

**LABORATORY PRACTICE LECTURE INSTRUCTIONS**  
**SOIL GEOGRAPHY COURSES**

Topic : Some of the physical , biological , and compositional characteristics of the soil

Learning Outcomes:

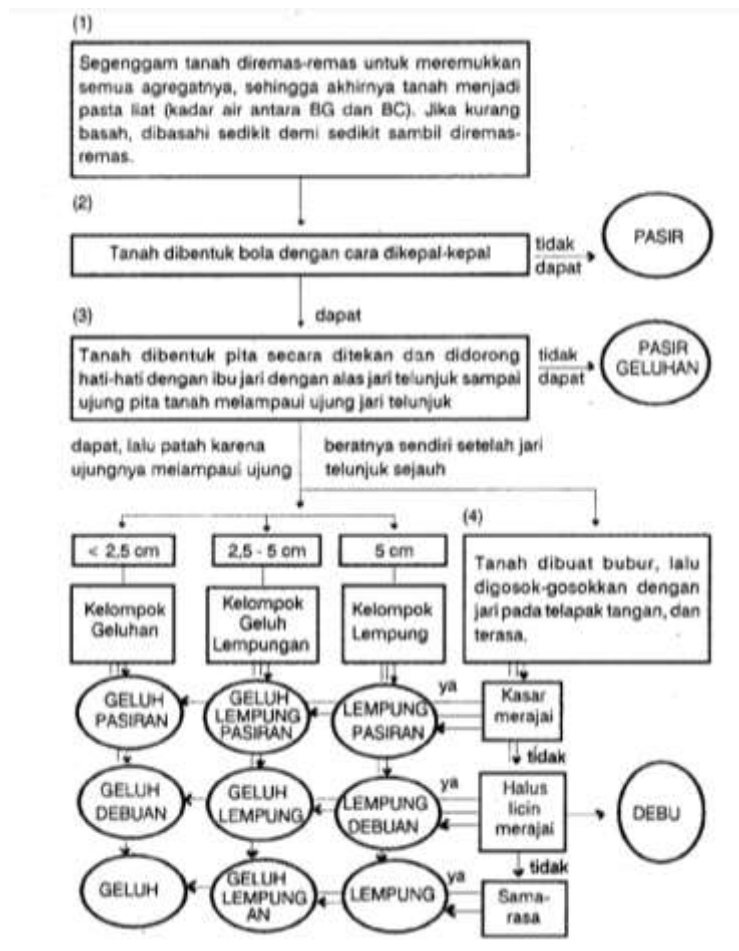
1. Understand the concept of land based on the practice of soil identification skills
2. Skilled in simple soil identification

**EVENT 1**

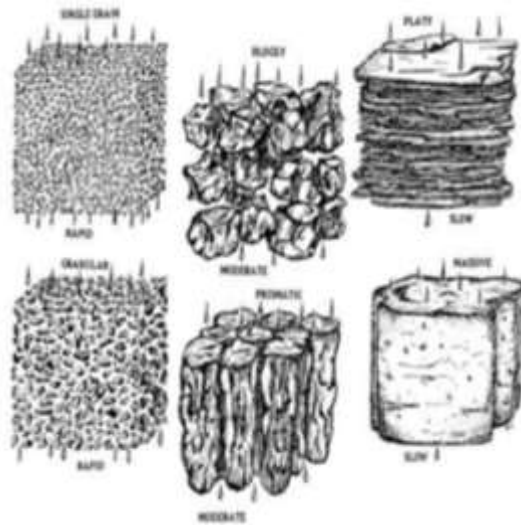
- a. Purpose : taking samples land in the field
  - b. Time : around the clock \_ ADVANCES
  - c. Tools and materials :
    1. print
    2. bag plastic
  - d. Procedures and stages work :
    1. Take a soil sample of approximately 50 g r at a depth of about 5 - 10 cm.
    2. Sampling locations are described based on administration, landform, slope position, and land use.
      - Administrative location: hamlet , village , sub- district , regency / city
      - Main landform\* : volcanic / fluvial / structural / danudational / karst / marine
      - Specific location\* : upslope / midslope / downslope / plain
      - Land use\* : paddy field / moor / mixed garden / yard
- Description \* : select one

## EVENT 2

- Purpose : Identify texture soil , structure land , as well soil consistency in circumstances wet, moist and dry
- Time : 2 x 45 minutes
- Method : Tactile Qualitative
- Tools and materials :
  - a quades
  - soil about 30 gr
- Procedures and stages work :
  - Identify the soil texture by following the procedure in the following figure !



- Identify the structure of the soil with the following steps :
  - grip a lump land , next sifted with how to throw low to top .
  - Chunk leftover land \_ at hand can compared with the following picture !



3. Identify the consistency of wet, moist and dry soil by following the following table procedure !

<b>BASAH</b>			
<b>Kelekatan</b>	Keadaan adesi tanah terhadap benda lain	<b>Plastisitas</b>	Kemampuan tanah diubah bentuk karena tekanan dan kembali ke semula
tidak lekat	Tidak ada tanah yang melekat pada ibu jari	tidak plastis <sup>0</sup>	Tidak dpt dibentuk seperti sosis panjang
agak lekat	Sebagian tanah masih melekat di salah satu jari	agak plastis	Dpt dibentuk seperti sosis panjang tapi mudah patah
lekat	Tanah masih melekat di kedua jari, cenderung kuat pada satu jari	plastis	Dpt dibentuk seperti sosis, perlu banyak tekanan utk merubah massa
sangat lekat	Tanah melekat kuat di kedua jari	sangat plastis	Dpt dibentuk seperti sosis, perlu banyak tekanan sangat kuat utk merubah massa
<b>LEMBAB</b>			
<b>Diamati saat tanah kering angin sampai kapasitas lapang</b>		<b>KERING</b>	
lepas <sup>2</sup>	Bahan tanah tidak mempat	lepas <sup>2</sup>	Massa tanah tidak terikat sama sekali
sangat gembur	Rusak dgn tekanan ringan tapi tnh agak gumpal	lunak	Massa tanah gembur dpt dibuat spt bedak
gembur	Rusak dgn tekanan ringan hingga sedang	agak keras	Mudah dipecah dengan jari
teguh	Rusak dng tekanan sedang	keras	Dipecah dengan jari tp pecahan melekat di jari
sangat teguh	Rusak dng tekanan kuat	sangat keras	Sulit dipecah, tidak ada yang melekat
luar biasa teguh	Rusak dng tekanan kuat menggunakan alat bantu	luar biasa keras	Rusak dng tekanan kuat menggunakan alat bantu

### EVENT 3

- Purpose : Identify pH, moisture content, organic matter , composition land
- Time : 2 x 45 minutes

c. Method : Measurement Quantitative

d. Tools and materials :

1. Electric open
2. Digital scales
3. earthen cup
4. glass erlemeyer
5. pH meters
6. a quades
7. soil about 30 gr

d. Procedures and stages work :

1. Identify the soil pH with the following steps:

- Enter the soil and add water to the glass erlemeyer .
- Glass erlemeyer closed and shaken until evenly distributed.
- Shut up about 1 minute
- Be measured with using a pH meter
- Measurement results noted

2. Perform the calculation **of moisture content** with the following steps :

- Weigh about 5 grams of natural soil so that the initial weight (a gram) is known.
- The soil is placed in a cup and dried in the sun until completely dry.
- Dry soil resulting from drying out was weighed again (b gr).
- Moisture content is determined by the following formula: **CI (%) = (ab) 100 /b**

3. Perform the calculation **of organic matter** with the following steps :

- Weigh about 5 grams of natural soil so that the initial weight (a gram) is known.
- Soil is placed in the cup, then in the oven for 24 hours .
- The remaining soil from burning after cleaning the ashes is weighed again (b gr).
- Organic matter is determined by the following formula: **BO (%) = (ab) 100 /a**

4. Composition land is known from the results of activity No. 8 and 9 compared to the pictures following .

