

National curriculum objectives



- working scientifically: using straightforward scientific evidence to answer questions or to support their findings
- construct and interpret a variety of food chains, identifying producers, predators and prey

Resources (you will need):



A large space (ideally with both open and sheltered areas (for hiding places), defined boundaries, cones, different coloured bibs and 'life tags' e.g. bands or sashes)



60 MINUTE ACTIVITY

Split the class into three teams (worms, mice and foxes), ensuring that the ratios are approximately 3 : 2 : 1 e.g. worms 12 : mice 6 : foxes 3). Learners should wear a different coloured bib to identify themselves. They should also each be given a 'life tag' (this is something separate from their bib e.g. a band or sash). Explain to learners that foxes can eat worms and mice, mice can eat worms but not foxes, and worms cannot eat mice or foxes - they eat 'food'. Set up several stations that worms collect their 'food' from (more life tags). Predators will get their food from 'eating' their prey so therefore do not need to go to these stations. Predators will learn to ambush the 'food' stations, make sure you make enough "food" stations scattered around so that they cannot all be ambushed continually by predators. 'Worms' seen taking more than one life tag at once will be disqualified.

First send the worms off to run away/hide (they are not allowed to go to a food station until the mice are released). Then 2 minutes later, send the mice to go after the worms. Another 2 minutes later send the foxes off after the mice. Everyone runs around trying to collect life tags and not get caught. If you are caught by an animal that can eat you, you must give that player one life tag.

After a set amount of time (at the teacher's discretion) count up all the life tags for each species. The species with the most life tags at the end, wins. Remember to take time to discuss the game at the end. Why did that species win? How did you feel being high on the food chain? Low on the food chain? Where were the weak points? What were the tactics? What would happen if there were no mice, for example? Do you think this game reflects the challenge animals face in survival? Why or why not?

Now repeat, adding in a 'hunter' that can take life tags away from foxes. How much harder is it for foxes to survive now? Is this fair?

Class reflection:

Primary predators have the goal of finding and catching prey, while participants lower on the food chain are faced with the challenge of avoiding predators while also meeting their own needs. It is not easy to survive, even if you are a predator. It is important to realise that there are predator/prey relationships throughout nature and how they can fluctuate. What did this game teach you about predator-prey relations and food chains?

Have time for a maths link?

Give learners a chance to design the game again but with different numbers of life tags (they could change the animals in the food chain too if they wanted to). What do they predict might happen to the mice and worms if there are double the foxes, for example? Play a few versions of the learners new games. Does the game still work? Were their predictions correct?

Philosopher question:

What would happen if humans killed all the foxes?