**Scenario**

**CLIMATE ZONES AND LANDSCAPE ZONES IN THE WORLD**

General Objective

• Understanding how the Earth is illuminated by the Sun and its effects,

• Distinguishing climate and landscape zones on Earth,

Operational Objectives

• Knowing the names of Earth's illumination zones, climate zones, and landscape zones,

• Understanding the distribution of these zones on the globe,

• Identifying landscape zones in pictures, understanding terms: climate, weather, climate zones, landscape zones,

• Identifying landscape zones on maps and explaining their relationships with climate.

Lesson Description

I. Introduction.

1. List and locate continents and oceans on a world map,

2. Experiment - illumination of the Earth by the Sun,

- observation of illumination of the entire surface of the Earth,

- depending on the angle of incidence of light rays, the Earth's surface receives more or less illumination, which is related to different climate and landscape zones, description of the experiment in the annex,

- Earth's illumination zones

3. Weather is the atmospheric state in a specific place and time.

- Climate refers to the weather conditions occurring in a particular area over the course of a year and repeating in subsequent years.

- A climatic diagram (climatogram) shows the average values of air temperature and precipitation in each month of the year.

- Among the most important climatic data calculated for different places on Earth are the average annual air temperature and the annual sum of precipitation.

Weather components:

- air temperature,

- cloud cover,

- atmospheric precipitation and sedimentation,

- atmospheric pressure,

- wind direction and speed.

II. Development.

1. How to read climatograms?

- how to calculate the average annual air temperature and annual sum of precipitation?

2. Distribution of average air temperature worldwide - map

Distribution of average annual precipitation worldwide

3. World climate zones - working with an atlas,

- equatorial zone,

- two tropical zones,

- two temperate zones,

4. Landscape zones - thematic maps,

- equatorial forest,

- savanna,

- desert,

- semi-desert,

- Mediterranean vegetation,

- steppe,

- deciduous and mixed forest,

- taiga (coniferous forest),

- tundra,

- ice desert.

5. Arrangement of landscape zones in the northern hemisphere

- worksheet - complete the drawing of landscape zones in the northern hemisphere

6. Group work - arrangement of landscape zones in the northern hemisphere,

- creating a teaching board based on the information learned in class

- on two Bristol boards (joined together), students draw the northern hemisphere (the bottom edge of the Bristol board is our equator), then describe the schematic drawing, mark: equator (bottom edge of the paper), Tropic of Cancer with a dashed line, further with a dashed line the Arctic Circle, and finally the North Pole (that point)

we use maps in the atlas (!) to avoid mistakes.

- on such a prepared background and using geographical information sources, students first prepare information, drawings,

graphic symbols (representing, for example, animals and plants) for each landscape zone

- then, individually or in small groups, they apply to Bristol, ensuring the correct sequence of landscape zones, materials prepared by themselves - drawing, pasting illustrations, describing characteristic elements of a given landscape,

- remember about aesthetic execution of work,

7. Description of climate zones - table and photographs

III. Summary.

1. Do you think people living in different climate zones have the same products in their daily diet, or do their diets have to be diversified? You are going on vacation with your parents, for example, to Egypt, where it is very hot. Is the menu in this country the same as in Poland? What is different?

2. Familiarize yourself with the articles: "Nutrition in Low Temperatures" and "What Do Explorers of the Poles and Highest Peaks Eat?"

- what interested you in these articles? ☺

Worksheet

1. Prepare: carrot, beetroot, parsley root, celery, and sweet potato.

- cut the vegetables in half and compare their appearances inside,

- taste and smell the vegetables,

2. With the sliced ​​vegetables, create a colorful picture (on thicker paper) entitled "Colors of Climate."

3. In the juice from boiled red beetroot, you can insert a branch with a white flower. After a few hours, the first signs of water conduction through the plant will be visible - the flower petals will start to change color.

- record the observation results in a notebook.

A similar experiment can be done with a cabbage leaf by immersing its bottom part in any color of food dye. ☺

Quiz - Climate zones and landscape zones around the world.

1. Name the illumination zones on Earth: (5 points)

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(answer: subtropical, 2 temperate zones, 2 polar zones).

2. The equator divides the globe into two hemispheres: (1 point)

- eastern and western,

- northern and southern,

- eastern and northern, - western and southern,

(answer: northern and southern)

3. Complete the sentence: (1 point)

Weather is ....

(answer: the atmospheric state in a specific place and time)

4. Name 4 components of climate: (4 points)

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- -

(answer: precipitation, temperature, wind, pressure, cloud cover)

5. The Tropic of Cancer is in the hemisphere: (1 point)

- southern,

- eastern, - northern, (answer: northern)

6. What information can we read from a climatogram? (1 point)

- temperature values and wind direction,

- temperature values and precipitation amount,

- precipitation amount and pressure value,

(answer: temperature and precipitation)

7. In which illumination zone does the tropical rainforest occur? (1 point)

- temperate,

- subtropical, - polar, (answer: subtropical)

8. Landscape zones have a layout: (1 point)

- meridional, - latitudinal, (answer: latitudinal)

9. Meridians indicate directions: (1 point)

- north-south, - east-west, (answer: north-south)

10. The South Pole occurs beyond the circle: (1 point)

- Arctic Circle,

- Antarctic Circle. (answer: Antarctic)