

Question:

How much energy (Calories) are in a peanut seed?

Group Number	x End Temp. °C	y Start Temp. °C	x-y-z Rise in Temp. °C	z X Amt. of water in mL z °Cx 40 mL	
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

The peanut, or groundnut (*Arachis hypogaea*), is a species in the legume or "bean" family (Fabaceae). The cultivated peanut was probably first domesticated in the valleys of Peru.^[1] It is an annual herbaceous plant growing 30 to 50 cm (0.98 to 1.6 ft) tall. The leaves are opposite, pinnate with four leaflets (two opposite pairs; no terminal leaflet), each leaflet 1 to 7 cm ($\frac{3}{8}$ to $2\frac{1}{4}$ in) long and 1 to 3 cm ($\frac{3}{8}$ to 1 inch) broad.

The flowers are a typical peaflower in shape, 2 to 4 cm ($\frac{3}{4}$ to $1\frac{1}{2}$ in) across, yellow with reddish veining. *Hypogaea* means "under the earth", after pollination, the flower stalk elongates causing it to bend until the ovary touches the ground. Continued stalk growth then pushes the ovary underground where the mature fruit develops into a legume pod, the peanut. Pods are 3 to 7 cm (1.2 to 2.8 in) long, containing 1 to 4 seeds.^[2]

Peanuts are known by many other local names such as earthnuts, ground nuts, goober peas, monkey nuts, pygmy nuts and pig nuts.^[3]

Arctic and Antarctic expeditions

While peanuts are nutritional and delicious as an everyday food, during expeditions on foot into the wilderness, especially regions of sub-zero temperatures like the South and North Poles, having peanuts has been the deciding factor between life and death. After learning from the mistakes of other adventurers, especially the tragically ill-prepared "Discovery" and "Terra Nova" expeditions to the south pole lead by Captain Robert Falcon Scott and Captain Oates from 1901-12 (during which the majority of the expedition died), where starvation and lack of the proper amount of calories needed to keep from freezing were a constant danger, adventurers had to decide on a type of food that was dense, portable, high in protein and calories and could be eaten at any time without preparation. Subsequent expeditions thus settled on peanut butter as the ideal foodstuff, freeing explorers from the transport and kindling of cooking fuel (a near-impossibility in the frigid polar winds), and high enough in protein and calories to fuel the party and keep them from freezing to death in the harsh weather and freezing nighttime temperatures. Peanut butter was further favored for speed and ease of use because it could be eaten while walking if necessary.



Natural
resources
conservation
Service

So much depends on so little!

On planet earth all living things depend on the soil:
Plants, people, animals...even fish...rely on the soil for food.
Only a small portion of our land is capable of producing food.

TRY THIS DEMONSTRATION:

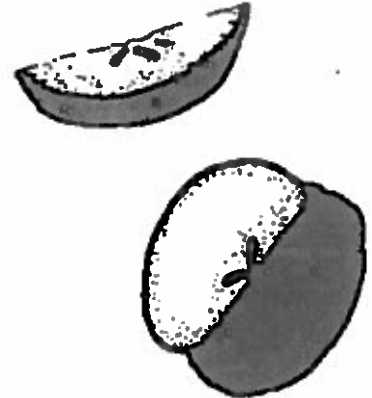
ONE

Imagine the earth as an apple.



TWO

Cut it into 4 equal parts. Only one part is land—the rest is water.



THREE

Cut the land section in half. One part is mountains, deserts, or is covered with ice...



FOUR

Cut the other livable area into fourths. Three of these are too rocky, wet, hot, infertile, or covered with roads and cities.



FIVE

There is now only 1/32 of a slice of apple remaining...



SIX

When this section is peeled it represents the top soil on which the food is grown that must feed the people on the earth.



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Scientific Method

Question:

What level of water will explode the fastest?

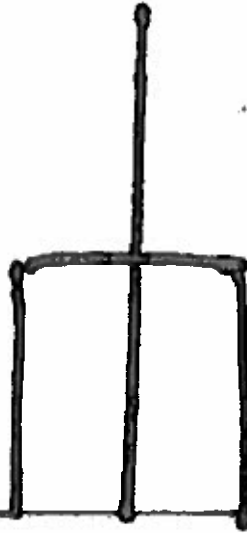
Hypothesis:

Data Collection:
(Table of Results)

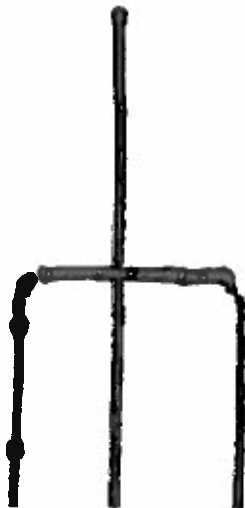
		Time in Seconds										
		A	B	C	D	E	F	G	H	I	J	K
Level of Water in Canister	Full											
	$\frac{3}{4}$											
	$\frac{1}{2}$											
	$\frac{1}{4}$											

Interpretation of Results:

MEMORY



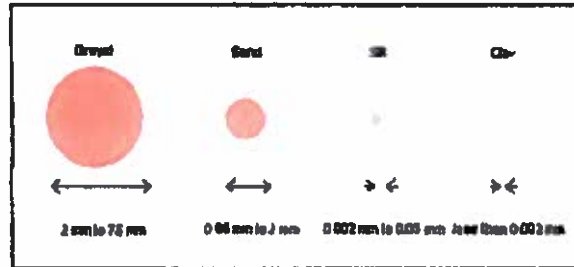
OBSERVED



Soil Particle Size

Michigan Environmental Education Curriculum
Groundwater Supply

The behavior of water in the ground is influenced by the type of soil present. Soils are classified according to their particle size as follows:



There are several different systems in place that denote the particle sizes. The values given above pertain to the USDA Soil Taxonomy system. You probably have a good idea of what gravel and sand particles look like, but maybe not silt or clay. Silt particles are about as big as the thickness of your hair, and clay particles are much smaller than that!

Generally, soils consist of a mixture of different particle types, such as "sandy clay", or a "silty sand".

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"Get your hands dirty.. ."

The following may explain why getting dirt beneath your fingernails may be annoying but beneficial:

"Dirt contains rich stores of *Mycobacterium Vaccae*. A recent study at Bristol University, U.K, suggests that regular exposure to this bacterium can speed a person's brain function, plus elevate mood as effectively as some prescription anti-depressants.

University of London scientists explain that *Mycobacterium Vaccae* target the nervous system, increasing production of the mood-boosting neurotransmitter *serotonin*, as well as brain-stimulating proteins called *cytokines*."

So there you have it. All is revealed and explained with a few scientific names. Basically, gardening is good for you...

