



## 2nd Swiss Finals

26 November 2016

### Fieldwork Exercise



There are 3 questions at 3 different locations in the „Mülenenschlucht“. You are given 20 minutes for each question. Your guide will take you to the next location.

It is forbidden to use electronic devices with internet access. You are allowed to use a calculator (without internet) and your ruler.

Student Name: .....

**1.) Location „Felsenstrasse“ (10 points)**



1.1) Estimate the height of the highest point of the rock face (Point A) by using the maps with the scale 1:5000 and 1:2500.

1.2) At the foot of the rock face there is the river Steinach. At what altitude has it cut into the rock?

1.3) About 20'000 years ago a glacier tongue blocked the Mülenenschlucht. After the glacier had melted away, the river Steinach created its own valley.

How many metres per year did the Steinach cut into the rock since the melting of the glacier?

Please note: Assume that the erosion the Steinach achieves is constantly the same.

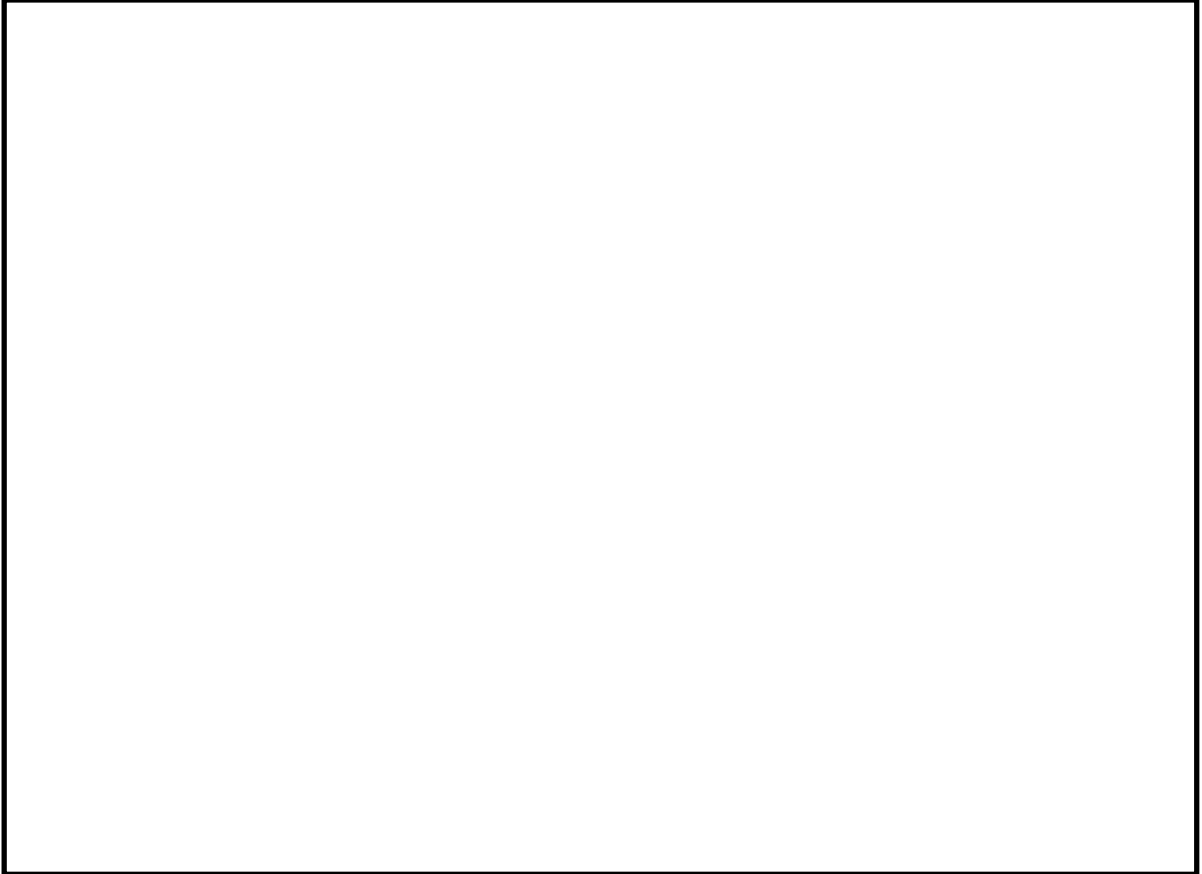
1.4) At the top of the mountain opposite you will see a big antenna. At what point of the compass does the antenna stand? (indicate the direction with the grades on the compass)

1.5) Make an estimate of the distance between you and the antenna. (linear distance)

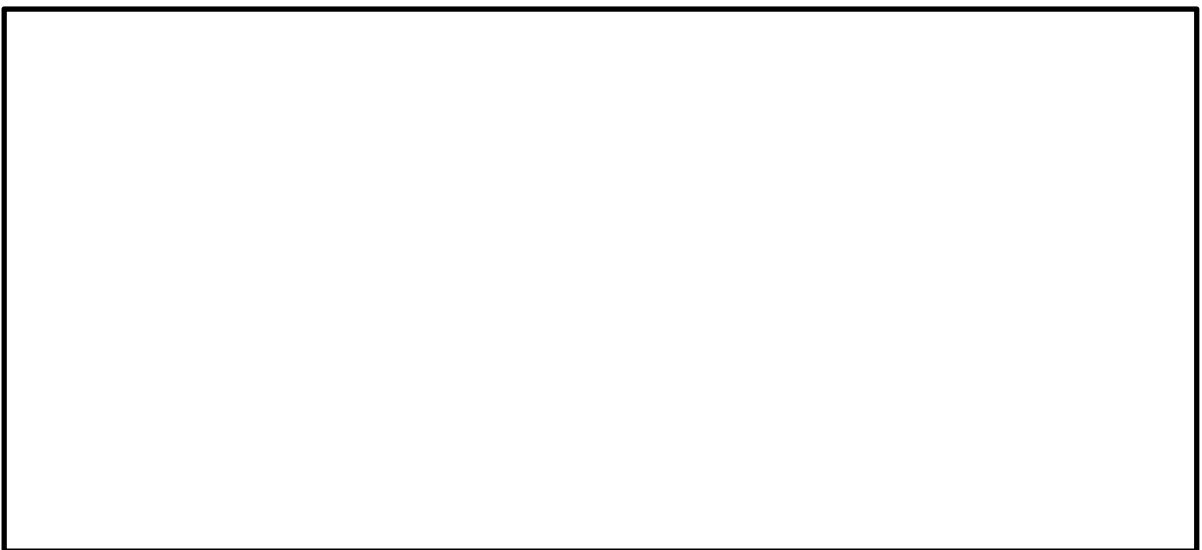
Student Name: .....

**2.) Location „Aufschluss“ (10 points)**

2.1) Make a sketch of the frontal view of the rock face.



2.2) Create your own short forms (legend) for the various geological layers, and make a list which makes clear what layer every short form refers to. Also, name the respective stone.



Student Name: .....

### 3.) Location Waterfall (10 points)



3.1) Draw a longitudinal profile along the river Steinach from A to B on graph paper (separate sheet).

3.2) In your longitudinal profile, indicate the areas where you suspect stony ground tending to resist erosion (separate sheet).

3.3) The Mühleggbähnli was built into this gorge. What slope (in %) does the Mühleggbähnli have to overcome?

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