

### Water through soil game:

Tell students to line up shoulder to shoulder. Explain that they are all going to be the different types of soil. First they will be grains of sand. Sand is the largest particle in soil! Have students open their arms and legs and spread apart so that their fingers are touching.

Ask for a volunteer to represent water. Water will weave his or her way between all the grains of "sand" under the arms. Time how long it takes water to get through all the grains by having the group count out loud. Once they're done ask how difficult it was for water to get through the sand. Explain why it wasn't very hard and how this might affect garden plants.

Now have students be grains of silt. Have students get a little closer together with elbows touching when hands are on hips and legs closer together. Have the drop of water go through silt and time it as you did through sand.

Now have students be grains of clay. Have students lock arms and place feet straight under their hips.

Pick someone new to be water each time and keep timing them. If all goes well, it should take more seconds for them to get through clay than silt or loam and even less for sand but that depends on the kids picked to be water and how fast they are. To offset any weird timing results discuss the difficulty level of getting through each type of soil.

<b>Soil type</b>	<b>Kid formation</b>	<b>Soil characteristics</b>
<b>Sand</b>	Students stand in a line facing you with fingers touching	<input type="checkbox"/> largest of the four types of soil <input type="checkbox"/> particles visible by the naked eye <input type="checkbox"/> a lot of space between particles <input type="checkbox"/> doesn't stick together, water goes between particles easily <input type="checkbox"/> dries out too much on hot days for plants to survive well <input type="checkbox"/> low in nutrients
<b>Silt</b>	Students stand with their hands on their hips, elbows touching	<input type="checkbox"/> in between clay and sand in size <input type="checkbox"/> more nutrients than sand, but less than clay <input type="checkbox"/> holds some water, not too much
<b>Clay</b>	Students link arms and stand with little space between (remind them that they can't push in their legs to keep water out)	<input type="checkbox"/> smallest of the soil types <input type="checkbox"/> sticks together very strongly <input type="checkbox"/> really hard for water to get between the particles <input type="checkbox"/> areas like wetlands with standing water often have clay soils. <input type="checkbox"/> high in nutrients <input type="checkbox"/> hard for plants to access them (roots can't penetrate clay easily)
<b>Loam</b>	A mixture of the first three. Some students linking arms, some elbow to elbow, some with fingertips touching	<input type="checkbox"/> Best type of soil to grow garden plants <input type="checkbox"/> a mix of the three other soil types <input type="checkbox"/> Sand keeps the soil aerated <input type="checkbox"/> Clay in it adds nutrients <input type="checkbox"/> Silt gives it body. <input type="checkbox"/> Last ingredient is organic matter in the form of compost. This makes the soil alive and healthy- perfect for growing plants.