

Teaching Material on Biodiversity Conservation (TMBC)

Teacher's material Plan for the lesson about stepping stone biotopes

Title: Stepping stones biotopes

Author:

Quality Assessment: Lea Stanke

Level: Primary school

Materials: background information, work instructions

Aims: The students should learn to recognise stepping stone biotopes as a valuable means of conserving the habitats of animals. They should gain an understanding of what makes a habitat vulnerable. The teaching unit can also be used to revise material from the previous lesson, for example on the topic „badger“.

Course

Introduction:

This lesson continues from the previous teaching unit on the topic „badger“. (However, it can also be used after a lesson on another animal.)

Habitat game:

- Repeating the topic „badger“
- it is important to make it clear that disruptions in the animal's habitats have direct consequences

2. Ordering biotopes of stepping stones

The children mark in animals in a given landscape and they should imagine and create stepping stone biotopes to help the animals there. Before this step it would be advisable to clarify the term „stepping stone biotope“.

3. Game with stepping stone biotope (optional)

The children develop stepping stone biotopes in two groups to get from one side of the playing field to the other. The game should make it clear how important these biotopes are for animals to move from one habitat to another.

Habitat game

Procedure: (repeats possible and helpful)

Materials: ball of wool

The children stand in a circle and each name one term they remember from the last lesson. (In the last lesson you already discussed feeding and habitat.)

One child gets the ball of wool, says the first term and throws the ball to a classmate, who is not standing next to them, but still holds on to one end of the thread.

The next child says a term and so on until every child has had a turn and a network has been formed between the children.

After this, the teacher tells the class an imaginary and spontaneous story about a badger. Whenever one of the children's terms is mentioned that child lets go of his/her part of the ball of wool.

Little by little the badger's habitat implodes and a survival will no longer be possible. The story begins with the less important terms for the habitat to show that the badger can still live without conditions like peace and quiet, but the more intervention there is in the badger's habitat the more its life is restricted.

A short example for a story, which can be elaborated spontaneously and individually:

The badger sow Elli

Elli lives with her husband Theo in a big den, in which his parents also lived. The den is in a dense forest under a very old and thick tree. It's padded with grass and foliage. That is why it's soft and comfortable. They have lived there for a long time and so far feel very at home and cosy. They get along with the neighbours. Often they go out for dinner and have a lot of fun. Tilda and Hein are their best friends. Unfortunately Elli and Theo have not seen their neighbours for months now. Besides it's getting very noisy in their neighbourhood, so they cannot sleep well. The reason and what is to blame for their troubles is a grey path built by humans, which strange tins drive along day and night. The grey path has disconnected the couple Theo and Elli from their friends on the other side. It's not possible to reach them any more, which makes them very sad. Many people go for walks on their side of the wood. Because of this Theo and Elli are afraid and don't leave their home any more. They would like to build a new home on the other side of the wood to have more peace and more food. But how should they cross the grey and dangerous path?

At best the story should be told spontaneously by the teacher - adapted to the children's terms.

Ordering stepping stone biotopes

Drawings of:

- meadows, forests, brooks, separated by obstacles like a street, housing estates and areas of arable land
- animals: deer, roe deer, wildcat, frog, badger, otter

ways of making obstacles safer:

- tunnel, bridge, hedge, hedge of dead wood, small wood

The teacher has to draw the country on a poster or a board or he/she can print it on a piece of paper (DIN A3). The children have to cut out the animals and stick them in the right place in the country. After this they name the animals. In addition, they have to think up a biotope of stepping stones and draw these in the picture. Other ideas are also allowed.

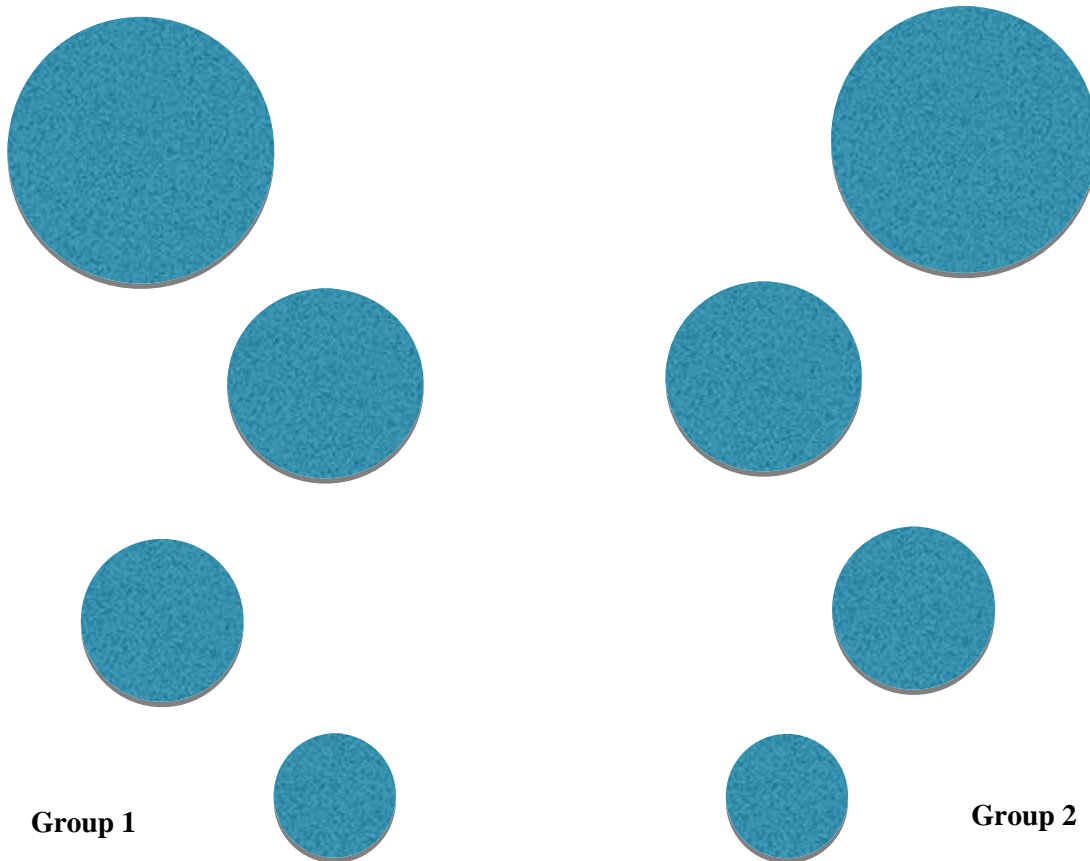
They are also allowed to complete a task together in groups, for example a large picture can be drawn on the board or the students each draw their own picture of the countryside.

Game with stepping stones

After foraging the badger wants to go back to his female badger.
Can you help him?

Procedure:

The children are divided into two groups, and each of them gets three cards with a,b,c on it.
The playing field is drawn with chalk on the school playground:



The teacher asks the questions from the quiz and explains the three answers. The children are allowed to consult with each other for a short time and after a signal from the teacher they show the card with the answer they have chosen. If the answer is correct, they are allowed to step on a new free field.

The stepping stones get bigger so that each time there is space for one more child to stand on one.

Quiz questions

The answers in italics are correct.

1. What do badgers like to eat best?
 1. Bread
 2. *Worms*
 3. Follage

2. Why are many animals threatened with extinction nowadays?
 1. The humans clean their environment too much.
 2. *Their habitat is too small.*
 3. The animals prefer living with humans in their houses.

3. Where do badgers live?
 1. *in dens under the earth*
 2. in high holes in tree trunks
 3. in holes of foliage

4. Why can't some animals get from one forest to another? What is the barrier?
 1. They cannot walk so far.
 2. The forest is heavily vegetated and impenetrable
 3. *The fields which are unprotected.*

5. What's a biotope?
 1. The border between one habitat and another.
 2. The unity of different habitats.
 3. *A habitat for different species of animals and plants.*

6. What do they line their dens with?
 1. with straw and grain
 2. with fruits and berries
 3. *with foliage and grass*

7. What helps the young animals so that they can reach new forests safely?
 1. If we feed them.
 2. *If we create stepping stone biotopes, for example hedges.*
 3. If we put up signposts.

8. **For experts:**

What is the red list?

 1. *A listing of species which are vulnerable or extinct.*
 2. A listing of species which are extinct.
 3. A listing of species which have only just been detected.

Background information

Explanation of terms for teachers

Stepping stone biotopes:

Stepping stone biotopes are elements which are created artificially. They provide separated populations with a chance to combine again. They also support gene flow and enable back-settlements and new settlements.

Examples are: hedges, rows of trees, banks, small bodies of water, individual trees, tunnels for amphibians

Red list:

Vulnerable and extinct species are listed in the red list. It's an indicator of the level and state of biodiversity and is based on academic research. It is updated and published regularly by the International Union for Conservation of Nature

.

Hedge of dead wood:

A dead wood hedge is constructed from dead wood and is intended to give animals protection and a place of retreat. It's sometimes possible to collect dead and unused wood from the schoolyard or from one's own garden and to use it meaningfully.

Sources:

Inspiration for games:

www.bund.net/fileadmin/bundnet/publikationen/wildkatze/20110629_wildkatze_biodiversitaetskiste_sek1a.pdf

Red list:

<http://wwf.de/themen-projekte/weitere-artenschutzthemen/rote-liste-gefaehrdeter-arten>

Stepping stone biotopes:

www.spektrum.de/lexikon/biologie/trittsteinbiotop/67728