

Anemochoria and anemophily. The role of wind in nature

1	<p>Overall aims:</p> <ul style="list-style-type: none"> • Enriching the knowledge about the useful activities of the wind in human life; • Learning about plant structure; • Making children aware of the importance of insects in the pollination process; • Improving the ability to formulate conclusions based on empirical observations about nature and society
2	<p>Vocabulary - keywords</p> <p>wind, anemochoria (seed dispersal), wind-pollinated (anemophilous plants), plant's structure</p>
3	<p>Sustainable abilities developed</p> <ul style="list-style-type: none"> • Anticipatory thinking • System thinking
4	<p>Pillars of sustainability included</p> <ul style="list-style-type: none"> • economical • socio-cultural
5	<p>STEAM domains</p> <p>S, A, M</p>

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6

Teaching methodologies/activity outline

1. Introduction - a relaxing story with music

Children sit on the floor, curled into the smallest ball and imagine that they are tiny seeds that have fallen from the plant and lie still on the ground. Plants cannot talk and make no sound at all. The teacher tells the story of how the seeds mature in full summer, and in autumn, shaken by the wind, fell to the ground. Later all winter they lay there and lay there until it finally got warmer, the snow had melted, spring has come, the sun's rays are warming the ground. The seeds swell from moisture and heat, and finally the shell of the seed breaks. The seeds put out a small sprout that grows deep into the ground to become a long root over time, with which the plant will draw water and food from the ground. The first leaves on a thin stalk are also starting to grow from the seed. The leaves are directed to the sun to draw as much energy as possible from it. It is raining, the sun is shining and the plant is getting bigger and bigger. The stalk grows strong and can now hold many leaves, and in the future also flowers, whose tiny buds have appeared here and there. The spring wind, although it blows strongly, does nothing to the plants, because the roots hold it firmly in the ground, and the strong stem does not allow it to break. The meadow waves pleasantly, the juicy green looks beautiful against the background of the blue sky. Days go by, from small buds developed wonderful fragrant flowers, which with their color and scent try to lure bees and butterflies. It doesn't take long to hear the buzzing noise. The bees try to squeeze the flowers inside to get the sweet nectar. They also collect pollen and pollinate flowers. Oh, another bee, and another. Plants are delighted that their flowers have been visited by so many insects and that they can start producing fruit. The petals fall down and the flower slowly grows into a fruit. The fruits are getting heavier, the stem has to bear a lot of weight, and the leaves and roots also have to work hard to get the food needed for the fruit and the seeds hidden in them to mature. Phew, I made it. The seeds are wonderful. A moment more and they will spill out so that new plants can grow in a year.

Conversation:

- What parts of the plant were mentioned and what are they for?
- What does the flower consist of? (flower bottom, sepals, petals, pistil, stamens)

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2. Exploring the flower structure

The teacher divides the children into small teams of 3-4 people, distributes 2-3 different flowers and magnifiers and asks the children to carefully look at the flowers, find the previously mentioned elements in them, compare their appearance (number of petals, flower shape and size, color, number and length of stamens, pistil length, smell). She then asks the children how these flowers differ. Children sort natural specimens according to their own ideas (size, color, shape, smell).

The teacher shows the children natural wind-pollinated plants (e.g. grass, grain). She asks the children how these flowers differ from those seen before (color, inconspicuous shape, no inviting scent and a large amount of light pollen). He explains that these plants are wind-pollinated, so they don't need a beautiful color, an enticing scent or nectar.

3. Experiment -

"Which seeds are sown by the wind?" - the children choose the seeds and then check with the teacher if they chose correctly. The teacher divides the children into groups and each of them checks how far they can fly from a gust of wind by means of a fan, dryer or simply fanning or blowing on selected seeds.

7

Expected learning outcomes

The child will be able to:

- indicate examples of the useful activity of the wind;
- list the elements of flower structure
- discuss the different ways in which plants disperse seeds
- explain what is anemochoria (seed dispersal), wind-pollinated (anemophilous plants)
- indicates wind-pollinated plants

8

Assessment

Conversation - the child should be able to

- name flower elements;
- know that the flower must be pollinated to form a fruit - know that there are plants pollinated by wind and insects
- describe how plants attract insects (colorful petals, smell, sweet nectar and tasty pollen)
- intuitively match flower illustrations (grass, cereal, birch, apple tree, cornflower, strawberry, pumpkin) to the group of wind and insect- pollinated plants

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9	<p>Equipment and materials to be used in learning unit (tools, ingredients etc)</p> <p>Natural specimens of flowers and other plants, magnifiers, fan, hair dryer, a piece of cardboard, seeds</p>
10	<p>Kind of setting - lab, kitchen, outdoor etc.</p> <p>preschool garden, classroom</p>
11	<p>References - source:</p>

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