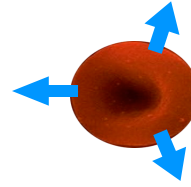
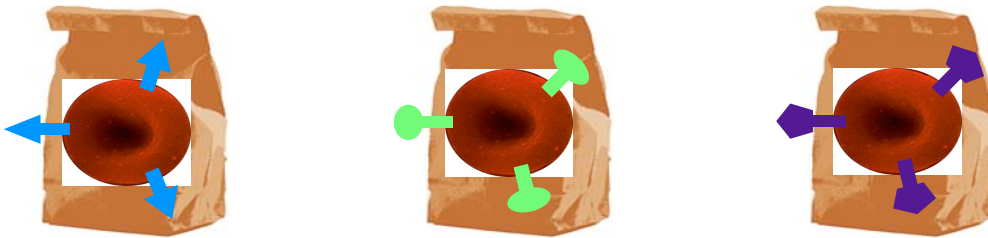


# Antigen switching exercise

- Start with one infected blood cell

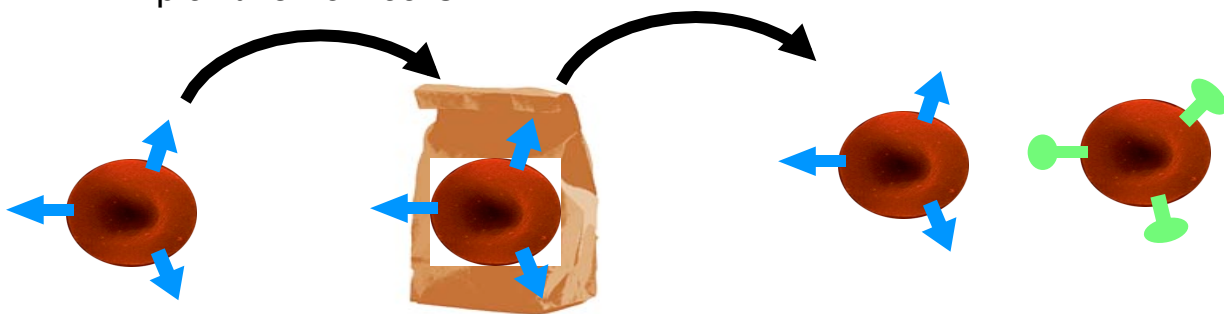


- Grab bags have mostly cells with one *var* gene, plus a few that represent switching

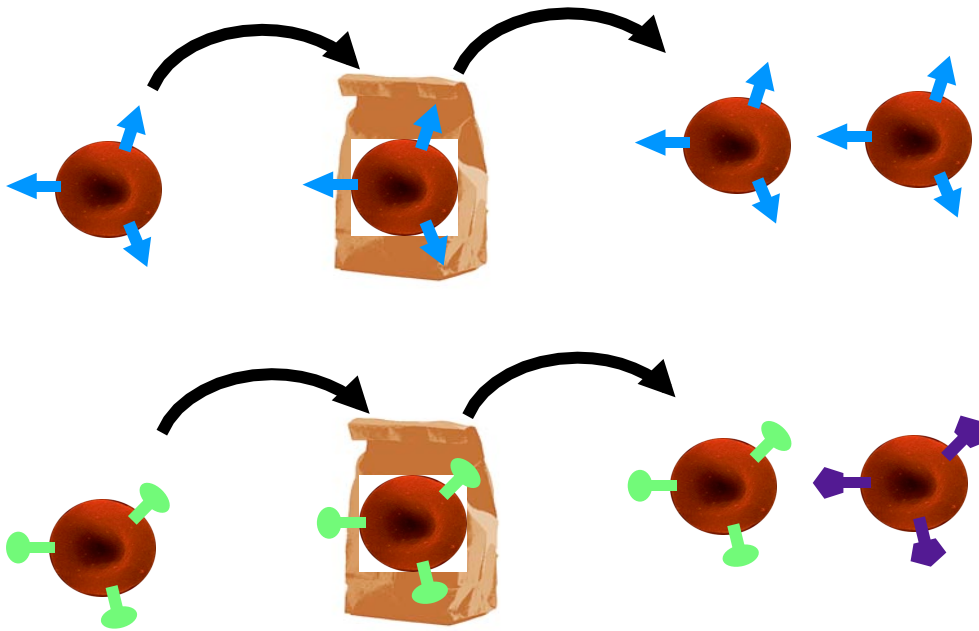


- Each generation, the parasite divides and infects several new cells; it might switch to a different *var* gene

- Throw each cell you have into the corresponding grab bag and pick two new cells

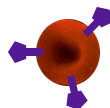
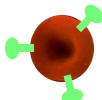
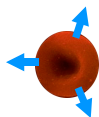


•Repeat



- Continue to generation 4
- Generation 4: the immune system catches up with the parasite
  - All cells expressing the original *var* gene are destroyed
- Continue for 2 more generations to see what happens

Record the number of cells of each type in each generation:



Generation

1			
2			
3			
4			
4 (after immune response)			
5			
6			