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## **EROSION SCIENCE EXPERIMENT WITH GRASS**

Name:

Date:

#### **Does Grass Help Prevent the Erosion From Water?**

Erosion is the slow process by which the earth is worn away. This is due to forces like wind and waves. Erosion's damage doesn't happen all at once. Erosion happens little by little, over time.

One element that contributes greatly to erosion is rain. Whether it's a steady drizzle or a major downpour, rain can do a lot of damage. The damage happens a couple different ways. It happens when the rain is coming down and striking the earth. It also happens when fallen rainwater runs across the ground looking for drainage. The looser the soil is, the more likely the soil is to get washed away. So, what helps slow the forces of soil erosion?

One of the things that binds together all different kinds of land is root systems. The big and small tendrils stretching out from plants help hold the soil in place. What's even better than a single root system? Lots of them!

That's why planted grasses are so helpful for erosion prevention. Grasses have soft stems. These are better for binding than woody stems. They also have fibrous roots. They spread out in all directions. More importantly, every blade of grass has its *own* root system. These multiple root systems mean *more* binding overall. All that grassy groundcover means something else, too. It means more protection *above* the soil to deflect rain and help it run off elsewhere for drainage.

So, planted grass is best for erosion prevention. It helps bind the soil. However, even cut grass – or dead leaves, wood chips, or anything else – is helpful for erosion control, too. Anything that helps protect from the rain's impact, or helps move excess water along, can also help to slow erosion.

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Does Grass Help Prevent the Erosion From Water?	
<b>1</b> 1.	What are some things that contribute to erosion?
2.   	How do fibrous roots help with soil erosion?
   3.   	If you wanted to keep soil in place, what are some things you could do to prevent soil erosion?
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### **EROSION SCIENCE EXPERIMENT WITH GRASS**

Name: <u>Example Answers</u>

Date:

### Does Grass Help Prevent the Erosion From Water?

- 1. What are some things that contribute to erosion? Rain, waves, or any water, and wind cause erosion by gradually moving or breaking down soil/rock.
- How do fibrous roots help with soil erosion?
  Fibrous roots spread out and cover a large area.
  The larger the area with roots, the more soil that is protected and kept in place, free from erosion.
- 3. If you wanted to keep soil in place, what are some things you could do to prevent soil erosion? Since covering the soil to prevent wind or water from reaching the soil is probably not the best idea, planting grasses, plants, or even trees could limit soil erosion because their roots help to prevent soil from moving from where it is.



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## Spring Science: Grass and Erosion



Place tightly packed clumps of sand, dirt, and grass/dirt into the foil pan.

# Spring Science: Grass and Erosion

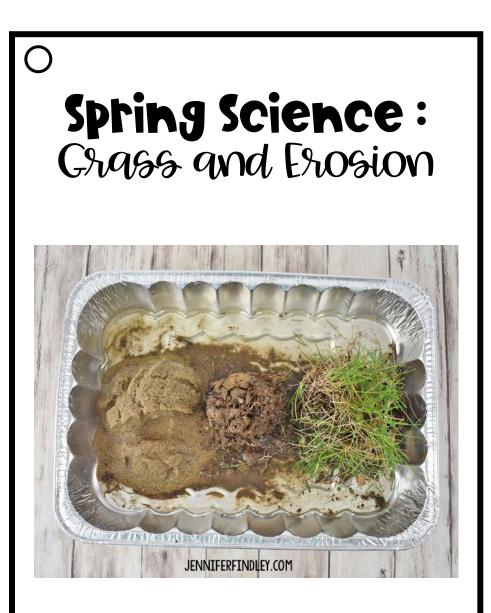


Add water to a measuring cup. Make your predictions. Which pile – sand, dirt, or grass/dirt – will stand up to erosion the best? 0

## Spring Science: Grass and Erosion

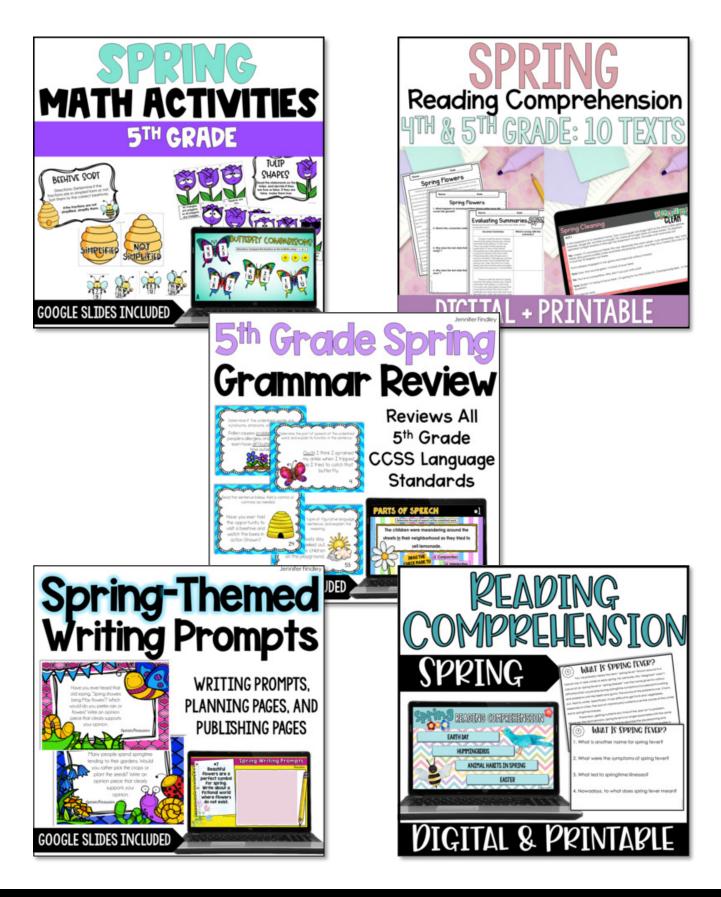


Gently and slowly pour water over each of the piles.



Which pile held up the best?

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