What’s the Scoop on Soil?

It’s easy to forget about soil. You have to look down on the ground to see it. Even then, soil may not seem to do very much. But there’s more to soil than you might think. It isn’t just dirt that gets on your shoes.

Trees and plants need soil to grow. Very few fruits, vegetables and grains would live without it. Many animals need soil, too. They eat the plants that grow in it. Some animals even live in the soil. Can you imagine a world without soil?

Most soil comes from rocks. Over many years, weather causes rocks to break apart. The pieces get smaller and smaller as time goes on. Soil forms when bits of rock mix with things like dead leaves and dead bugs.

The soil in Arizona, on the left, looks different from the soil from Texas, on the right. Credit: GLOBE

Not all soil is the same. Soil comes in many colors. Some soil looks and feels different than other soil. The color and feel of soil often changes as you dig deeper into the ground. You can learn a lot by seeing and touching soil. In a way, soil is like a secret decoder.

The color of soil can sometimes tell you where you are. For example, red soil can be found in Arizona. Grey soil can be found in Nevada. Black soil can be found in Texas. Water also affects the color of soil. Wet soil is usually darker than dry soil.

The feel of soil can tell you about its ingredients. Soil contains different amounts of sand, silt and clay. Soil in a forest might be gritty, which means more sand. Soil in a meadow might be smooth, which means more silt. Soil in a garden might be sticky, which means more clay.

Did you know that squeezing soil can tell you about the weather? If soil crumbles between your fingers, then the weather has probably been dry. If soil is wet and sticky—yuck!—then it might have rained not too long ago.

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Words that could be defined for students are in bold.
The passage explains all aspects of soil EXCEPT

A  what it feels like
B  how much sand is in it
C  what it smells like
D  what lives in it

Key: C

**Aligned CCLS:** RI.3.1; additional standards may be added after further development.

**Commentary:** This question aligns with RL.3.1 because it asks students to answer a question based on details from the text.

**Rationale:** Option C is correct. The passage does not discuss the way soil smells.
According to the text and photos in the passage, what do the photos show about the difference in the soils from Arizona and Texas?

A  The soils are different depths.
B  The soils are different colors.
C  The soils have different plants.
D  The soils have different ages.

Key: B

Aligned CCLS: RI.3.7

Commentary: This question aligns with RI.3.7 because it asks students to use illustrations and words to demonstrate understanding of a text.

Rationale: Option B is correct. The photos show the different colors of the soils in Texas and Arizona, which is supported by the text.
Read these two sentences from paragraph 5:

“ Soil in a forest might be gritty, which means more sand. ”

“ Soil in a meadow might be smooth, which means more silt. ”

Which of the following describes the relationship between these two sentences?

A The sentences make a comparison.
B The sentences describe two steps in a process.
C The first sentence explains the reason for the second.
D The second sentence gives the cause of the first.

Key: A

Aligned CCLS: RI.3.8

Commentary: The question aligns to CCLS RI.3.8. The question asks students to describe the logical connection between two sentences in the text.

Rationale: Option A is correct as the two sentences, put together, present a comparison.
According to the passage, by squeezing soil, you can tell if

A  it has been raining
B  there are animals living in it
C  someone has been playing with it
D  it comes from Arizona or Texas

Key: A

Aligned CCLS: RL.3.1; additional standards may be added after further development.

Commentary: This question aligns with RI.3.1 because it asks students to answer a question based on details from the text.

Rationale: Option A is correct. The passage claims you can tell if it has recently rained by squeezing the soil.
Read this sentence from paragraph 6 of the passage:

“If soil *crumbles* between your fingers, then the weather has probably been dry.”

Based on the text, the word *crumbles* means

A. softens  
B. itches  
C. washes away  
D. falls apart

**Key:** D

**Aligned CCLS:** RI.3.4

**Commentary:** This question aligns with RI.3.4 because it asks students to determine the meaning of a word used in text.

**Rationale:** Option D is correct.