



Soil Safari - Let's Dig! (8+)

Discover What Makes Great Garden Soil!

Get ready to become a soil scientist! You'll compare different soil samples to understand what plants need to grow their best. Good soil is the secret to a thriving garden!



What You'll Need:

Supplies:

- 2 bowls or buckets for collecting
- Small shovel or large spoon
- This adventure sheet or notebook
- Pencil or pen
- Magnifying glass (optional)
- pH test strips (optional but fun!)
- N-P-K soil test kit (optional for advanced testing)
- A grown-up or digging buddy

What to Do:

Find soil from (at least) **two different locations**:

1.  **From your existing garden** or where you want your garden to be – if you have an in-ground space and raised beds you may find yourself taking a few samples – so bring extra paper.
 2.  **From another spot** where grass, wild plants, or nothing is growing
- Dig samples:** Collect from about 2-4 inches deep
 - Use all your senses:** Feel the texture, examine the color, smell the earth
 - Hunt for life:** Look for worms, bugs, and other soil creatures
 - Compare quality:** Which soil feels more "alive" and ready for planting?
 - Test if you can:** Try pH and nutrient testing for extra science fun!
 - Fill out the following to keep a record of your findings!**



Welcome, Soil Scientist!

Researcher Name: _____ Date: _____ Weather: _____

Collection Location(s) 1 (Garden/Future Garden): _____

Collection Location 2 (Other Spot): _____

Sample Collection & First Impressions

Sample A (Garden/Future Garden Soil)

Collection depth: Surface (0-1") Shallow (1-3") Medium (3-6") Deep (6"+)

What was growing there? _____

First visual impression: _____

Sample B (Garden/Future Garden Soil)

Collection depth: Surface (0-1") Shallow (1-3") Medium (3-6") Deep (6"+)

What was growing there? _____

First visual impression: _____

Sample C (Other Location Soil)

Collection depth: Surface (0-1") Shallow (1-3") Medium (3-6") Deep (6"+)

What was growing there? _____

First visual impression: _____



👁️ Physical Analysis

Sample A (Garden/Future Garden) - Texture & Feel

Texture when dry: Crumbly Compact Large chunks Mulchy

Other: _____

Texture when slightly damp: Holds together Falls apart Sticky Gritty

Other: _____

Color: Dark brown/black Medium brown Light brown Red/clay Pale/gray

Other: _____

Smell: Rich earthy smell Sweet/fresh Musty Sour No smell

Other: _____

Overall feel: Alive and rich Decent Poor/lifeless

Sample B (Garden/Future Garden) - Texture & Feel

Texture when dry: Crumbly Compact Large chunks Mulchy

Other: _____

Texture when slightly damp: Holds together Falls apart Sticky Gritty

Other: _____

Color: Dark brown/black Medium brown Light brown Red/clay Pale/gray

Other: _____

Smell: Rich earthy smell Sweet/fresh Musty Sour No smell

Other: _____

Overall feel: Alive and rich Decent Poor/lifeless



Sample C (Garden/Future Garden) - Texture & Feel

Texture when dry: Crumbly Compact Large chunks Mulchy

Other: _____

Texture when slightly damp: Holds together Falls apart Sticky Gritty

Other: _____

Color: Dark brown/black Medium brown Light brown Red/clay Pale/gray

Other: _____

Smell: Rich earthy smell Sweet/fresh Musty Sour No smell

Other: _____

Overall feel: Alive and rich Decent Poor/lifeless\

Life in the Soil

Sample A (Garden/Future Garden) - Living Creatures

Did you find worms? Yes - How many? ____ No

Other bugs or creatures found: _____

Roots or plant material? Yes - lots Yes - some No

Signs of life (holes, tunnels, etc.): Yes No

Description: _____

Sample B (Garden/Future Garden) - Living Creatures

Did you find worms? Yes - How many? ____ No

Other bugs or creatures found: _____



Roots or plant material? Yes - lots Yes - some No

Signs of life (holes, tunnels, etc.): Yes No

Description: _____

Sample C (Other Location) - Living Creatures

Did you find worms? Yes - How many? ____ No

Other bugs or creatures found: _____

Roots or plant material? Yes - lots Yes - some No

Signs of life (holes, tunnels, etc.): Yes No

Description: _____

Optional Testing (If you have test kits)

Sample A - Chemical Analysis

pH Level: _____ (Acidic: 0-6, Neutral: 7, Basic: 8-14)

Nitrogen (N): Low Medium High

Phosphorus (P): Low Medium High

Potassium (K): Low Medium High

Sample B - Chemical Analysis

pH Level: _____ (Acidic: 0-6, Neutral: 7, Basic: 8-14)

Nitrogen (N): Low Medium High



Phosphorus (P): Low Medium High

Potassium (K): Low Medium High

Sample C - Chemical Analysis

pH Level: _____ (Acidic: 0-6, Neutral: 7, Basic: 8-14)

Nitrogen (N): Low Medium High

Phosphorus (P): Low Medium High

Potassium (K): Low Medium High

Soil Quality Comparison

Which soil felt more alive? Sample A Sample B Sample C

Which had better texture for planting? Sample A Sample B Sample C

Which had more living creatures? Sample A Sample B Sample C

Which had better color? Sample A Sample B Sample C

Which smelled more earthy/healthy? Sample A Sample B Sample C



Gardening Insights

Which soil would be better for planting seeds? Sample A Sample B Sample C

Why do you think so? _____

What would you need to do to improve the poorer soil?

- Add compost/organic matter
- Add fertilizer
- Break up compacted areas
- Improve drainage
- Adjust pH
- Other: _____

Did either soil feel too chunky for seeds to grow well? Sample A Sample B Neither

What surprised you most about this soil comparison?

Based on this test, what will you do differently in your garden?

Questions for future soil investigations: