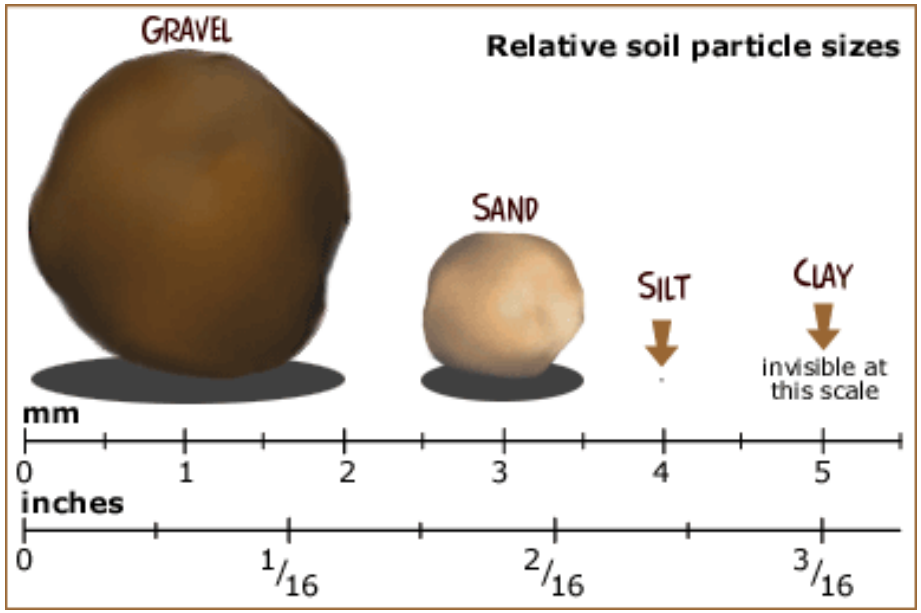
FLASH BACK

- We learnt about one property of soil

  - SOIL TEXTURE

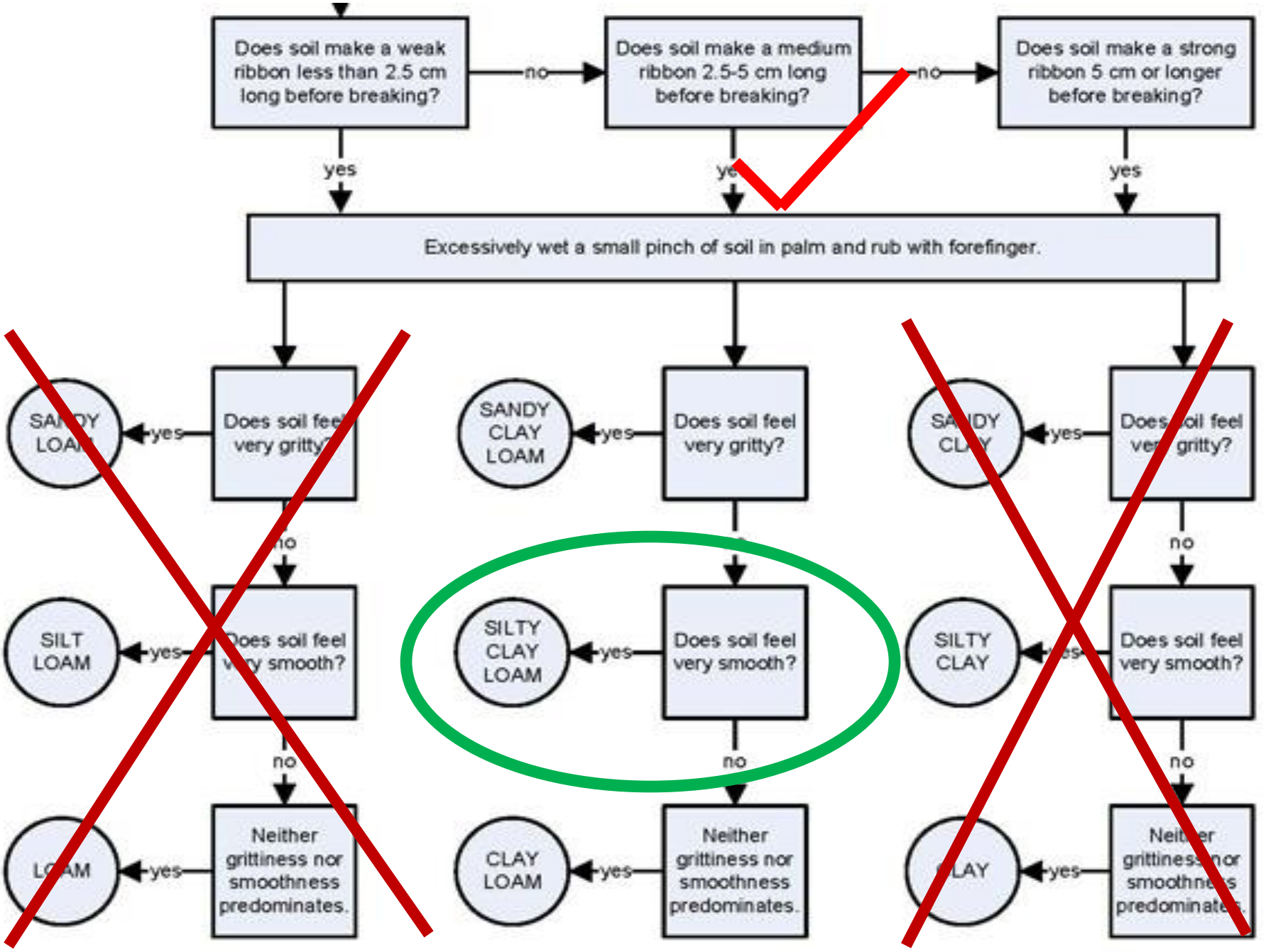
- Soil texture refers to the proportion of soil particles that make up soil.

  - SAND, SILT & CLAY



FLASH BACK

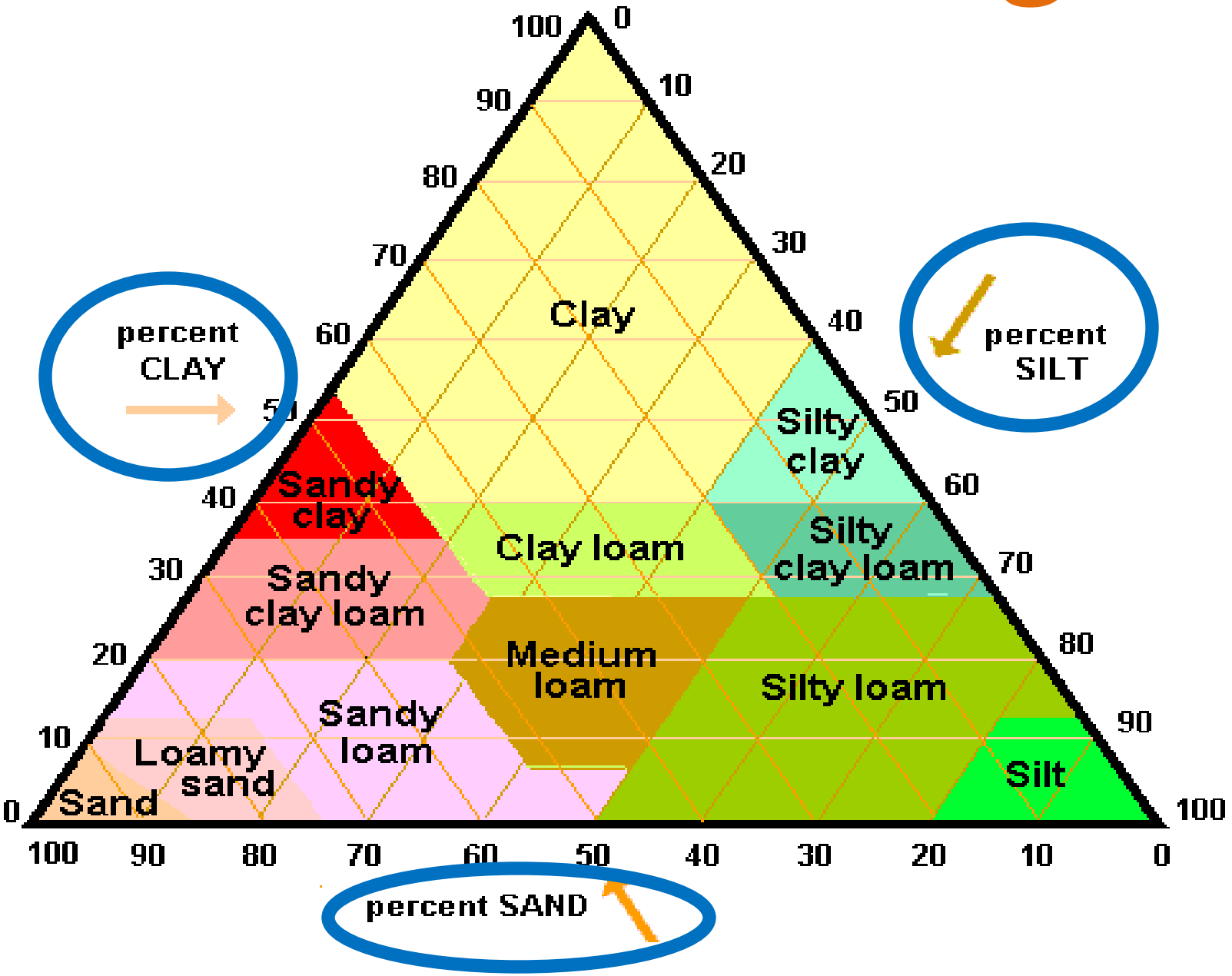
- We textured CV soil by hand and using the soil texture flow chart we determined that CV soil was most likely silty clay loam.


Does soil make a weak ribbon less than 2.5 cm long before breaking?
no
Does soil make a medium ribbon 2.5-5 cm long before breaking?
no
Does soil make a strong ribbon 5 cm or longer before breaking?
yes
yes
yes
Excessively wet a small pinch of soil in palm and rub with forefinger.
yes
Does soil feel very gritty?
SILT LOAM
yes
Does soil feel very smooth?
no
Neither grittiness nor smoothness predominates.
yes
SANDY CLAY LOAM
yes
Does soil feel very gritty?
SILTY CLAY LOAM
yes
Does soil feel very smooth?
no
CLAY LOAM
yes
Neither grittiness nor smoothness predominates.
yes
Does soil feel very gritty?
SILTY CLAY
yes
Does soil feel very smooth?
no
yes
Neither grittiness nor smoothness predominates.
no

FLASH BACK

- We textured CV soil by hand and using the soil texture flow chart we determined that CV soil was most likely silty clay loam.
- We also tried texturing the soil by sedimentation, that is putting the soil in the graduated cylinder, shaking it vigorously and letting it settle.

Soil texture triangle



- Height of sand layer / total soil layer * 100
  = **% of sand**
- Height of silt layer / total soil layer * 100
  = **% of silt**
- Height of clay layer / total soil layer * 100
  = **% of clay**

SO WHAT???

FOR TODAY...

- The different proportions of sand, silt and clay in soil have a huge effect on the way water enters (infiltrates), flows through (permeates) and gets retained in soil.
- Remember our BIG idea...??

THE BIG IDEA...

- Soil is a complex ecosystem that supports life at many different levels.
- The structure and properties of soil determine its function and ability to support life.
- We are looking at the interaction between different communities and abiotic factors within the same environment – in SOIL.
- **HOW DO THE PROPERTIES OF SOIL ALLLOW IT TO SUPPORT LIFE???**

FOR TODAY…

- The different proportions of sand, silt and clay in soil have a huge effect on the way water enters (infiltrates), flows through (permeates) and gets retained in soil.
- We will be measuring the soil moisture content and water holding capacity of CV soil.

- **Soil moisture content** –

  how much water is in the soil at this present moment

- **Soil water holding capacity** -

  how much water the soil could possibly hold

FOR TODAY…

To measure soil moisture content

- Step 1:

  Measure the mass of an EMPTY petri dish and RECORD it in your notebook.

- Step 2:

  Place a golf-ball sized amount of NEW soil in the petri dish and weigh the mass of that. RECORD the mass in your notebook.

- Step 3:

  Put your petri dishes in the oven.

FOR TODAY…

To measure soil water holding capacity

- Step 1:

  Measure the mass of an EMPTY petri dish and RECORD it in your notebook.

- Step 2:

  Place a golf-ball sized amount of soil in your petri dish and fill the petri dish with water to the brim.

- Step 3:

  Drain the water + soil onto the filter paper so that the water can filter through, leaving the soil behind.

FOR TODAY…

- Step 4:

  Put the soil back onto the petri dish and measure the mass of the soil + petri dish.

- Water movement in soil - https://www.youtube.com/watch?v=vmo0FRAVgkM
- Soil permeability – https://www.youtube.com/watch?v=39FfOa1gTX4
- Porosity and permeability - https://www.youtube.com/watch?v=LDf2sYxwAOg

WRAP-UP

- How does soil with higher percentage of sand affect the organisms that live in it?