

Erasmus+

## STUDY KIT FRAMEWORK

**Title:** Hudournik

**Topic:** field work with students

**Key words:** observing, orientation, tectonic fault, cell phone applications

**Subject:** geography, biology

**Cross-curricular Topic:** climate and biodiversity on the Vojsko plateau

**Level:** Medium

**Age:** 15-18

**Number of students:** 5-15

**Duration in minutes:** 70-90

**Place (classroom, outdoor etc.):** Outdoor

**Author:** Ester Mrak

**School:** Jurij Vega Grammar School Idrija

**Language:** English, Slovenian

**Overview:** Practical work in the field of geography and biology where participants learn about how various natural elements are interconnected.

### Objectives:

Participants will

- learn by doing,
- explore an important geological site,
- use simple cell phone applications,
- observe the relief above the Idrijca, the Kanomljica and the Hotenja rivers,
- understand the connection between endogenic and exogenous forces and relief shapes in the region,
- explain the connection between relief shapes and...
  - population density in the region,
  - vegetation,
  - river's network
- name several plants, growing on the Vojsko plateau,
- analyze the connection between altitude and vegetation.

### Learning material and tools:

Working sheet, cell phone, maps, text, vegetation book

### Preparation:

Activity participants should

- download the required applications on their cell phones,
- read the geological text about the Idrija fault,
- understand the basic geological & geographical terms such as *geological time scale, fault, tectonic plates, relief, limestone*.

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**Evaluation:** Participants make a terminological dictionary, containing new terms from the fields of geography and biology. The teacher checks that the participants have fully understood the topic.

**Extra material:**

Working sheet, cell phone applications: a compass, an altimeter and WIKILOC, maps (Idrija 1:50.000), a geological map (Tolmin sector), the geological text about the Idrija fault, a geological time scale, ...

**Detailed description/instructions:**

## HUDOURNIK-VOJSKO

- 1) Determine the latitude and longitude of the point where you are standing! Use GPS.

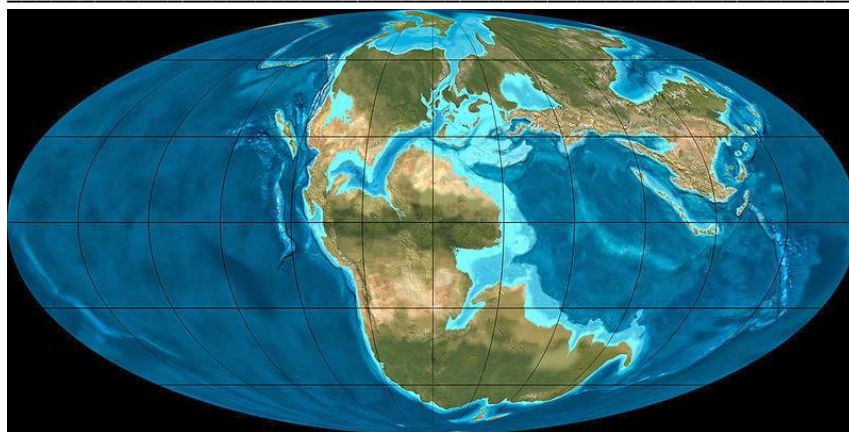
\_\_\_\_\_

The altitude of the Hudournik peak is \_\_\_\_\_

Observe the landscape around you and write down what the connections between the altitude, the latitude and the landscape are (relief, vegetation, agriculture orientation).

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- 2) Which rocks build the surface? Use the geological map. \_\_\_\_\_  
In what kind of environment were these rocks created? \_\_\_\_\_

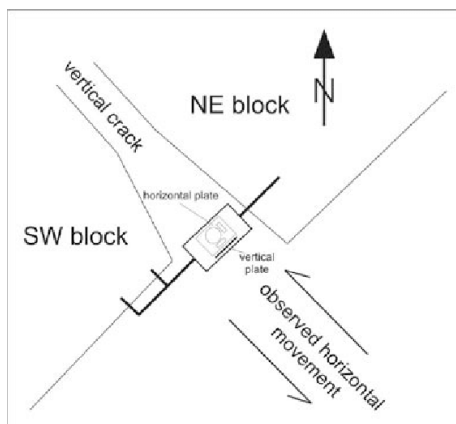
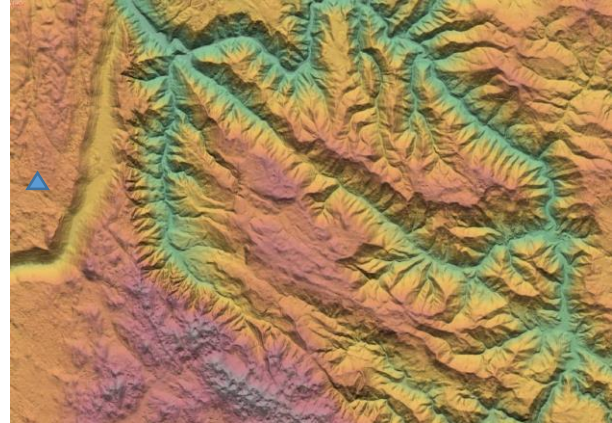


Jurassic Period

Despite the permeability of rocks, there are not many karst phenomena. Why?

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- 3) The Idrija fault; observe the region and try to find the line of the Idrija fault. Draw it on the map.



Name the rivers on the map:

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Describe your understanding of the term *fault*?

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The sketch of TM 71 installation on the crack in the Idrija fault zone with indication of observed displacement.

- 4) What landforms can you name?
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Which endogenic force is important? \_\_\_\_\_

What are the geomorphic processes that are involved in shaping the landscape? \_\_\_\_\_

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How are different elements in the given landscape connected by processes? \_\_\_\_\_

What has the human impact on the landscape been? \_\_\_\_\_

Can you understand how human and physical processes interact in the landscape? \_\_\_\_\_

How does the landscape make you feel? \_\_\_\_\_

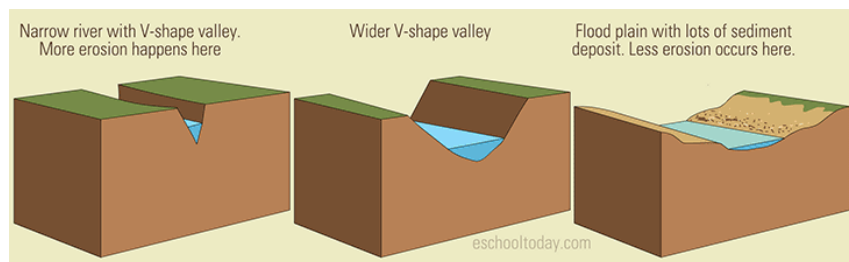
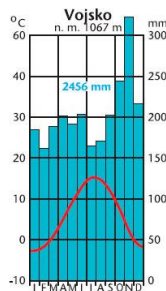
5) Think about sustainable development. How can the landscape in this area be preserved? \_\_\_\_\_

6) Vegetation in Vojsko; name at least three tree species: \_\_\_\_\_ and \_\_\_\_\_. Why is moose common on the plateau? \_\_\_\_\_

Would you say that the forest is bright or dark in the lower layers? Why? \_\_\_\_\_

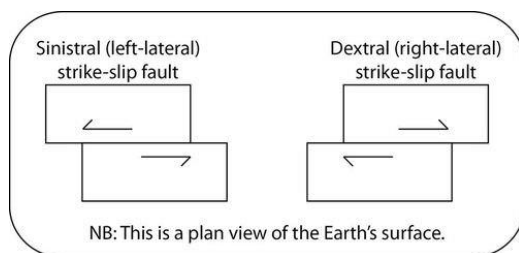
**Working material:**

<http://www.eschooltoday.com/>



**Idrija fault:** [https://en.wikipedia.org/wiki/Idrija\\_Fault](https://en.wikipedia.org/wiki/Idrija_Fault)

The Idrija Fault, Slovene: Idrijski prelom) is a seismically active fault in Slovenia. It strikes NW–SE and the fault plane dips towards the northeast. The activity along the fault started in the Miocene with normal faulting and changed to dextral strike-slip in Pliocene. The fault was first described by Marko Vincenc Lipold, a geologist from Slovenia.



Present displacement is measured and varies along strike but is in the order of magnitude of 0.1 mm per year. [The strongest earthquake along the Idrija Fault was the 1511 Western Slovenia earthquake (or 1511 Idrija earthquake), which took place on 26 March 1511, had a magnitude of 6.8, and caused about 12,000 deaths.