

Animal survival techniques

Worksheet 1 - teacher's notes

1. Survival strategies enable organisms to cope with particular stresses, from temporary environmental changes in the weather to the constant threat of predation. In groups prepare a short presentation about the following as survival strategies:

- Group one: read and prepare a short presentation to the rest of the class about aestivation.
<http://www.bbc.co.uk/nature/adaptations/Estivation>

Aestivation is a period of deep and prolonged sleep, or torpor, that occurs in the summer or dry season in response to heat and drought. Food can often be scarce at such times, so animals avoid using up hard won energy reserves by lowering their metabolic rate. This reduces the need for food and water during hard times, ensuring longer-term survival.

- Group two: read and prepare a short presentation to the rest of the class about food storage:
http://www.bbc.co.uk/nature/adaptations/Hoarding_%28animal_behaviour%29

Food storage is a strategy for getting through hard times when resources are low because of seasonal or other factors. Some store food for only a few hours or days, while others may do it on a seasonal timescale. Many carnivores, such as foxes and leopards, are opportunistic hunters so might stash or bury surplus prey and return to eat it a few days later. Jays and squirrels bury enough nuts to get them through the winter.

- Group three: read and prepare a short presentation to the rest of the class about hibernation:
<http://www.bbc.co.uk/nature/adaptations/Hibernation>
<http://www.bbc.co.uk/nature/adaptations/Torpor>

Hibernation is an extended period of deep sleep, or torpor, that allows animals to survive winter extremes. Reducing metabolic rate and lowering body temperature enables survival through cold periods when food is scarce or has little energy value. Hibernating species usually work hard to build up large fat reserves before they bed down, and subsist on this during their torpor. They might wake up at intervals to defecate or top up on food.

Torpor is a form of sleep that helps animals conserve valuable resources in times of stress, such as in cold or very hot, dry weather. Body temperature drops and the heart and metabolic rates slow down so that less energy is needed to stay alive. Animals can stay torpid for short bursts, or go into long-term torpor lasting weeks or months, known as hibernation (winter) or aestivation (summer). Animals in torpor are far more difficult to wake up than animals in normal sleep.

- Group four: read and prepare a short presentation to the rest of the class about migration :
http://www.bbc.co.uk/nature/adaptations/Animal_migration

Migration is the usually seasonal movement of animals in pursuit of food, suitable breeding sites or to escape bad weather or other environmental conditions. Mass migrations - such as the wildebeest crossing the Mara River, or Pacific salmon heading upstream to mate - create some of the world's greatest wildlife spectacles.

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- Group five: read and prepare a short presentation to the rest of the class about predation defense:

http://www.bbc.co.uk/nature/adaptations/Antipredator_adaptation

Predation defence comes in many forms: physiological, anatomical and behavioural. Physical defences such as spines and armour are obvious adaptations, but other defences can be more subtle and surprising. Whether it's avoiding detection through camouflage and mimicry, chemical defence through being poisonous or exuding irritants, it's all about one thing: avoiding being eaten. Some animals rely on increasing their chances of detecting predators by living in groups and using alarm calls to warn each other of danger.

- Group six: read and prepare a short presentation to the rest of the class about abscission:
<http://www.bbc.co.uk/nature/adaptations/Abscission>

Shedding body parts, or abscission which means cutting away, is the process by which plants get rid of entire organs that have been damaged or are no longer needed. It includes the dropping of leaves, flowers and fruits such as in autumn when deciduous plants drop their leaves in response to the onset of winter. Fungi and even some animals shed body parts for different reasons. Lizards drop their tails when threatened by a predator, stags cast off their antlers after the rut and snakes shed their skins.

2. Some animals developed very strange survival techniques, go to <http://www.earthrangers.com/wildwire/top-10/top-ten-strangest-animal-survival-strategies/> to read about ten strangest survival strategies.

students' own answers, ideas