The evolution game

Outstanding Science Year 6 - Evolution and inheritance - OS6C005

National Curriculum Statutory Requirements
6C2 - recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents; **6C3** - identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution

Learning Objective
I can model the process of evolution by natural selection.

Me: Teacher:

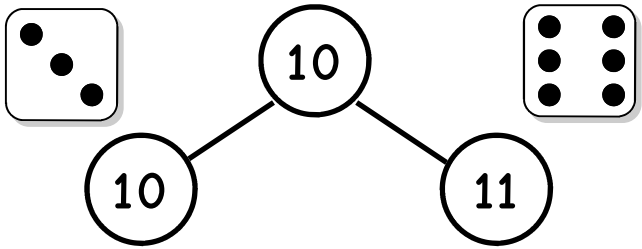
The evolution game

Play this simple game to model the process of evolution by natural selection. You will need a standard 6-sided die.

Start at the top with number 10.

Reproduction phase: Draw two lines and circles down from each individual to represent its offspring - the new generation.

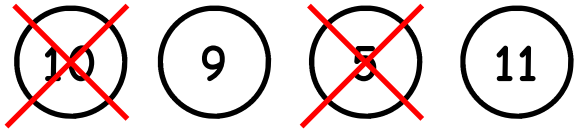
Inheritance and mutation phase: Roll a die for each member of the generation. On a roll of 2-5, the offspring inherits its parent's number. On a roll of 1, the offspring's number is 1 less than its parent's number. On a roll of 6, the offspring's number is 1 more than its parent's number. Write the number in the circle.

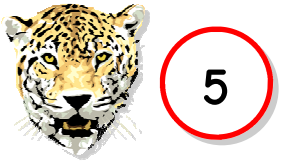


The first dice roll of 3 means the first offspring inherits the parent's number. The second dice roll of 6 means that the second offspring's number increases by 1.

Natural selection phase:

Roll a die to represent a predator. On a roll of 1, re-roll. Look at each individual. If their number is a multiple of the predator's number, they have been eaten! Cross out those individuals.





Start again at the reproduction phase. Repeat until you have completed 6 generations.

Activity

Play the evolution game using the next page to help you. A completed example can be found on the last page.

Discussion

Did you get the same results as the rest of the class?
Did any of your class have numbers which were all eaten before the 6th generation? Why did they go extinct?
Is the population at generation 6 different to the population at generation 1? How and why did it evolve?
How is reproduction modelled in this game?
How is inheritance modelled in this game?
How is mutation modelled in this game?
How is natural selection modelled in this game?
What would happen if you played this game but left out the mutation part (every number was always 10)?

Outstanding Science

The Evolution Game

Generation 1	~~12~~	10	~~9~~	 3
Generation 2				
Generation 3				
Generation 4				
Generation 5				
Generation 6				

The Evolution Game