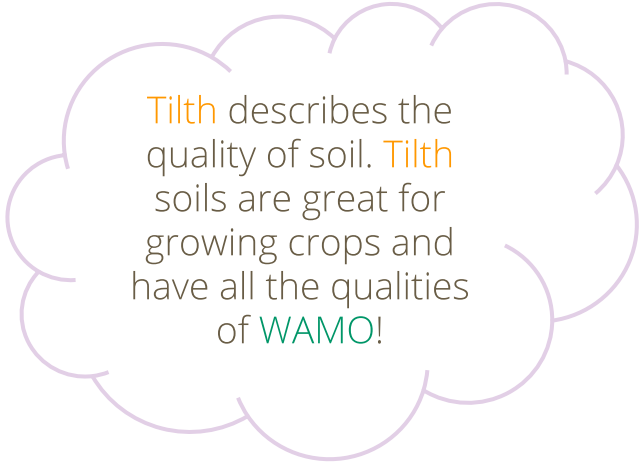

WAMO

WATER, AIR, MINERALS, AND ORGANIC MATTER

— WHAT MAKES UP OUR SOIL? —
WHY IS IT IMPORTANT?

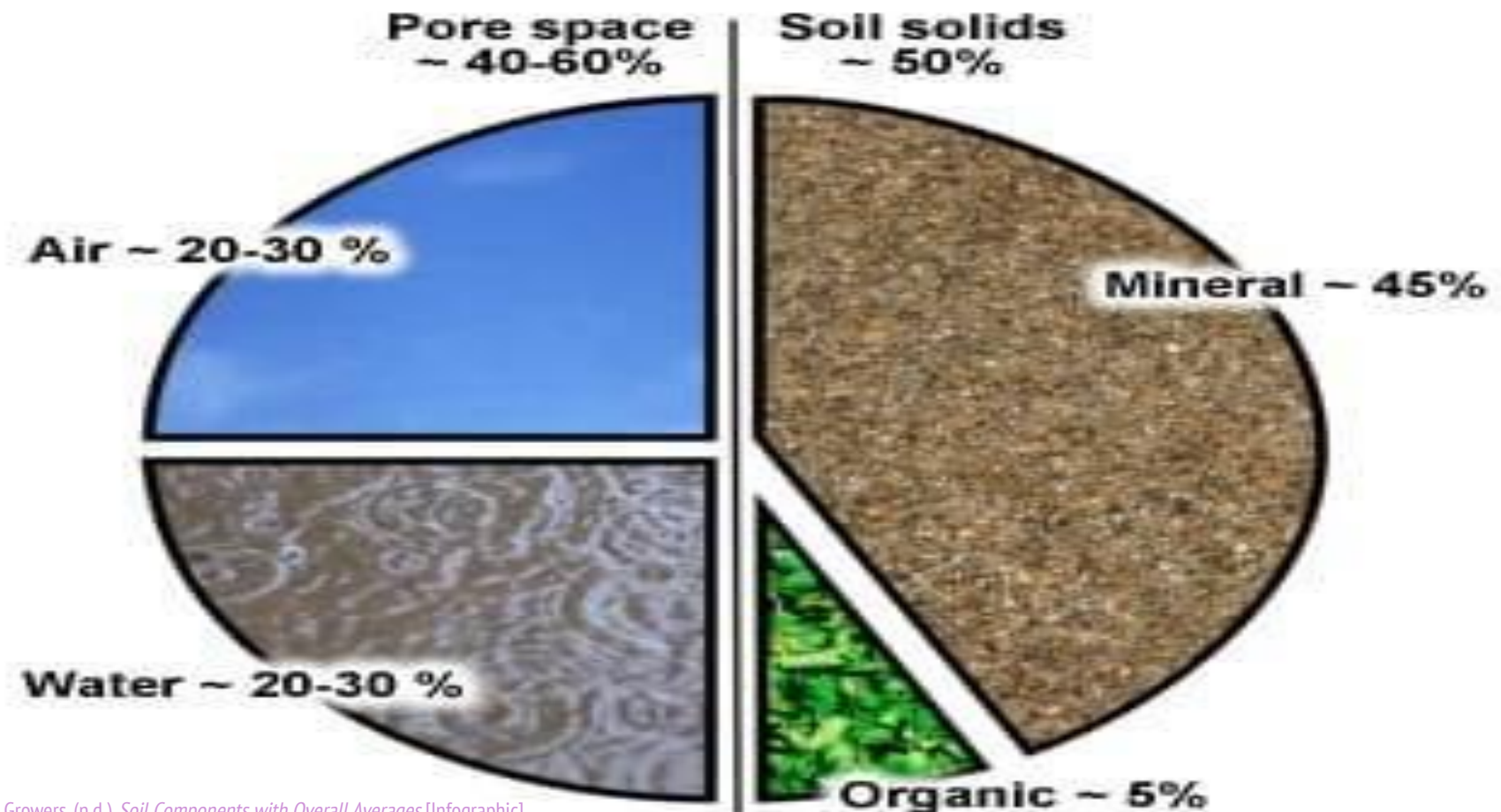
SOIL BACKGROUND

- Soil is the backbone of any garden.
 - It's a complex mixture of **W**ater, **A**ir, **M**inerals, and **O**rganic material (**WAMO**)
 - Good gardening soil is **tilth**-loamy, nutrient rich soil.
- There are 4 different types of soil:
 - Sand soil
 - Silt soil
 - Clay soil
 - Loam soil



Tilth describes the quality of soil. **Tilth** soils are great for growing crops and have all the qualities of **WAMO**!

Soil Components with Overall Averages



Sand Soil

- Sand has the largest particles of all the soil types.
 - This makes the particles very easy to see!
- It's made up of rocks and minerals.
- It's VERY porous.
 - **Porous** is a word that describes how much air and/or water can fit between the particles.



Aaron, J. (2010). Deer track in sandy soil 2 [Photograph]. Flickr. <https://www.flickr.com/photos/ajacklin/4901704724/>

Silt Soil

- Particles in silt soil are smaller than sand soil particles, but you can still see them!
- It's made up of soil and rock.
- Silt soil has more nutrients in it than sand soil.
- Silt soil is porous.



[Photograph of silt soil in hand]. Retrieved from <https://rashidfaridi.com/2016/03/04/silt-environmental-impact/>

Clay Soil

- Made up of very fine, small particles. Clay particles are so small you can't see them!
- It's not very porous.
- Clay soil is packed with nutrients!



←A picture of clay soil.

There's so many particles packed together in this clump of soil you can't see—and that make the soil heavy!

John, K. [Hand holding clay soil]. (2008). *Soil Science*. Retrieved from <https://www.flickr.com/photos/soilscience/5105272800/in/album-72157625214309644/>

Questions to Think About:

- How much water could clay soil hold?
 - Would a glass of water turn it into mud?
- Could a plant grow easily in clay soil or would it have a hard time?



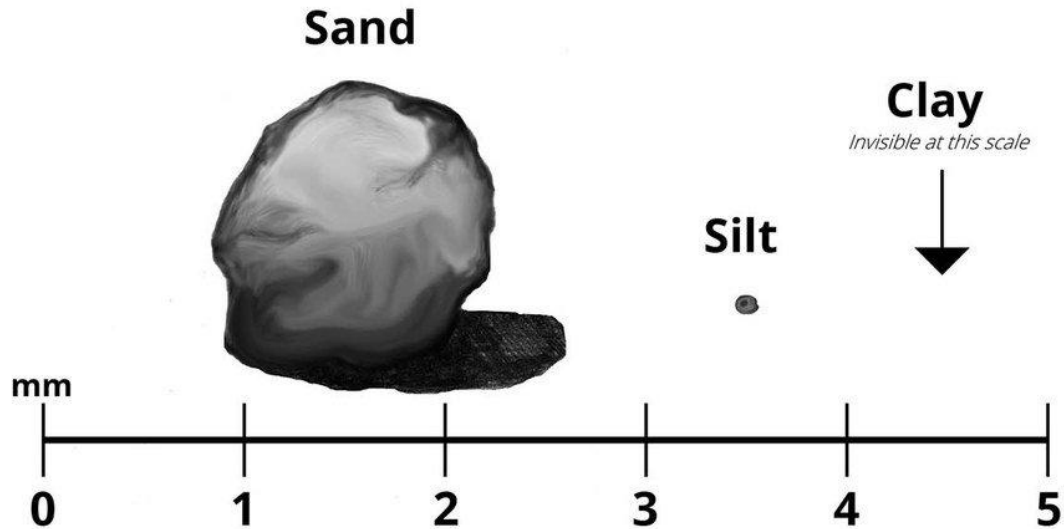
←A picture of dry clay soil.

If you started crumbling it, it would start looking like dust.... That dust is the small particles that make up clay soil!

[Hand holding dry clay soil]. (2015). *The University of Maine*. <https://extension.umaine.edu/gardening/2015/06/01/maine-home-garden-news-june-2015/>

Picture of Different Particle Sizes

Relative Soil Particle Size



Loam Soil

- A mixture of sand, silt, and clay soil.
- It's a very dark brown color because there's a lot of organic material in it!
- Loam soil is great for gardening!

Questions to Think About:

- Why do you think loam soil great for gardening?
 - Hint: Consider what loam soil is made up of.
- In the picture, what do you see that looks like organic matter?
 - Hint: What *doesn't* look like dirt?



John, K. [Hands holding loam soil]. (2007). *Soil Science*. Retrieved from <https://www.flickr.com/photos/soilscience/5094908048/in/album-72157625214309644/>

Activities

- Click [here](#) to get to play with some soil! You'll see how different parts of the soil separate in water.
- After you complete the activity, what type of soil do you think there will be the most of? Why?

