Classroom Activity

10 Big Question: How did life evolve on Earth?

Evolution card game

The process of evolution by natural selection is where environmental changes cause changes in population structures due to genetic diversity that result in new species formation. This small group card game (up to 6 players) will demonstrate the effects of natural selection on a population.

You will need:

2 decks of playing cards.

Method:

Remove the jokers, jacks, queens and kings from the deck, as they will not be used.

Shuffle the remaining cards (number and ace cards) and deal out two cards face up to each player. These cards represent the genes inherited from both mother and father (called alleles).

Each player in turn takes a card from the top of the deck.

If the card is the same suit or number as one of the cards in the players hand the card may be swapped in, with the other card placed in a discard pile.

When an Ace is drawn it is placed in the centre and indicates a change in the environment.

The Ace represents positive impacts on the population. Any card that is drawn of the current Ace's suit is dominant and must be swapped out with any one card regardless of its suit or number value.

If there was a previous Ace in effect that is placed to the side of the new Ace and represents negative impacts on the population due to the change in the environment any player with two cards in their hand the same suit as the Ace that has been replaced has gone extinct and is out of the game. Any card subsequently drawn of the current king's suit is discarded and the player draws another card.

Play continues until either all the cards have been used or all players have gone extinct.

Discuss:

What happened to the diversity of the population under negative selection compared to positive selection? If a population loses diversity what happens to it? And what are some of the ways that diversity can re-enter a population?

This classroom activity was suggested by Matthew Taylor, PhD student with the School of Earth and Environmental Sciences, University of Adelaide.