

Should we interfere with nature?

Many organisms in our environment can cause us discomfort, pain or even death. These include funnelweb and redback spiders, poisonous snakes, sharks and crocodiles. From our point of view, it may seem that these dangerous animals should be eradicated. This could perhaps be achieved through biotechnology by making them sterile and prevent them from breeding.

But, what effect would this have on the organisms that prey on these species? What about the other pests that these species control? Would the balance of an ecosystem be upset if these animals disappeared?

Perhaps biotechnology could offer a solution by making the organisms less toxic or less aggressive. But, how would this affect the organism's ability to catch the prey it needs for food? Instead, perhaps biotechnology could provide humans with a permanent immunity to the toxin of the dangerous organism.

In this activity, you will be working in groups, pairs and individually to:

- research a problem
- present advantages and disadvantages of using biotechnology to deal with poisonous or dangerous organisms
- consider the implications of releasing a genetically altered organism into the environment.

You will need:

- Internet access or library resources

What to do:

1. Form a group of four to six students.
2. Choose one of the animals listed above, or another dangerous organism.
3. Work as a group to find out as much as you can about:
 - the organism
 - its relationships with other animals and plants in the environment
 - the danger it creates for humans
 - any work that may have been done to control or eradicate this organism.
4. Assign some or all of the following roles to people in your group:
 - i. camper/hiker/surfer
 - ii. biotechnologist
 - iii. environmentalist/conservationist
 - iv. indigenous person living in a homeland community in a remote area
 - v. home owner

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- vi. parent of a small child
 - vii. owner of a camping park near waters where there are crocodiles or sharks
 - viii. owner of a theme park that has some of the organisms on display.
5. Working in the role you have been given, write down as many reasons as you can think of for or against using some form of biotechnology to change the organism.
 6. Present your arguments to the group.
 7. Work with the person in the role whose ideas seem most different from yours and discuss why the differences in opinion have come about.
 8. Discuss all these points of view as a group. Are there any views that every one agrees on?
 9. How do the members of your class view environmental responsibility? Does everyone feel the same? Why do their views differ?
 10. As a group, decide on an answer to the question 'Should we use biotechnology to solve this problem?' and provide a reason or reasons for your answer.
Remember to consider all the risks versus the benefits associated with making changes to the organism and releasing it into the environment.
 11. Select a group representative to present the view of your group to the other members of the class.