**Scenario**

**Subject: Natural Science/Biology**

**Target group: 5th-grade students**

**Topic: LAKE LANDSCAPE**

General aim

• Description of the characteristics of a lake landscape

Operational objectives

• Listing the names of terrain forms characteristic of lake landscapes

• Listing the names of the largest lakes in Poland

• Identifying the location of lake districts on a map

• Reading the content of a physical and landscape map

Lesson description

I. Introduction.

1. Administrative division of Poland – group work

- Polish voivodeships, worksheet, color the following voivodeships: Lubusz, West Pomeranian, Pomeranian, Greater Poland, Kuyavian-Pomeranian, Warmian-Masurian.

2. Experiment – glacier – terrain formation after glacier retreat

II. Development.

1. Glacier – last glaciation in Poland – excerpts from a film

- discussion on the previously conducted experiment,

ice destroying and building something, i.e., erosion and accumulation,

2. Introduction to post-glacial forms:

- frontal moraine hills, ground moraine areas,

erratic boulders, glacial troughs, glacial valleys, eskers,

drumlins, sandurs,

- article "Trygław Boulder"

3. Characteristics of the lake landscape:

- undulating terrain, lakes, post-glacial landscape (erratic boulders, ribbon lakes,

hills, hillocks), forests, meadows, agricultural areas, poor soils, poorly developed settlements,

4. A lake district is an area of lake accumulation. Lake districts are divided into

smaller units:

Pomeranian Lake District, Greater Poland Lake District, Masurian Lake District.

5. Experiment – Soil inhabitants - observation

- conclusions

- why is soil protection important?

6. The Land of the Great Masurian Lakes:

- natural values,

- tourist development

7. Working with lake district maps – marking lakes and towns in this region on a map, map orientation exercises

III. Summary.

1. Read from the landscape map of the Great Masurian Lakes what plants are cultivated and

what animals are bred in this region.

2. Green frog and fish - trivia.

3. Try drawing a frog

Independent work

Using various sources of information, list several landmarks worth seeing in Masuria.

Lake landscape

Pomeranian Lake District - Lake Jeziorak, Lake Drawsko, Lake Wdzydze

Wieżyca Hill 329 m above sea level

forests: Drawsko Primeval Forest, Tuchola Forests,

the least populated lake district, the most

forests and lakes (about 5 thousand).

Greater Poland Lake District - Lake Gopło, Lake Powidzkie, Lake Sławskie,

Notecka Primeval Forest, Tuchola Forests,

fewer lakes (about 1.5 thousand) and forests, more agricultural areas, flat terrain, poor soils.

Masurian Lake District - Lake Śniardwy, Lake Mamry, Lake Niegocin,

Lake Hańcza (the deepest, 109 m deep),

there are about 3 thousand lakes here,

Szeska Hill 309 m above sea level, Dylewska Hill 312 m

above sea level,

more meadows, pastures (cattle breeding), forests:

Piska Primeval Forest, Nidzica Primeval Forest, Augustów Primeval Forest,

best developed for tourism,

Cities of lake districts - Poznań, Bydgoszcz, Toruń, Olsztyn, Gorzów Wielkopolski,

Grudziądz, Piła, Suwałki - these cities are located in river valleys

Great Masurian Lakes - area around the largest lakes: Śniardwy

and Mamry;

- natural values: clean air, clean water in

lakes, dense forests, wild game,

- tourism: tourist resorts - Giżycko,

Mikołajki, Mrągowo, Węgorzewo,

Ruciane-Nida,

hotels, guesthouses, agritourism, bathing places,

gastronomic facilities, tourist equipment rentals,

excursion boats, kayaks (rafting), interesting sightseeing objects,

festivals,

Description of experiments

1. Experiment – glacier.

Prepare the ice for the experiment the day before:

Put a handful of various-sized stones and a handful of sand into a plastic bag, fill it with water so that there is a lot of water in the bag, tie the bag and put it in the freezer. On the day of the experiment, remove the foil from the ice, place it on a tray. Then slowly pour hot water onto the ice block - observe the glacier melting process, and also see how larger stone pieces (our erratic boulders) settle and what happens to the sand (sand ridges).

2. Experiment – animals in soil.

Using a shovel, put soil from the garden (meadows, orchard, forest) onto a sieve with small holes. Place the sieve a few centimeters above the table, place a white sheet of paper on the table under the sieve, place a desk lamp next to the sieve on the table, and turn it on for 10-15 minutes. While heating the soil, small insects will fall onto the paper because it will be too warm on the sieve. You can observe them through a magnifying glass, and after the experiment, take them out to the garden. They will be grateful.