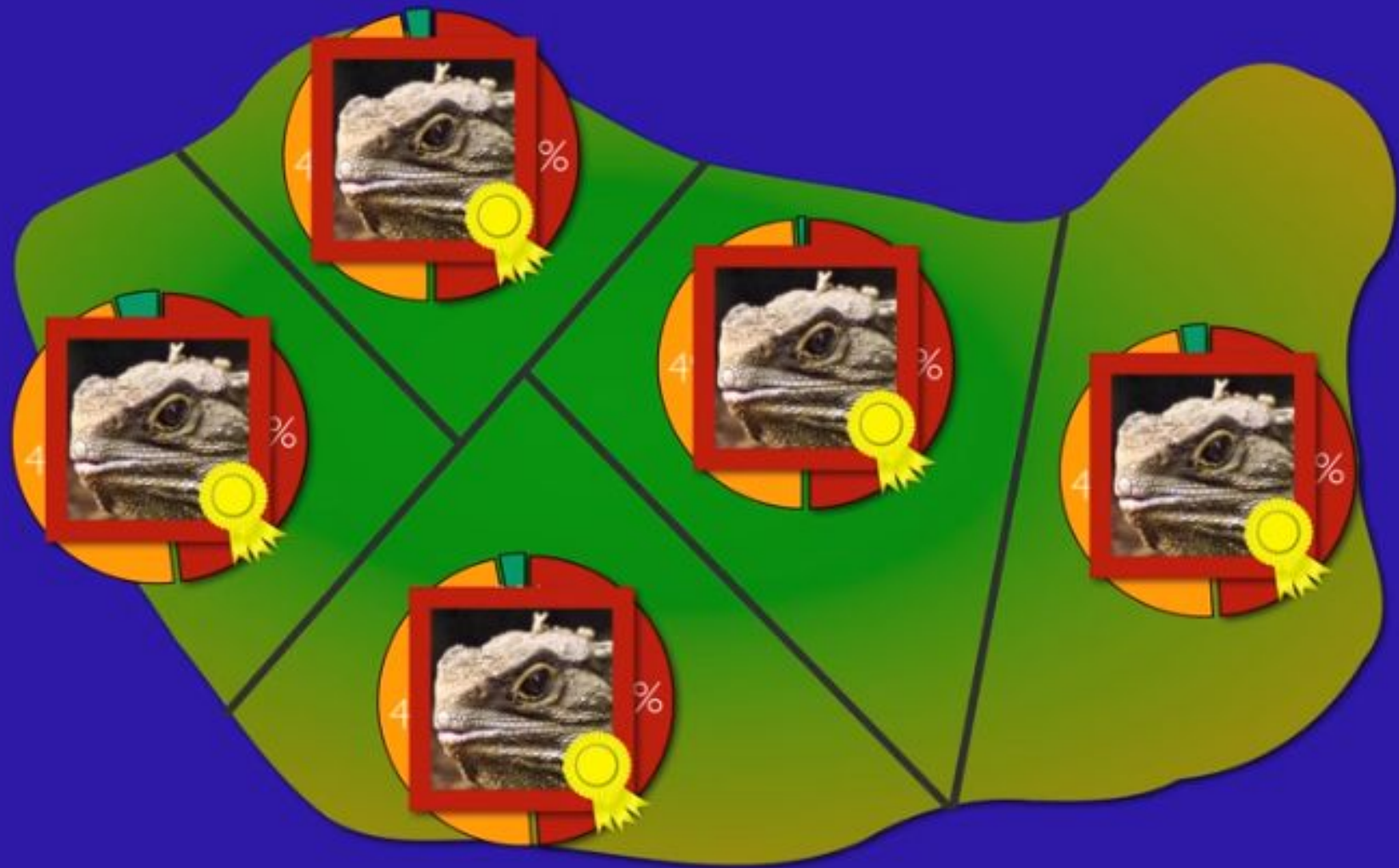
Kakapo



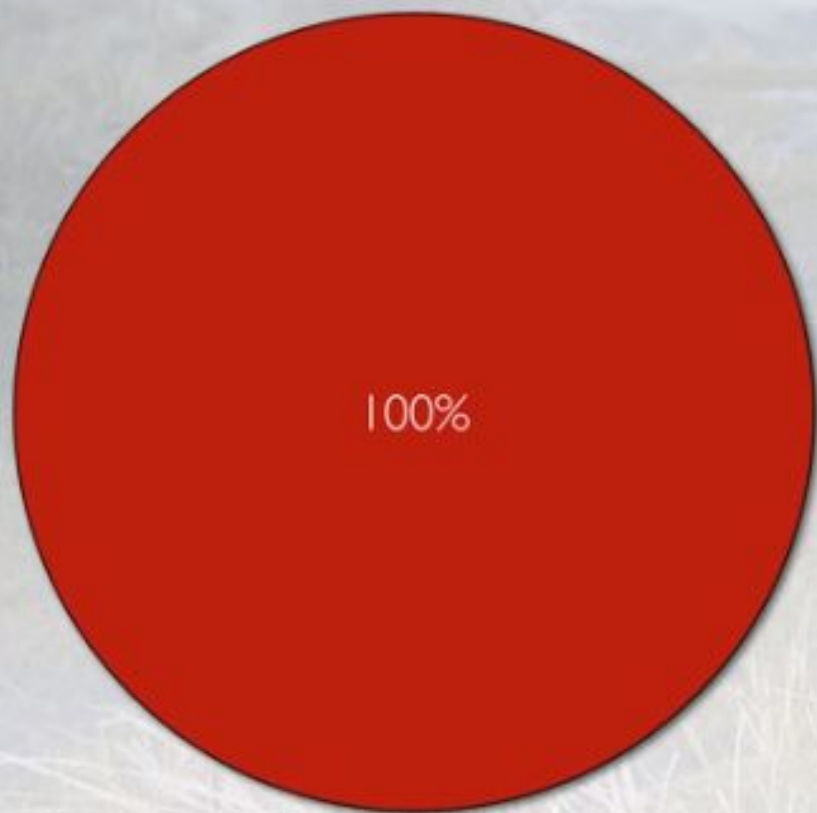
Tuatara



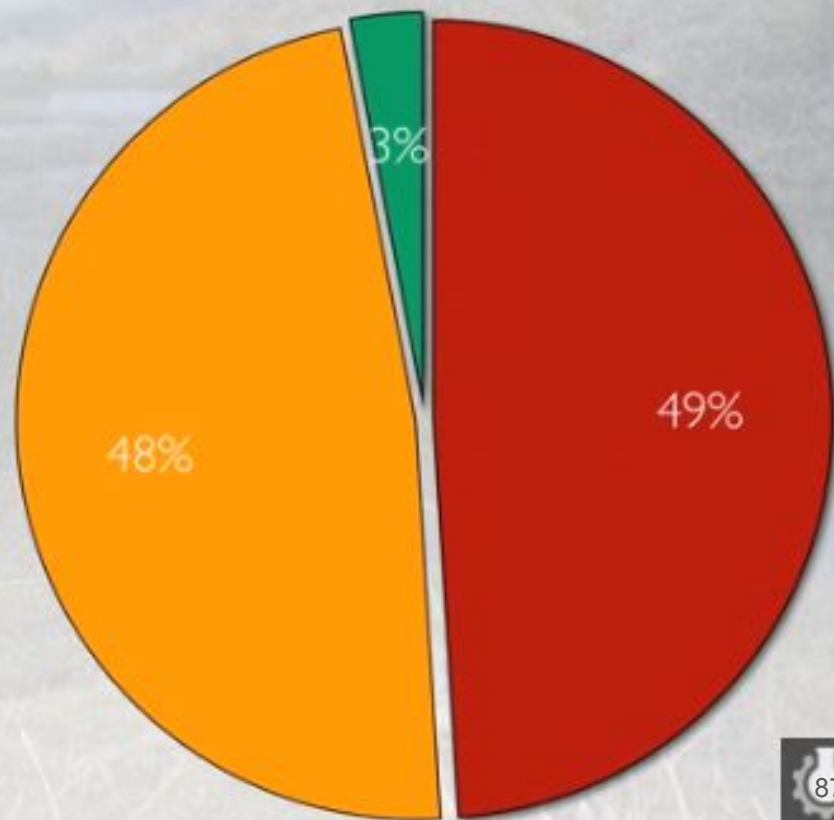




Jungle Council Members:



How Citizens Voted



Jungle Council Members:



Range # | Election Day!

Local Representative:



Tom Tuatara



Karen Kea



Ken Kakapo



Favorite Party:



Tuatara



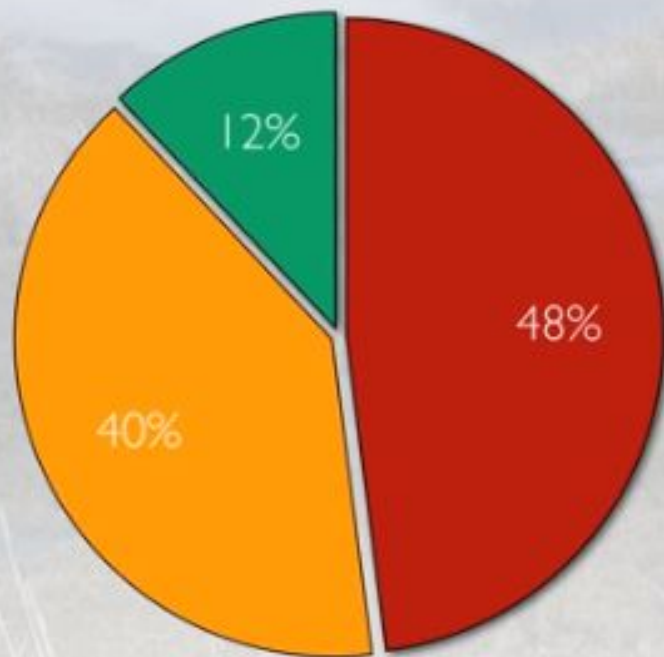
Kea



Kakapo



Citizens' Second Votes:

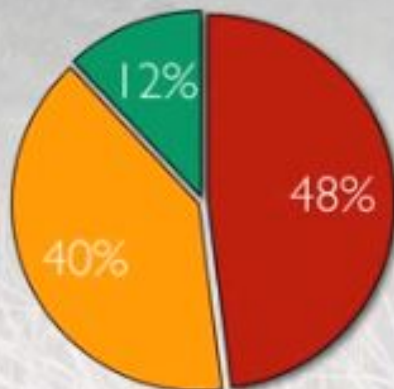


**(What they want
the council to be)**

Jungle Council Members:



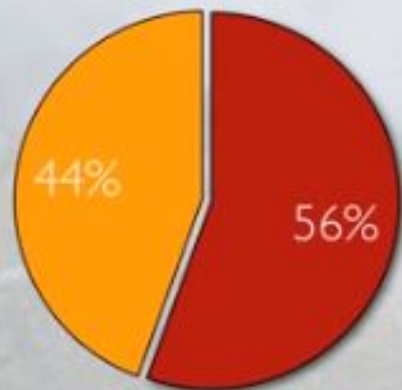
Citizens' Second Votes:



Jungle Council Members:



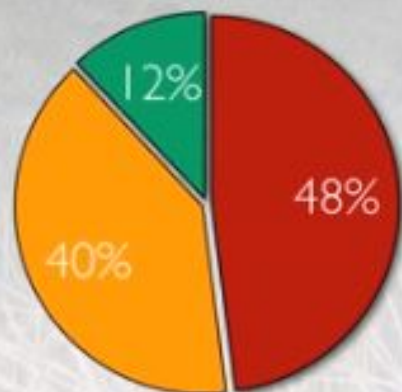
Jungle Council Members:



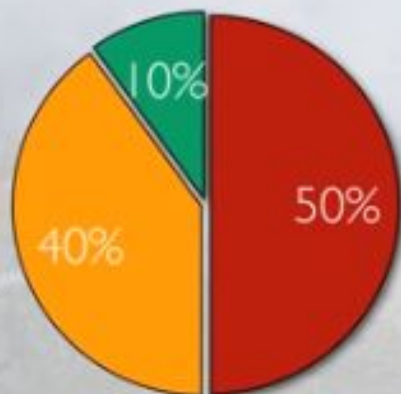
Jungle Council Members:



Citizens' Second Votes:



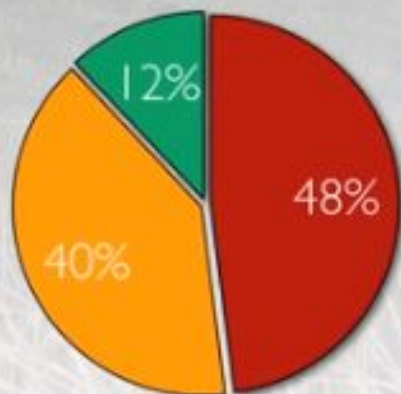
Jungle Council Members:



Jungle Council Members:



Citizens' Second Votes:



Kea Party Leaders:



Kea we want on the council:

1. Lumbergh
2. Milton
3. Peter
4. Samir
5. Michael

Kea Party Leaders:















Milton isn't a team player.

Agreed

Kea we want on the council:

1. Lumbergh
2. Peter
3. Samir
4. Michael
5. Milton

	Prevents Minority Rule (PR)	Allows Political Diversity	Prevents Strategic Voting	Prevents Gerrymandering
First Past The Post (FPTP)				
Alternative Vote (AV)				
Mixed-Member Proportional Representation (MMP)				



Kea

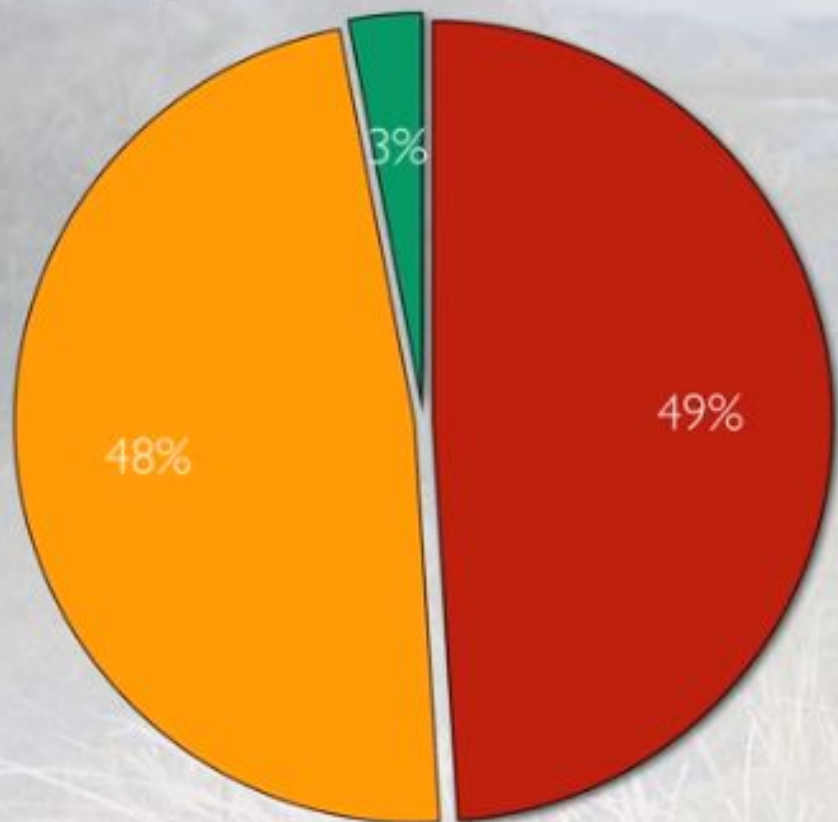


Kakapo

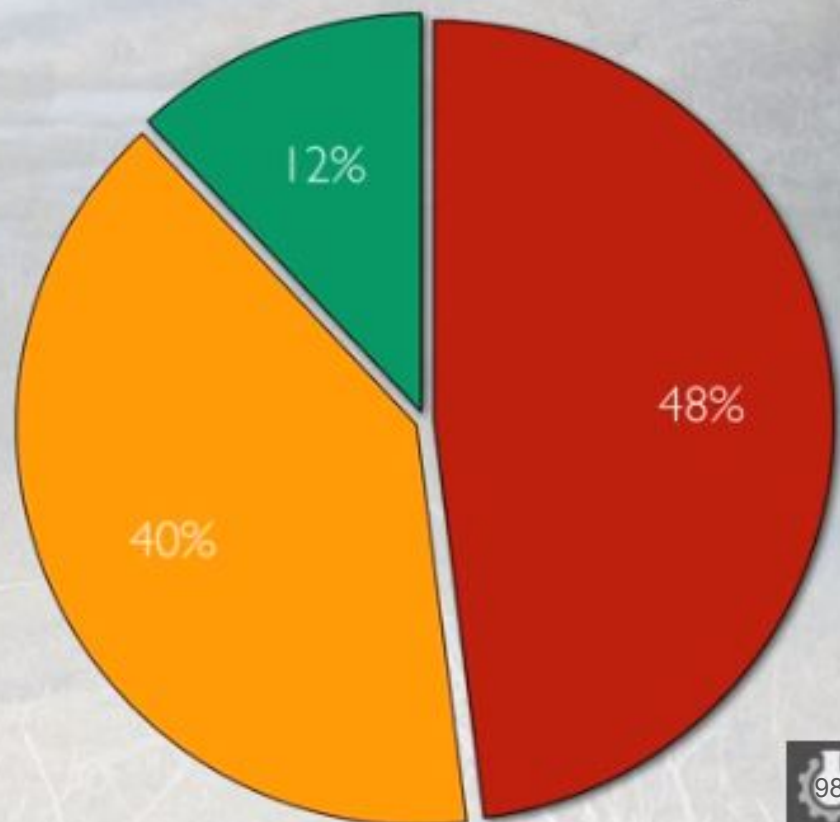


Tuatara

Votes for Local Representatives

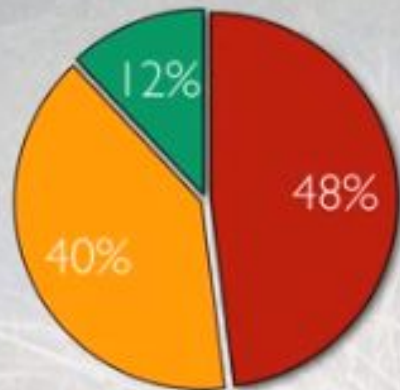


Second Votes for Political Party

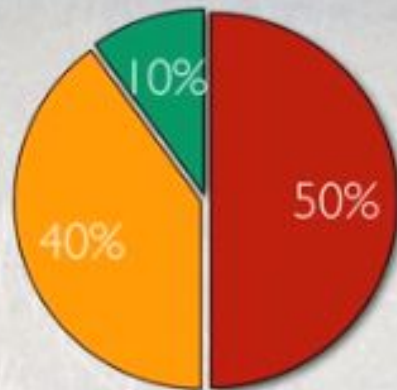


MMP FTW!

What Citizens Want:



What Citizens Get:



Single Transferable Vote (STV)



33%

34%



33%



33%

34%



33%



33%

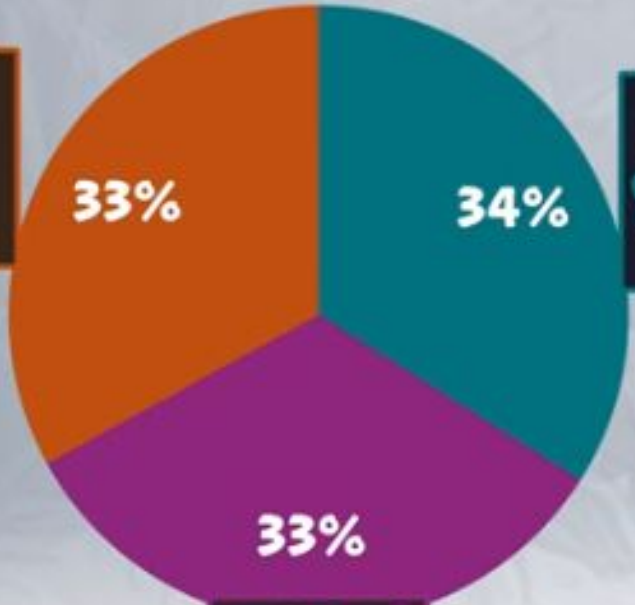
34%

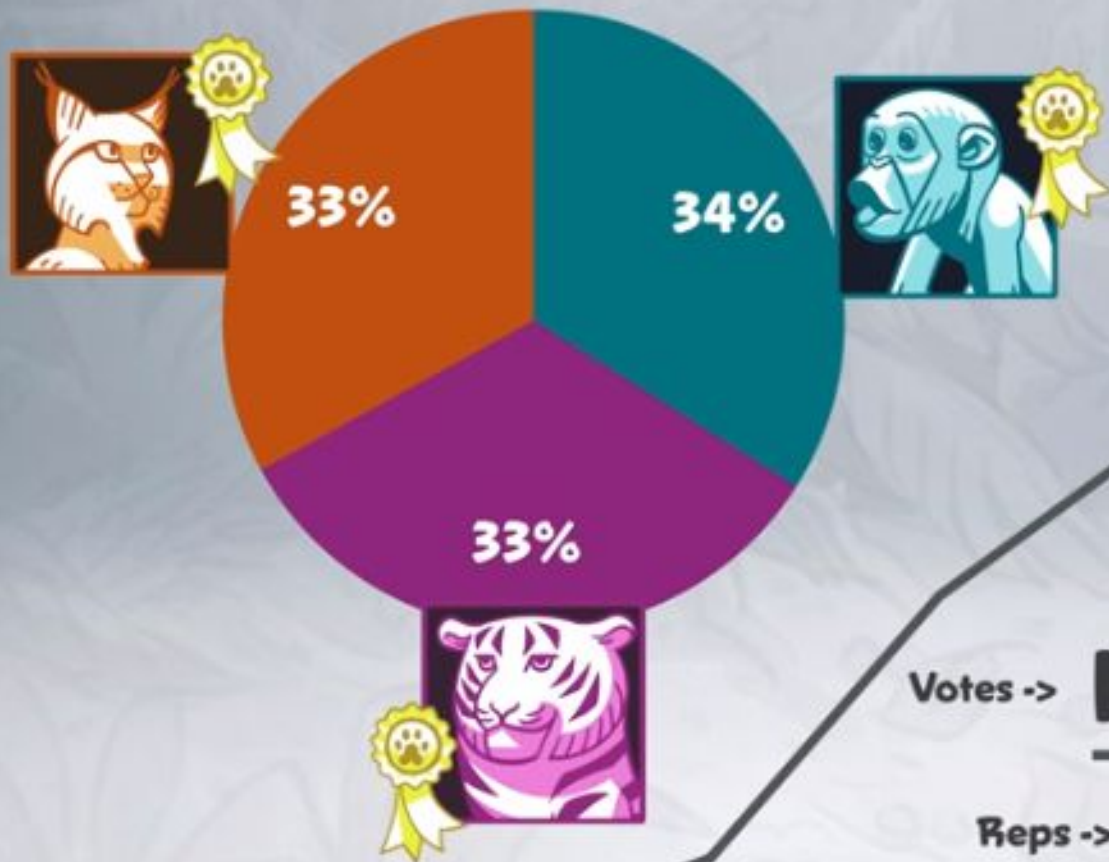


33%









To Win in STV:

$$\begin{array}{l} \text{Votes ->} \\ \text{Reps ->} \end{array} \frac{100\%}{3} = 33\% \leftarrow \text{To win}$$



5%



28%



33%



21%



13%

Votes -> $\frac{100\%}{3} = 33\%$ <- To win
Reps -> 3



	1
	
	2
	3
	

	
	
	
	X
	





33%



33%



21%



13%





33%



33%



34%



Citizens:



Representatives:



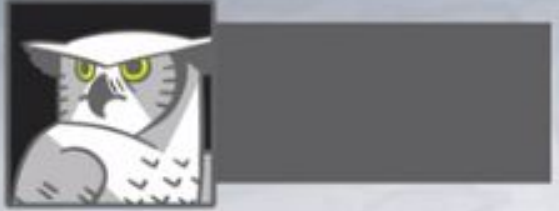
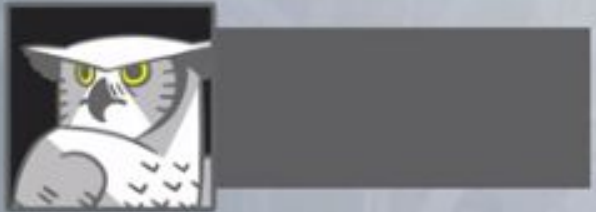
One range:

Two parties?

Three representatives



Most votes wins and one representative:



Citizens:







65%



1%



16%



18%



33%



33%



16%



18%



33%



33%




















34%

Citizens:



Representatives:



	Prevents Minority Rule (PR)	Allows Political Diversity	Prevents Strategic Voting	Prevents Gerrymandering
First Past The Post (FPTP)				
Alternative Vote (AV)				
Mixed-Member Proportional Representation (MMP)				
Single Transferable Vote (STV)				 

<https://www.youtube.com/playlist?list=PL7679C7ACE93A5638>