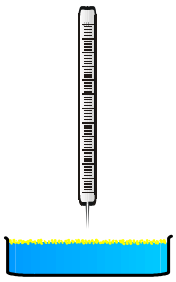
Datum:
Klasse:

The size of particles

Topic: **Oil drop experiment**

Materials: large glass dish, water, sulphur powder, buret with a solution of oleic acid in petrol, plastic foil, pen, ruler, beaker

Sketch:



Procedure: *step a:* Cover the surface of water with a thin layer of sulphur powder. Let **one** drop of a solution of oleic acid in petrol drop onto the middle of the sulphur surface. When the size of the oil stain does not change anymore cover the glass dish carefully with plastic foil (don´t shake it!). Copy the stain onto the foil with a pen and try to measure its area with a ruler.

step b: Take a beaker and let exactly 1 millilitre of the solution of oleic acid in petrol drop into it. Count the number of drops in 1 millilitre.

☞ Find a way of how to calculate the size of one particle of oleic acid !

Help:

- area that is covered by the oleic acid:
  A = _____cm^2
- volume of one drop of the solution:
  V (1 drop) = 1 cm^3 : number of drops in step b = _____ cm^3
- Volume of oleic acid in one drop of the solution = ?
- Height of the stain = height of a particle = ?

Vocabulary help:
buret: Bürette; *solution*: Lösung; *oleic acid*: Ölsäure; *surface*: Oberfläche; *layer*: Schicht; *oil stain*: Ölfleck; *area*: Fläche; *to measure*: (aus-)messen; *height*: Höhe.