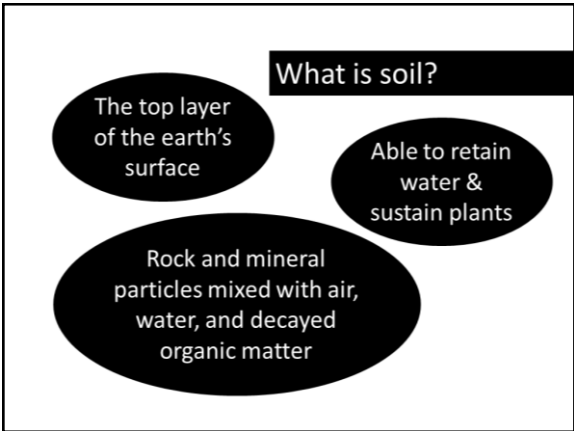


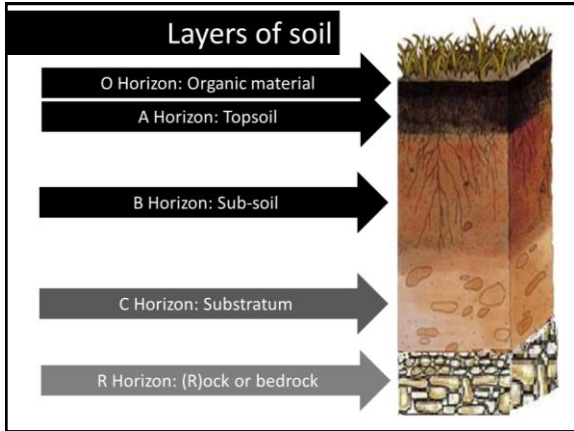
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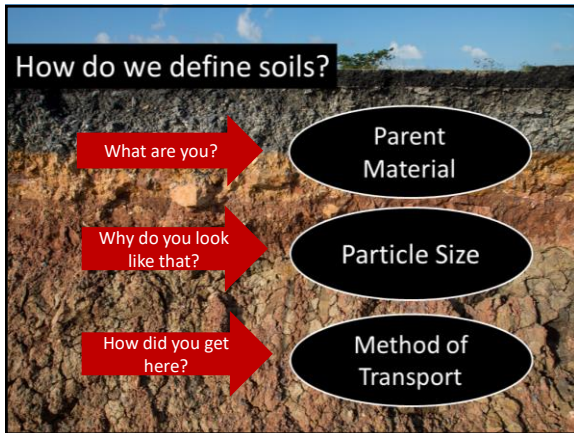
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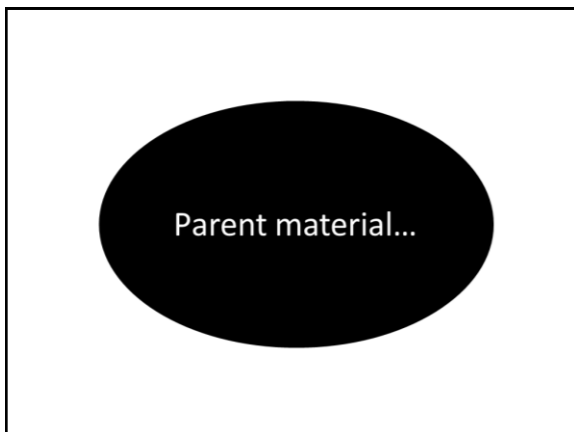
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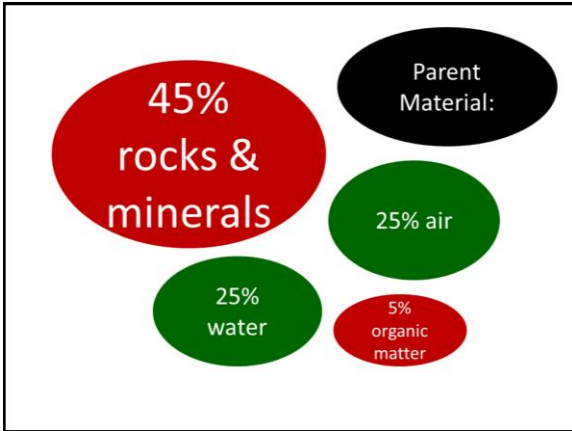
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6



7

Minerals

Like all matter, minerals are composed of elements.

THE PERIODIC TABLE OF THE ELEMENTS

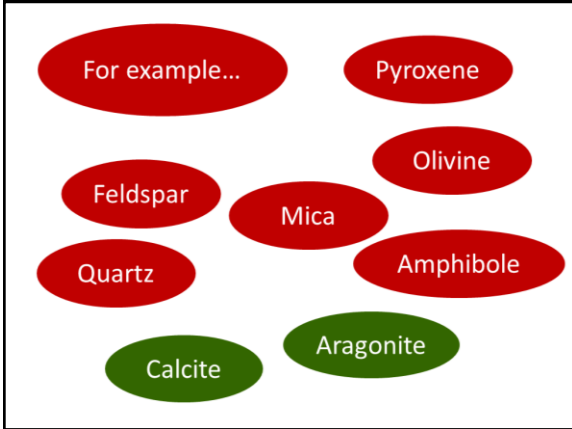
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Minerals

The "building blocks" for rocks.

- Inorganic
- Natural
- Specific chemical structure
- Crystalline structure

9



10



11



12

Rocks

Composed of minerals

13



14

Rocks

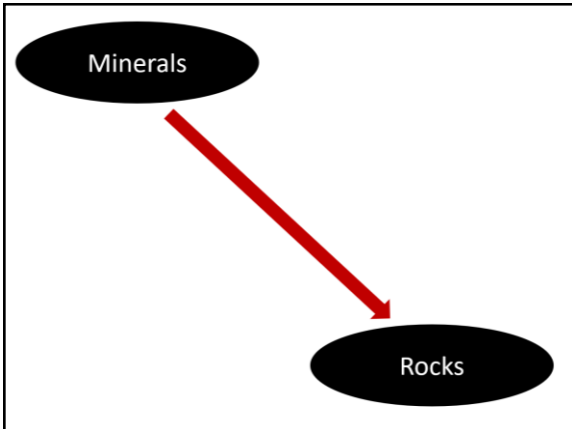
Composed of minerals

- Naturally occurring
- Do not have a specific or common structure
- Differentiated by mineral composition and texture

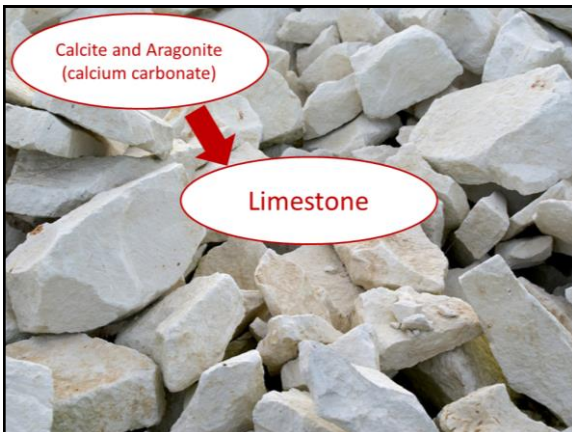
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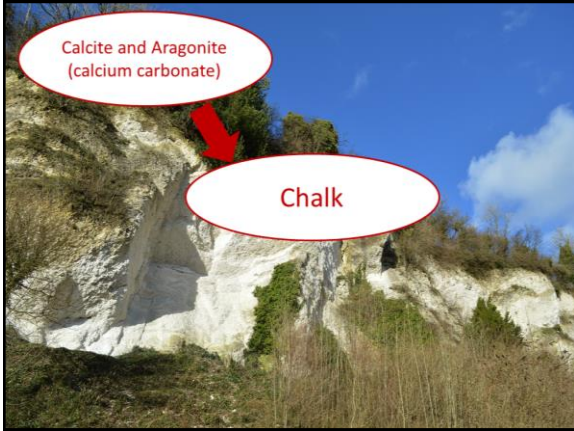
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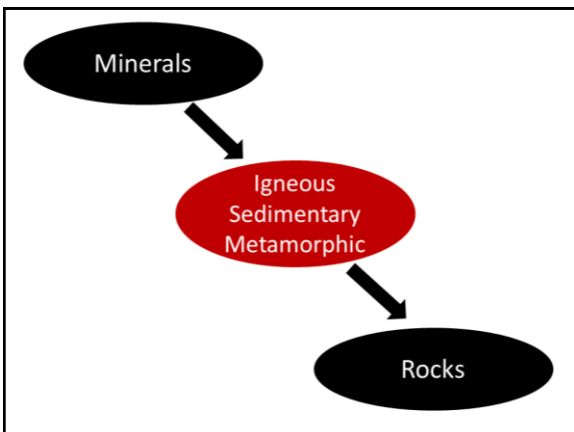
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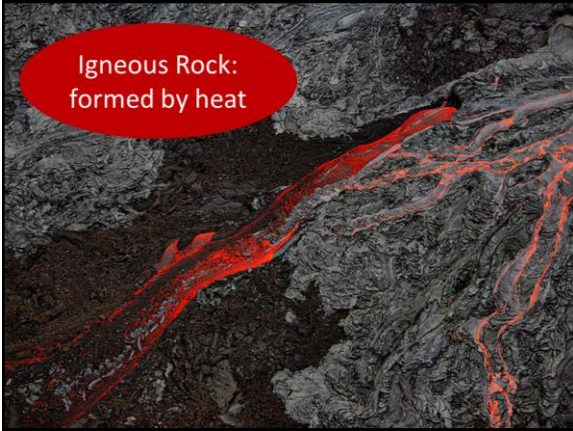
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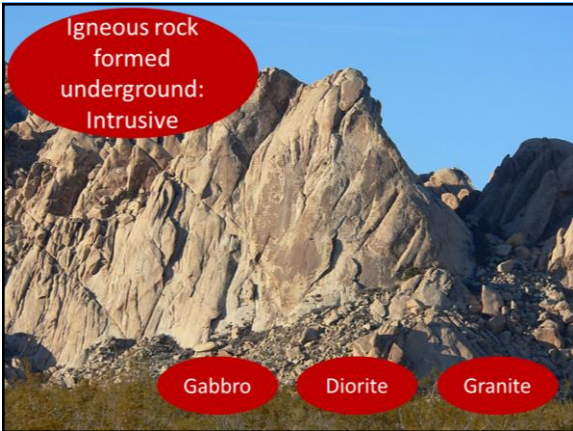
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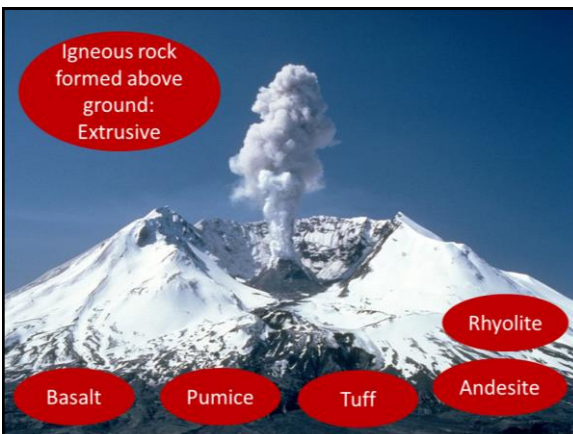
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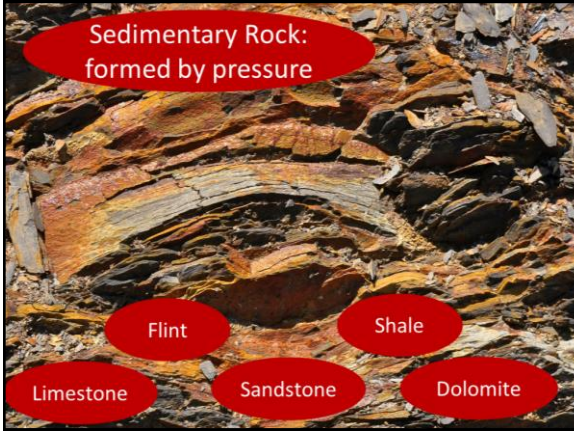
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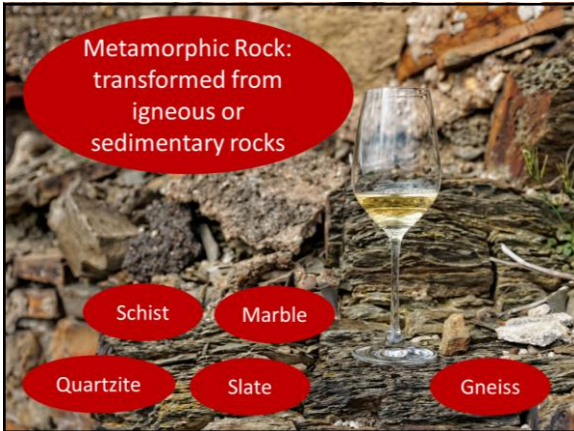
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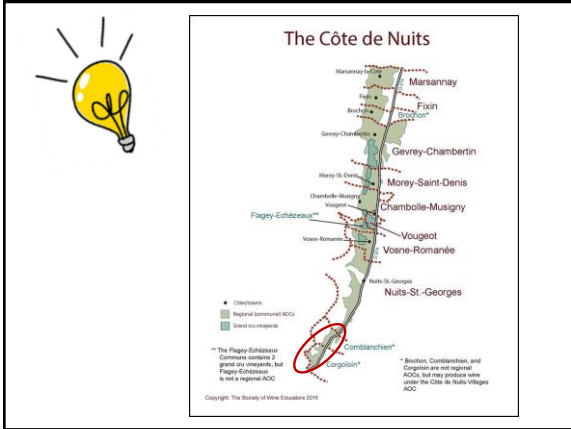
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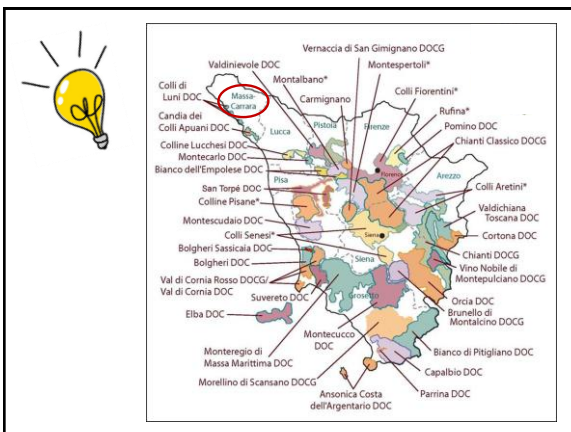
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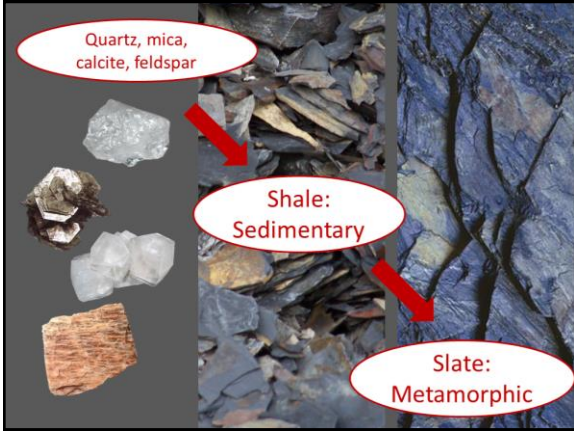
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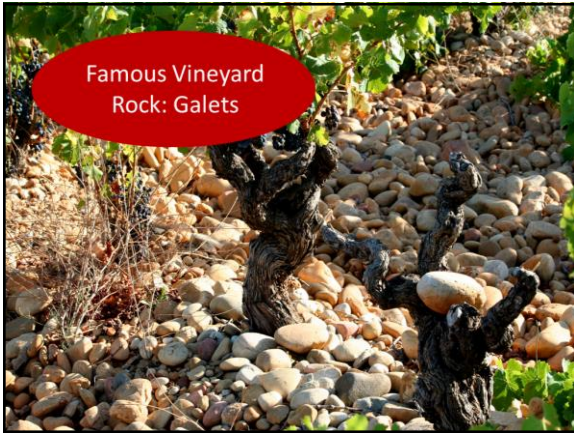
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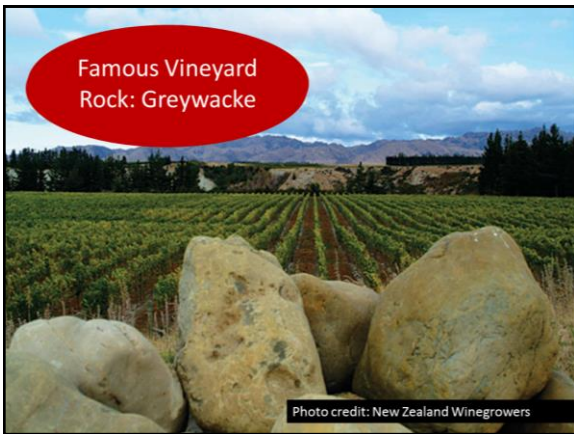
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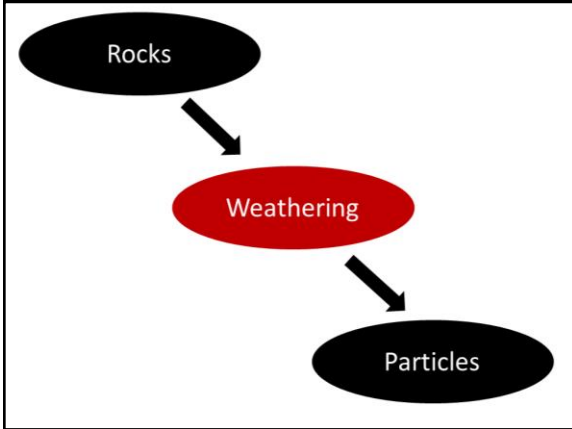
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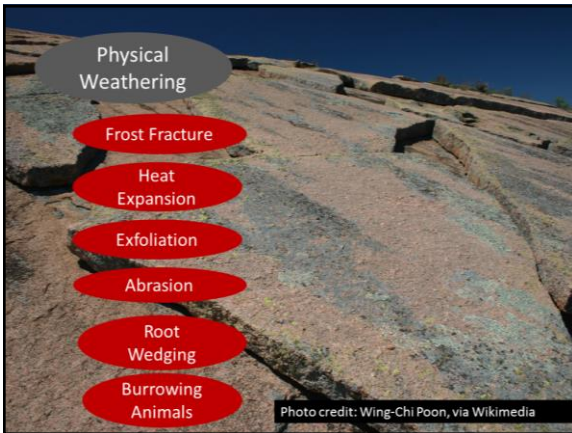
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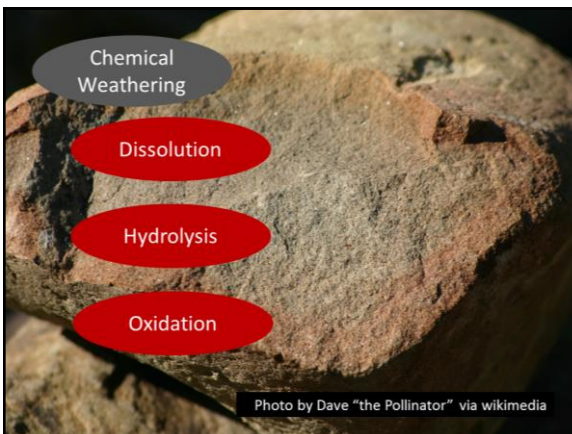
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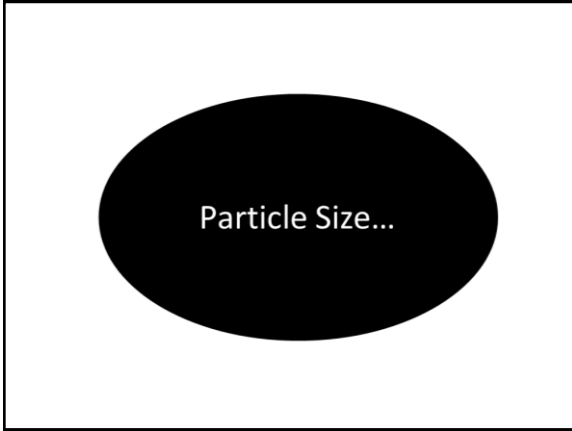
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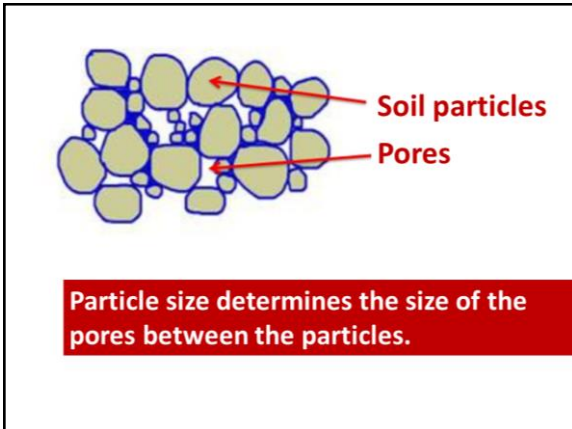
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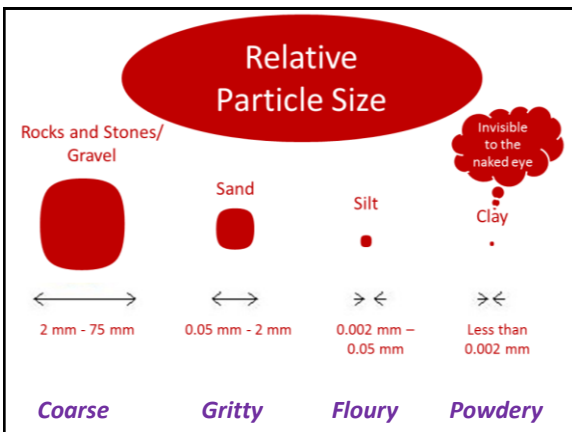
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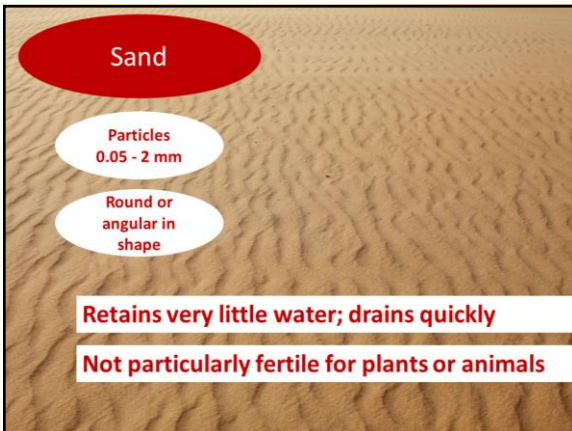
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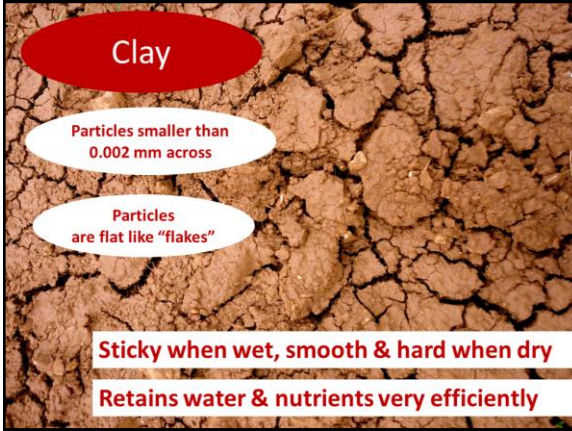
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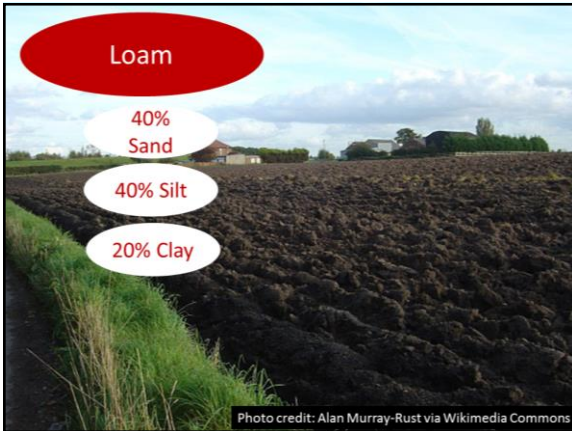
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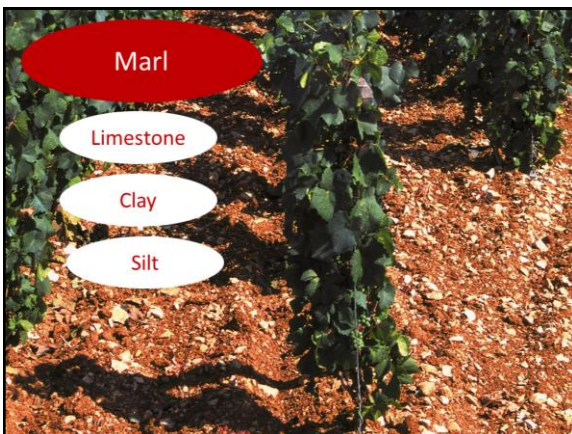
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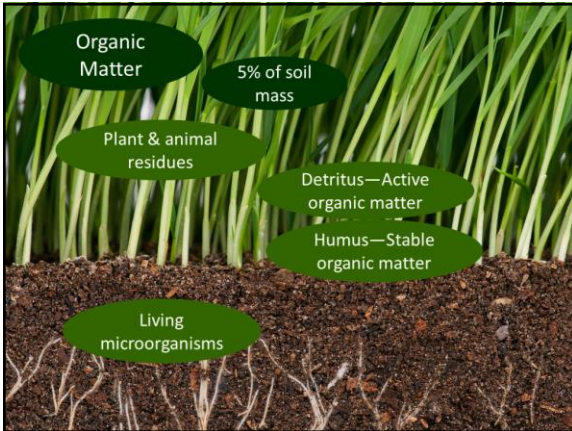
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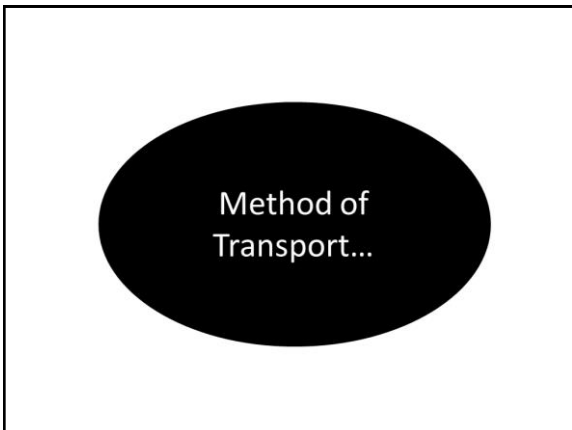
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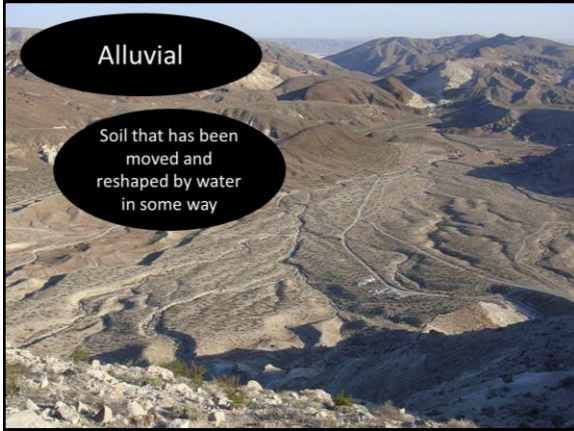
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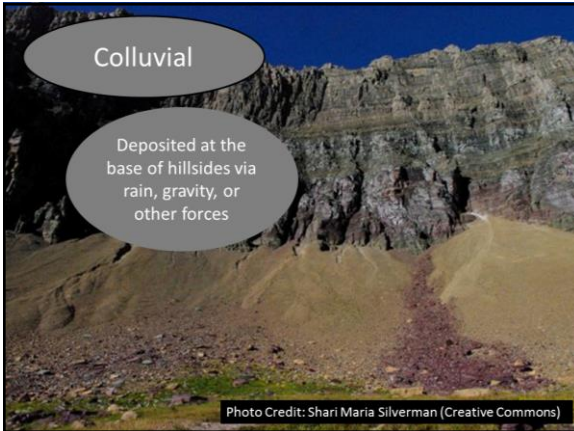
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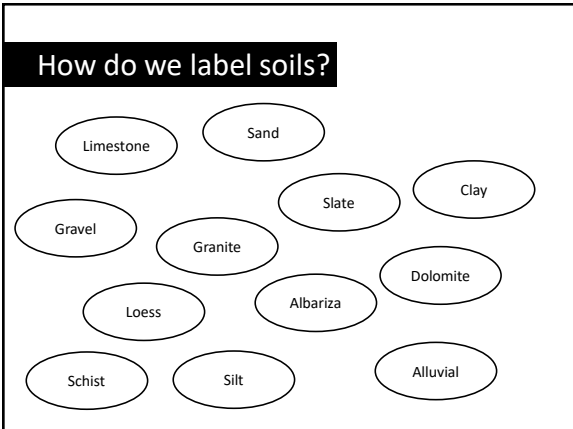
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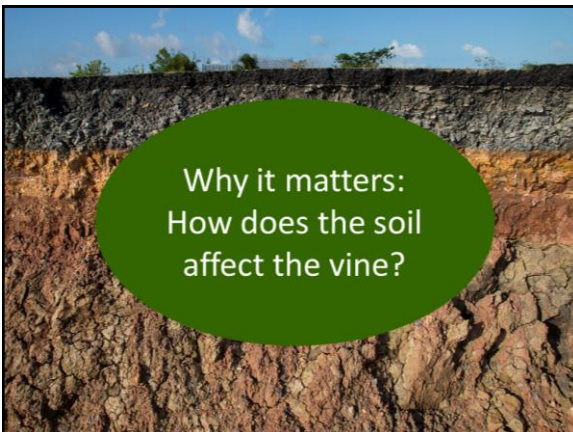
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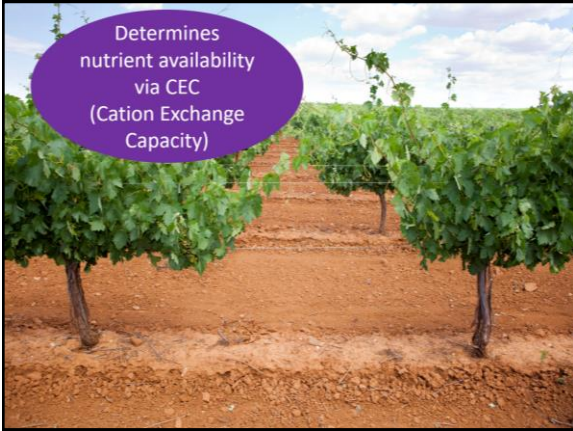
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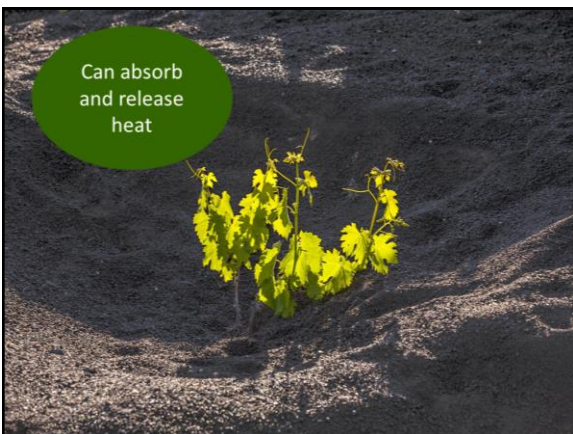
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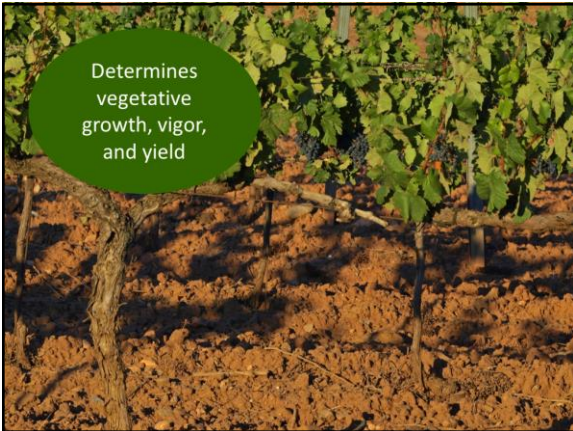
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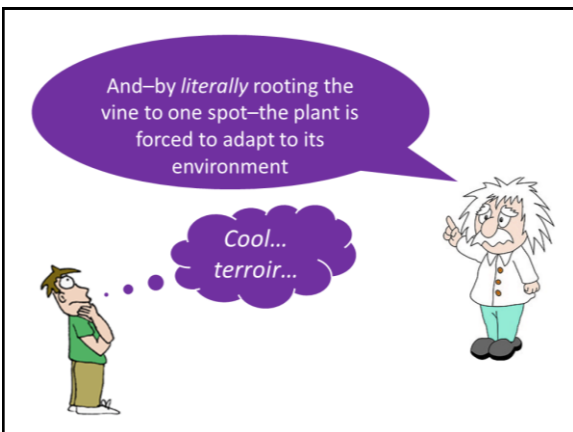
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The Dish on Dirt
with Jane A. Nickles, CSE, CWE

References/for more information:

- Feiring, Alice (2017). *The Dirty Guide to Wine*. New York: The Countryman Press.
- Franzmeier, Donald, William McFee, John Graveel, and Helmut Kohnke (2016). *Soil Science Simplified*, 5th edition. Long Grove, Illinois: Waveland Press.
- Goode, Jamie (2014). *The Science of Wine from Vine to Glass*, 2nd edition. Los Angeles: University of California Press.
- Skelton, Stephen (2007). *Viticulture: An Introduction to Commercial Grape Growing for Wine Production*. London: Stephen Skelton, MS.
- White, Robert (2009). *Understanding Vineyard Soils*. Oxford University Press.
- Wilson, James (1998). *Terroir: The Role of Geology, Climate, and Culture in the Making of French Wines*. South San Francisco: The Wine Appreciation Guild.
- USDA Soil Survey/National Resources Conservation Service:
<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/survey/>
- Soil Science Society of America: <https://www.soils.org/>
- Soil: National Geographic Magazine. Originally published September 2008. Retrieved on May 10, 2016:
<http://ngm.nationalgeographic.com/2008/09/soil/mann-text>
- From the Ground Up: The Science of Soil: <http://www.thescienceofsoil.com/>

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