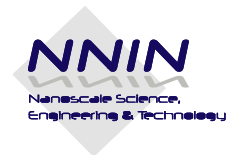




NATURE

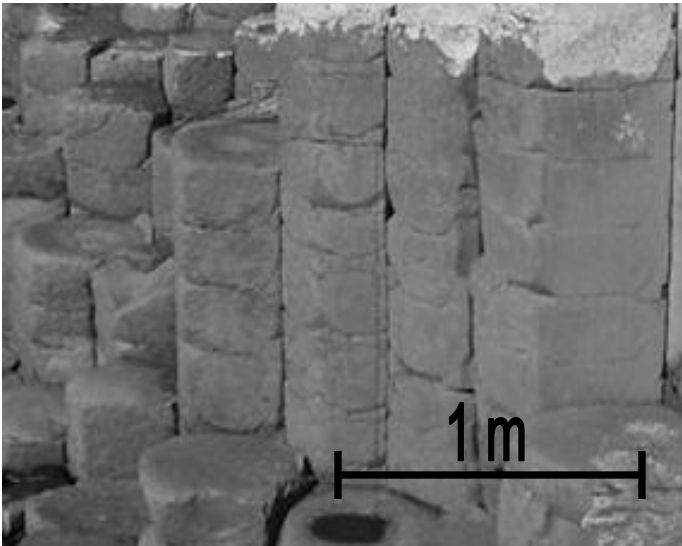
Micro to Macro

Created by
Marilyn Garza



NNIN Document: NNIN-1270

Rev: 08/2012



IDENTIFY THE OBJECTS

Observe and form a hypothesis as to what the objects in the image are.





GIANTS CAUSEWAY, IRELAND

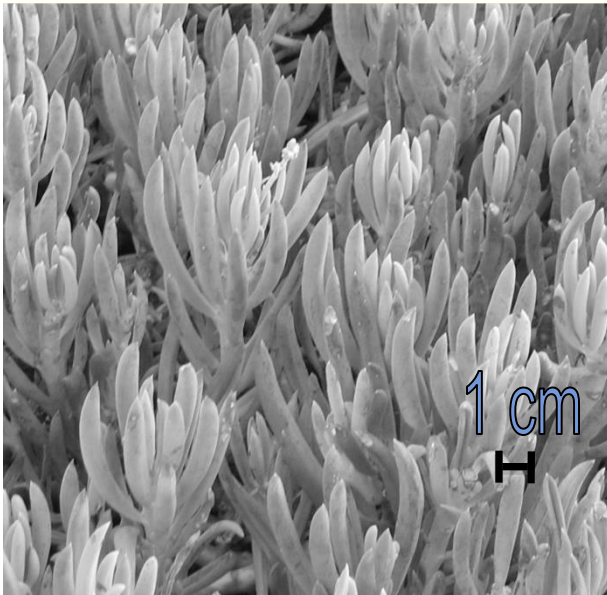
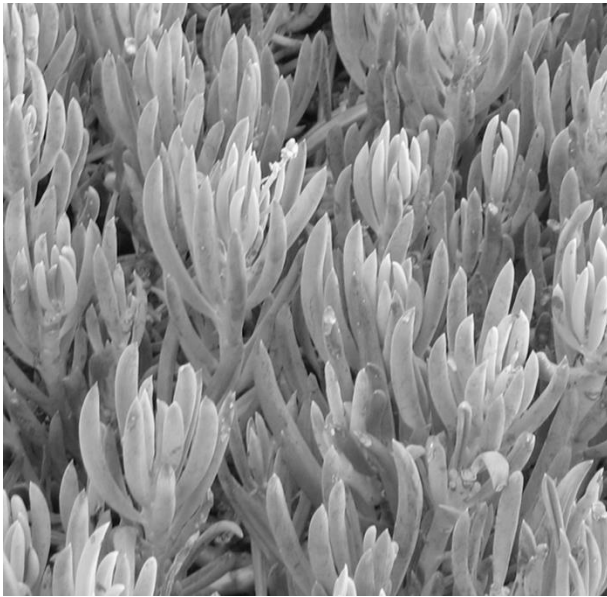
These columns of basalt were created from a volcanic eruption. There are 40,000 columns all with regularly shaped sides. Most are hexagonal, but some have 4, 5, 7 or 8 sides. The tallest columns reach up to 12 meters or 39 feet.

Image by **dfyoung**

<http://www.fotopedia.com/items/flickr-8842984>

Attribution, no derivative works;
Creative Commons





IDENTIFY THE OBJECTS

Observe and form a hypothesis as to what the objects in the image are.



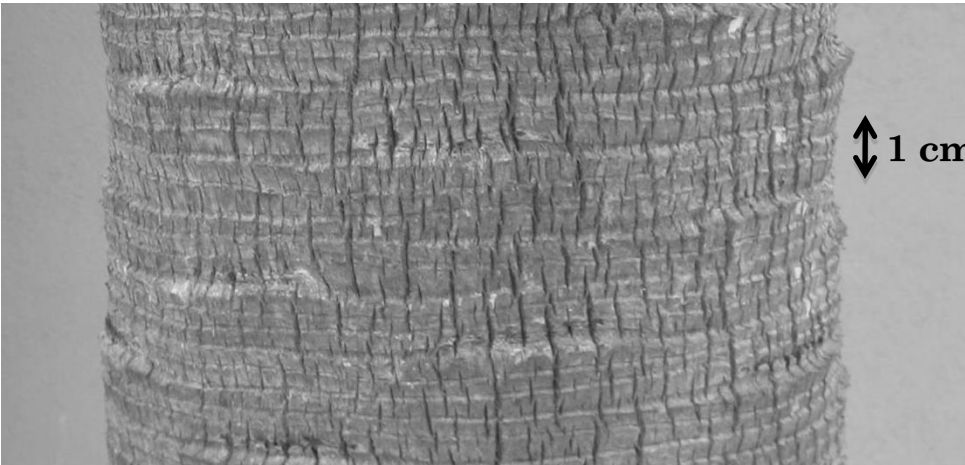
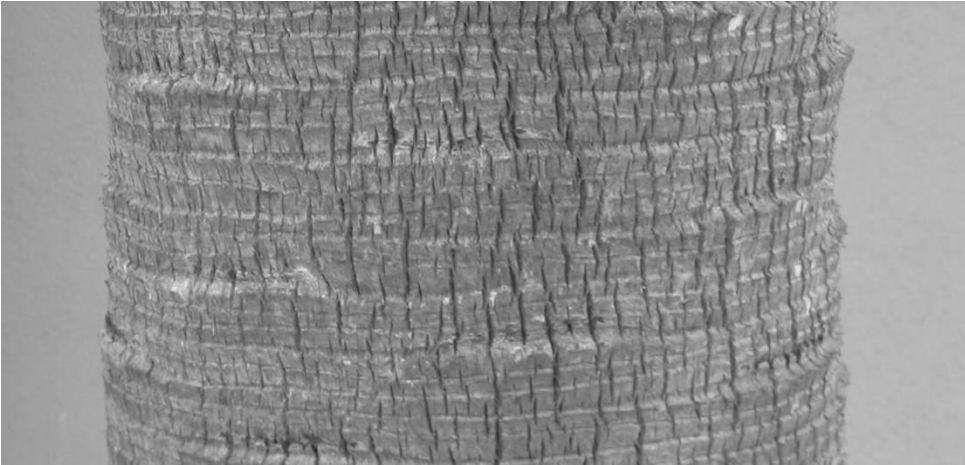


BLUE FINGER

This succulent perennial will grow to about 46 cm tall and 60 cm wide. It has curved, bluish gray leaves that are about 9 cm long and very slender.

Photo taken by Marilyn Garza, a teacher at Santa Barbara Jr. High while doing her NNIN RET program at UCSB.





IDENTIFY THE OBJECTS

Using observations, form a hypothesis as to what the objects in the image are.





CALIFORNIA FAN PALM TREE

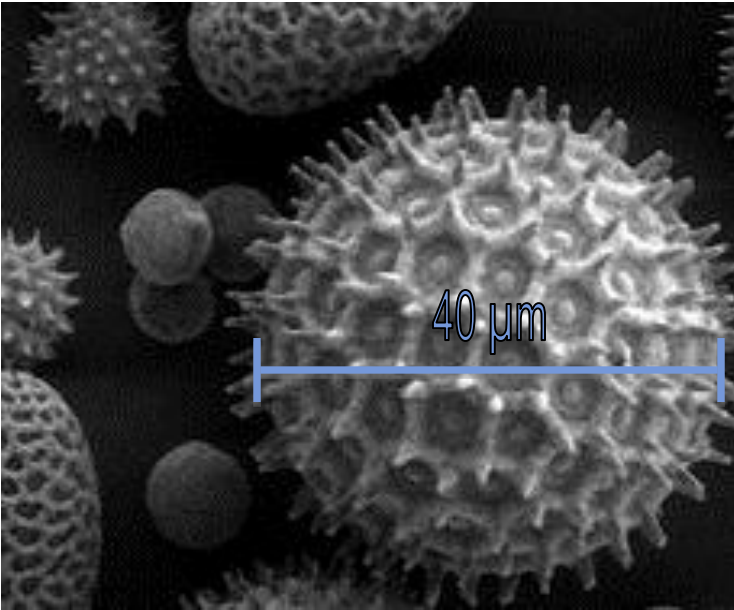
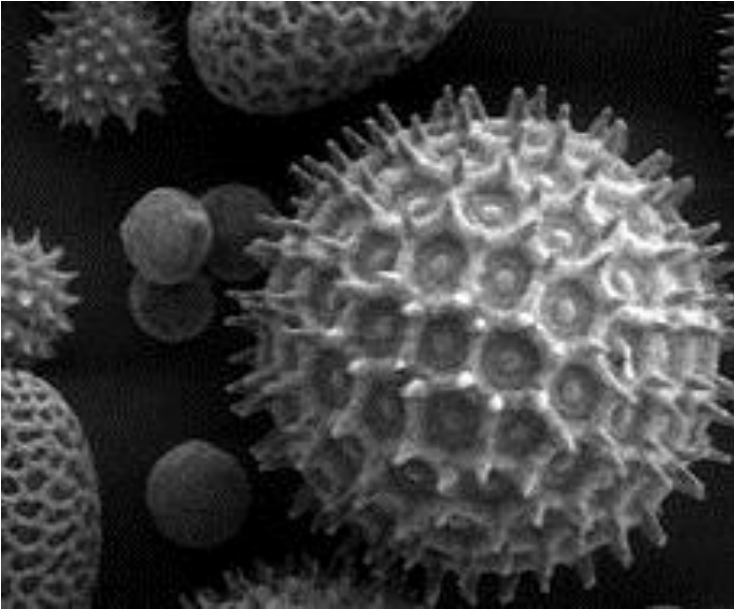
This is a species of common palm tree found in the Western United States. This palm tree is on the UCSB campus.

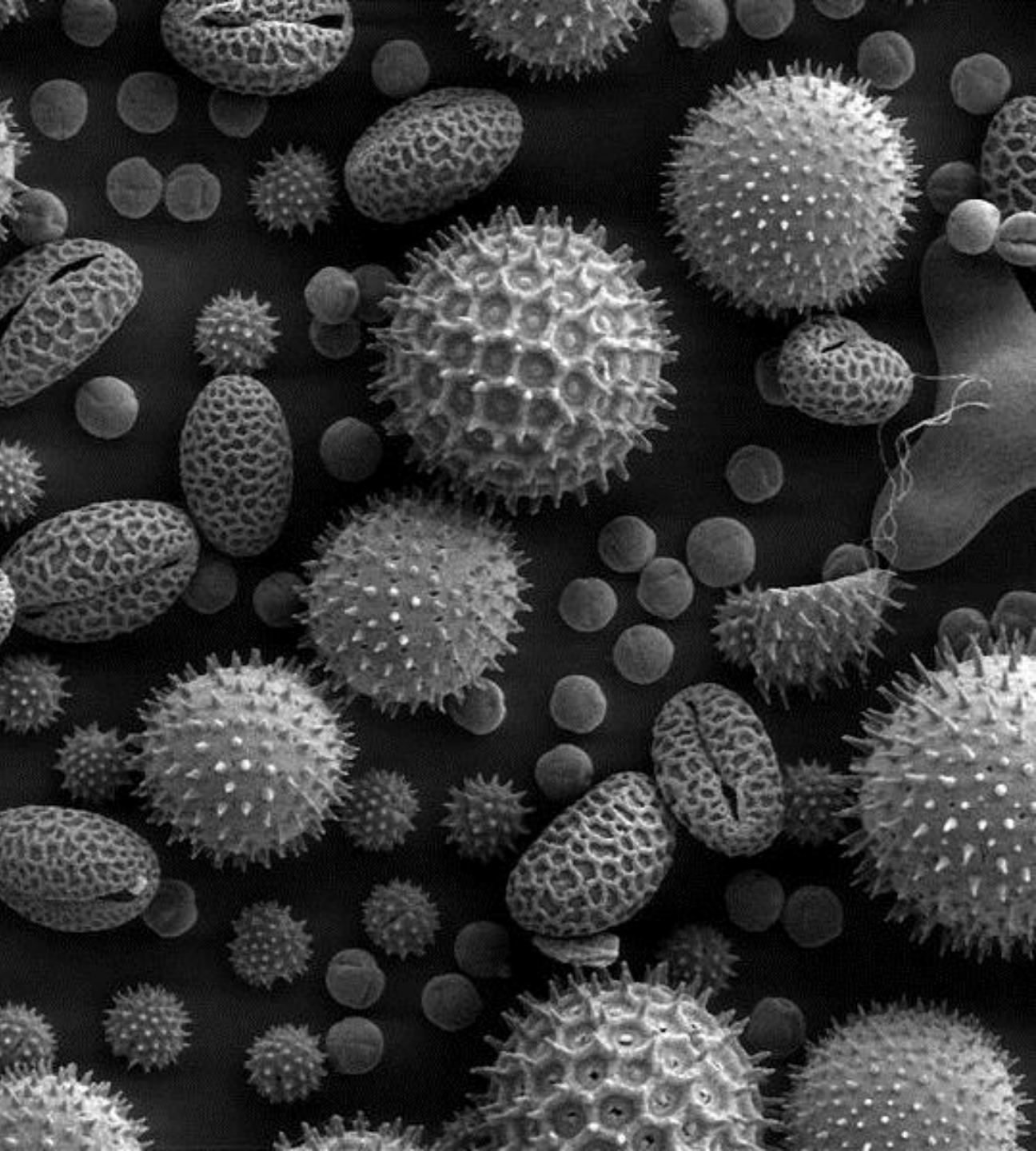
Photo credit: Image taken by Marilyn Garza, a teacher at Santa Barbara Jr. High while doing her NNIN RET program at UCSB.



Observe and form a hypothesis as to what the objects in the image are.

IDENTIFY THE OBJECTS





POLLEN GRAINS

This scanning electron microscope image shows pollen particles from a variety of common plants: sunflower, morning glory, hollyhock, lily, primrose, and castor bean.

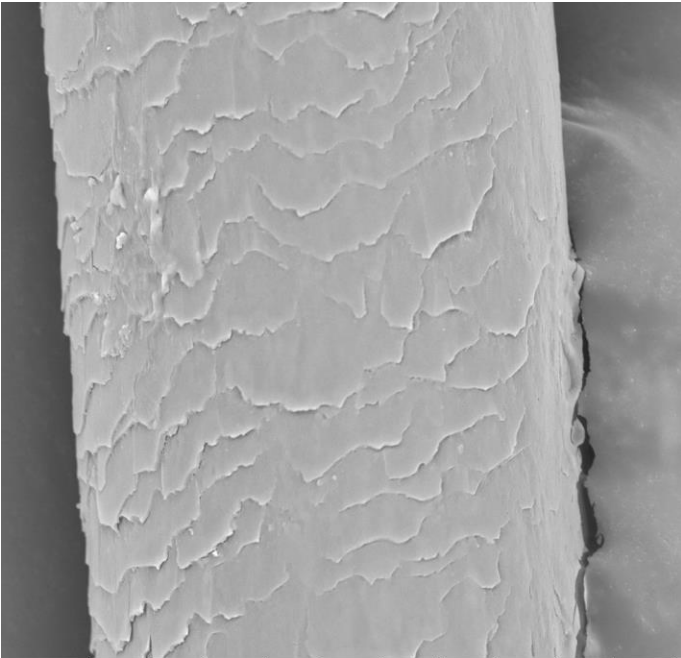
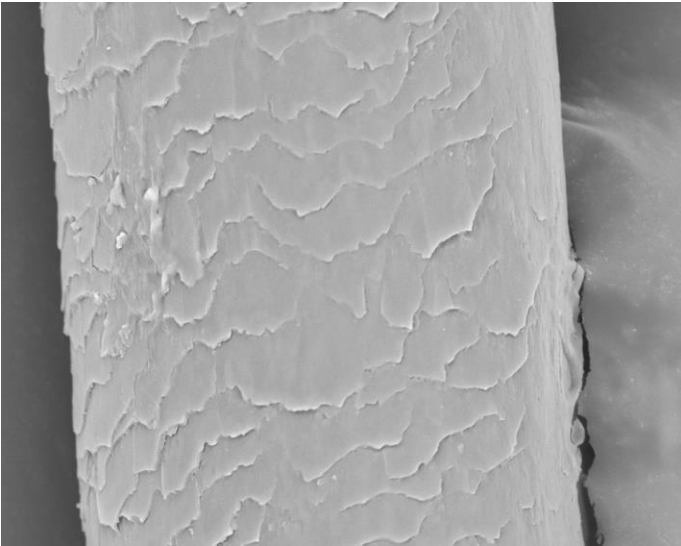
The smallest pollen grains are about 6–8 μm in diameter.

SEM image taken by Dartmouth Electron Microscope Facility

http://www.nisene.t.org/viz_lab/image-collection;

Credit: Dartmouth Electron Microscope Facility



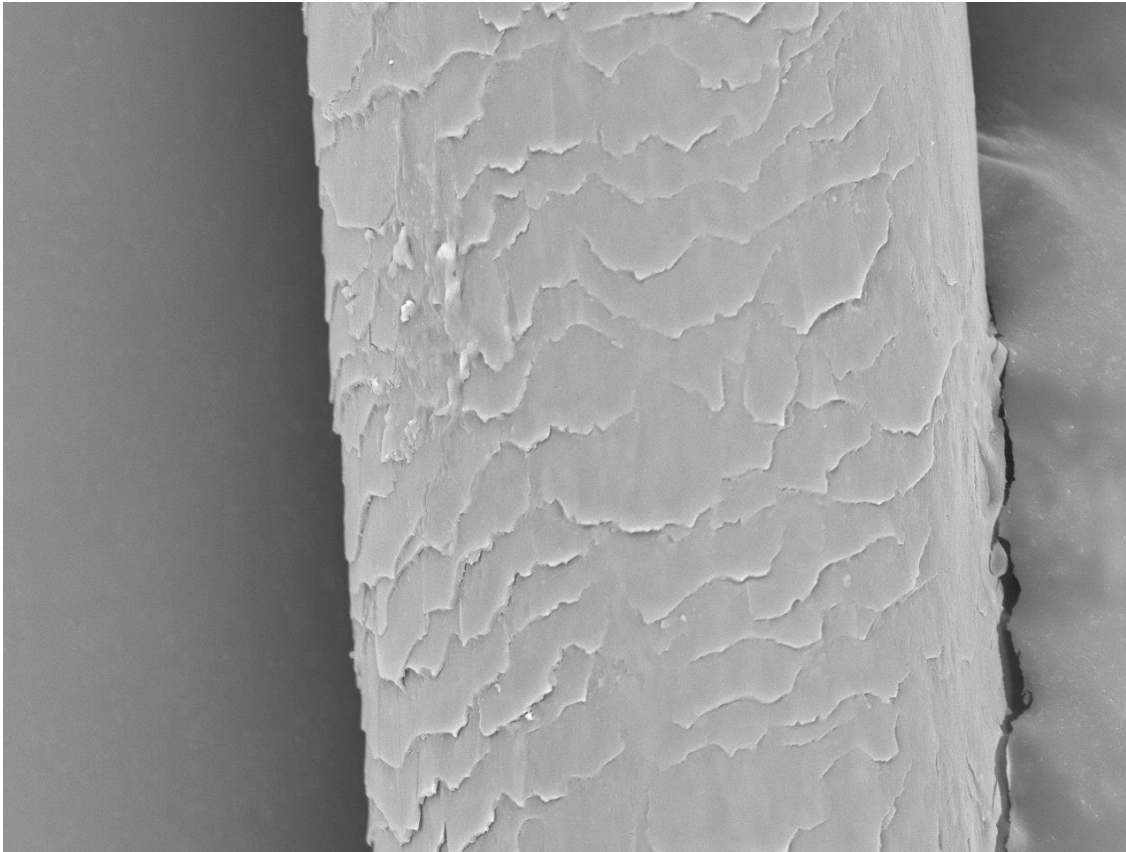


2011/08/05 13:54 N D3.8 x1.0k 100 um

IDENTIFY THE OBJECTS

Using observations form a hypothesis as to what the objects in the image are.





TM3000_0063

2011/08/05 13:54 N D3.8 x1.0k 100 um

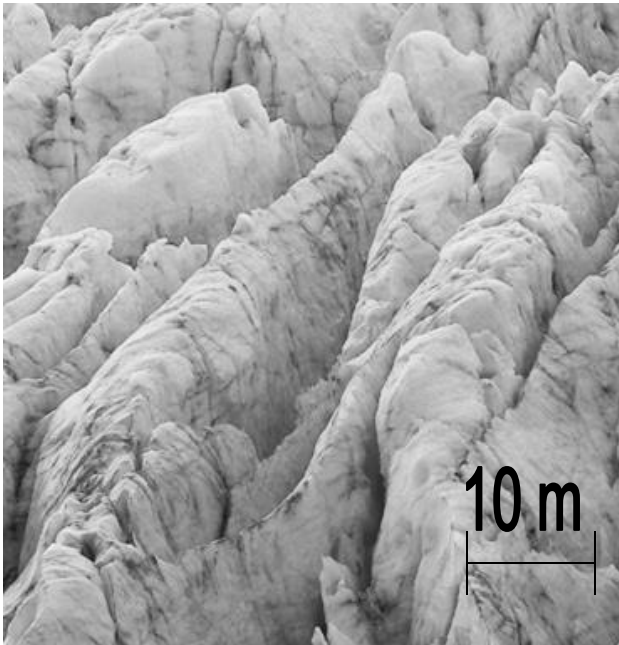
This is uber cool!

HUMAN HAIR

Strand of human hair.

Scanning electron microscope image taken by Marilyn Garza, a teacher at Santa Barbara Jr. High while doing her NNIN RET program at UCSB.





IDENTIFY THE OBJECTS

Using observations form a hypothesis as to what the objects in the image are.





EXIT GLACIER, ALASKA

This glacier originates from the Harding Icefield in the Kenai Mountains of Alaska. It is named the Exit Glacier because it was the exit point of the first recorded crossing of the Harding Icefield in 1968.

<http://www.fotopedia.com/items/chmehl-45vn9MUv3SU>

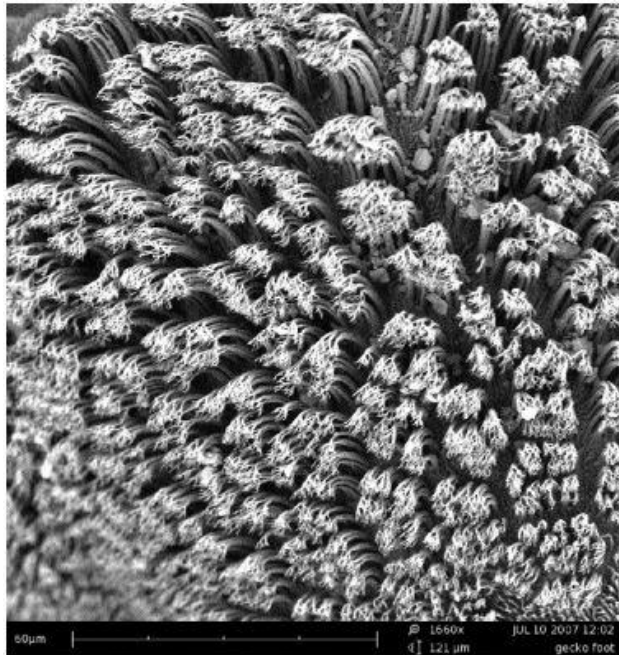
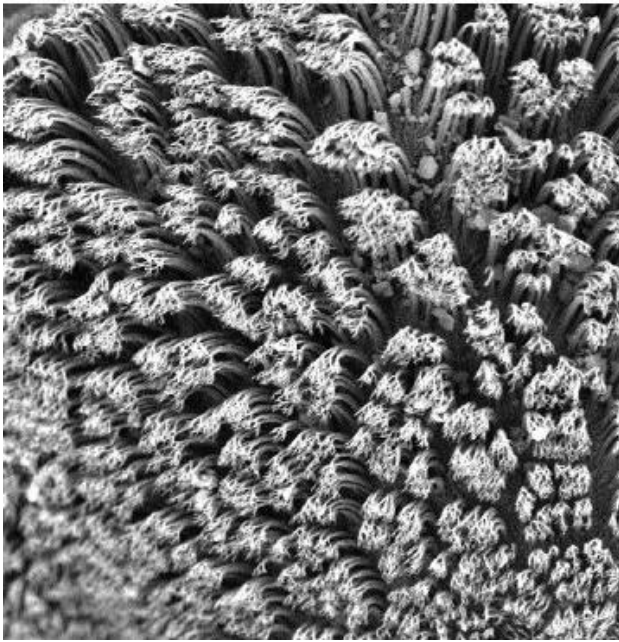
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Aialik Glacier, Kenai peninsula, Alaska.

Photo by Alan Vernon and posted at:

<http://www.flickr.com/photos/alanvernon/3238665571/>



IDENTIFY THE OBJECTS

Observe and form a hypothesis as to what the objects in the image are.





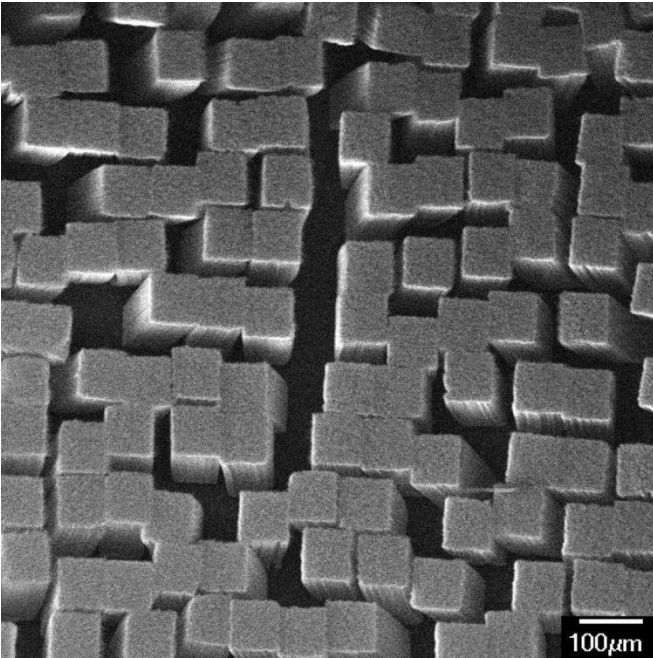
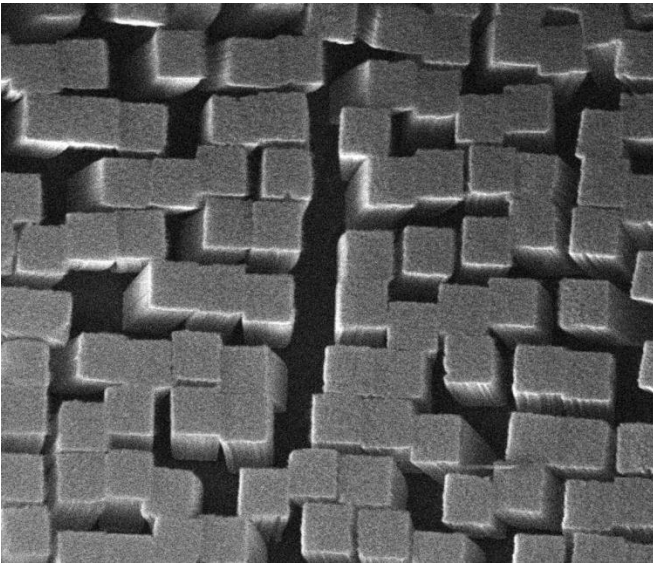
GECKO FOOT (8700X)

The feet of the gecko cling to virtually any surface. This scanning electron microscope image shows the branching hairs on the foot's adhesive lamellae. These hairs nestle into nanoscale niches on the contact surface.

A. Dhinojwala,
University of
Akron

[http://www.nisene
t.org/viz_lab/image
-collection](http://www.nisene
t.org/viz_lab/image
-collection)

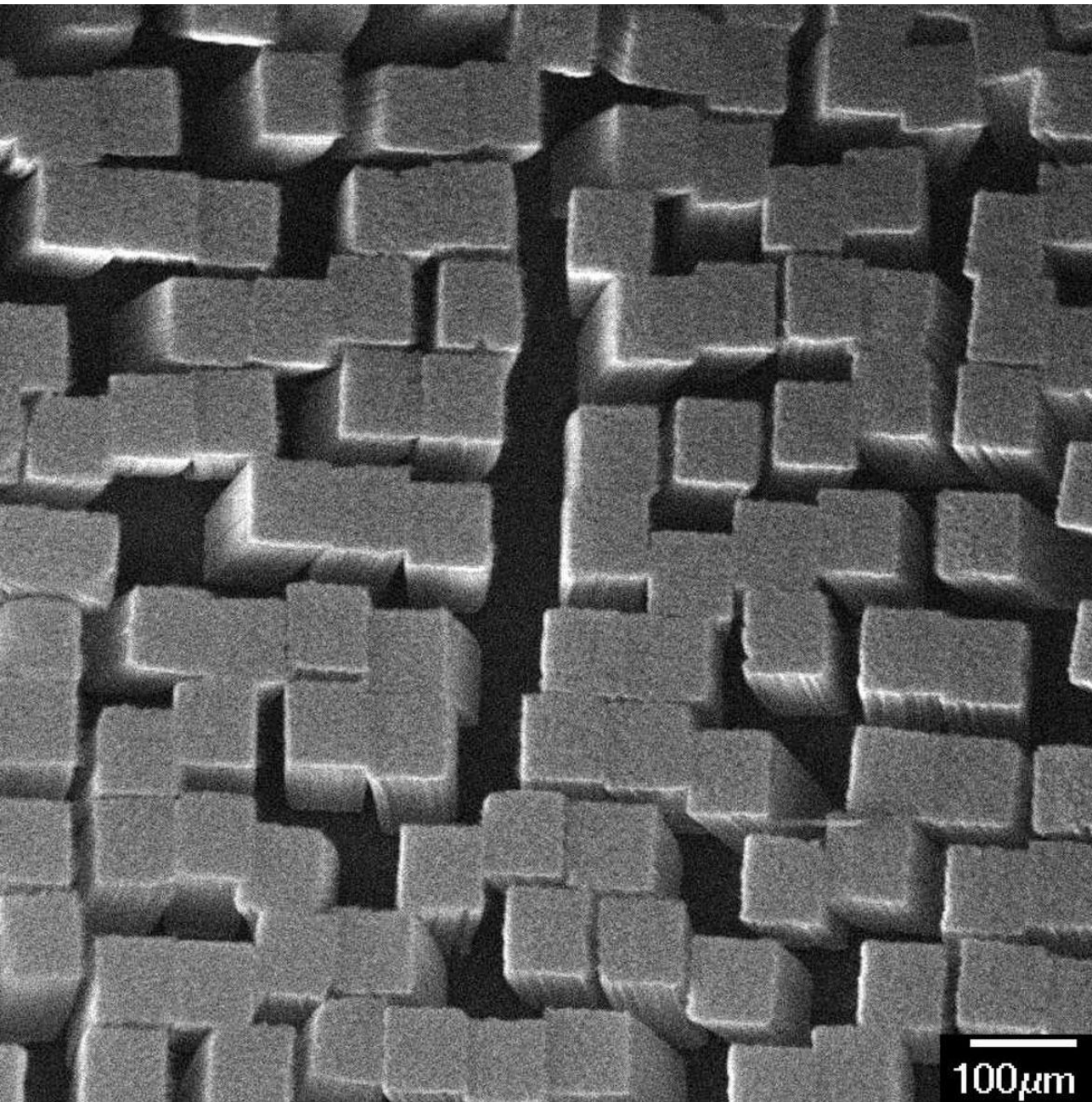




IDENTIFY THE OBJECTS

Observe and form a hypothesis as to what the objects in the image are.





CARBON NANOTUBES

Each bundle of carbon nanotubes measures about 70–80 μm in width.

The nanoscale structures on a gecko's foot enable it to cling to most surfaces. This scanning electron microscope image shows multiwalled carbon nanotubes attached to a polymer backing, an experiment designed to replicate the gecko foot's adhesive properties.

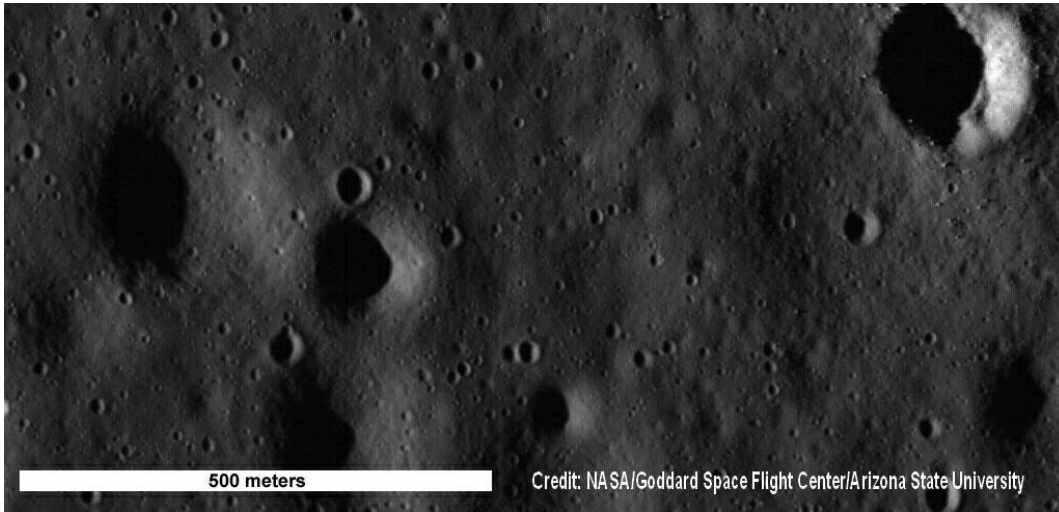
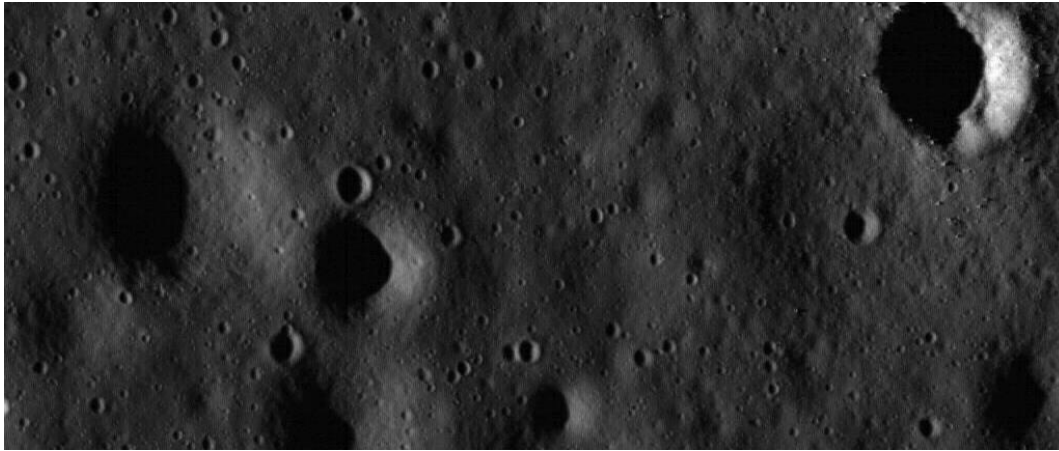
A.Dhinojwala,
University of Akron

http://www.nisenet.org/viz_lab/image-collection



IDENTIFY THE OBJECTS

Observe and form a hypothesis as to what the objects in the image are.



vinnyswebsite.com

Apollo 11 Lunar Module ---->

500 meters

Credit: NASA/Goddard Space Flight Center/Arizona State University

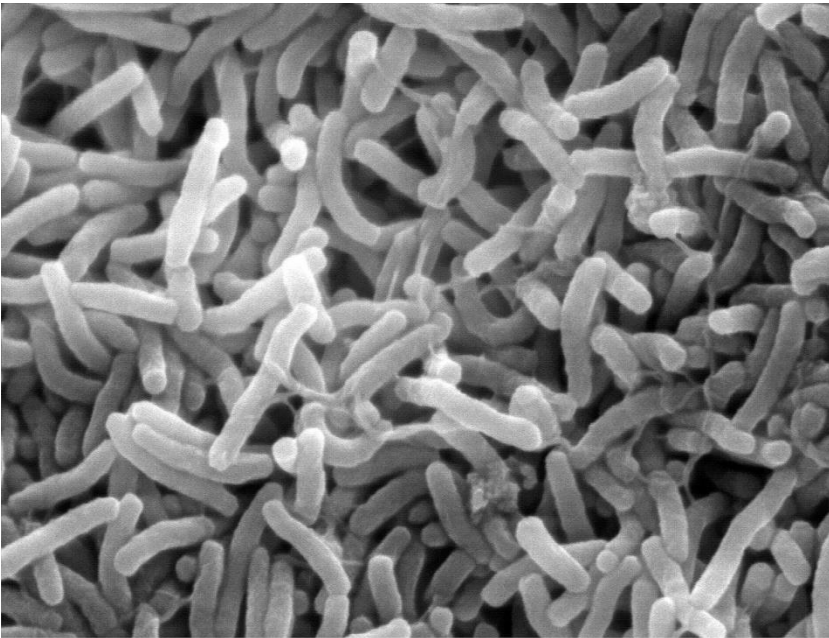
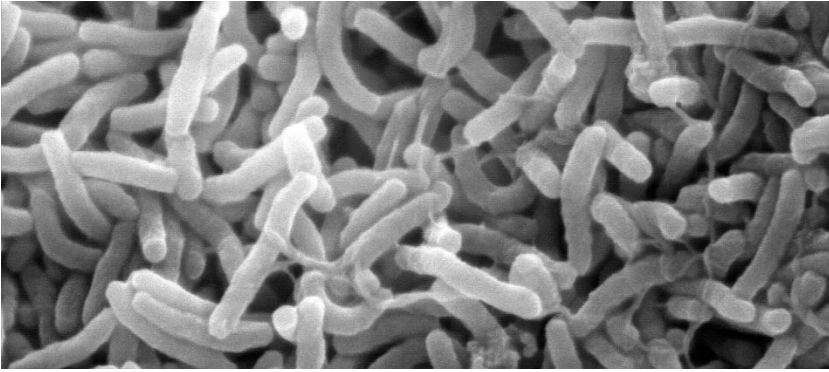
MOON SURFACE

Lunar Module Apollo 11 NASA Lunar Reconnaissance Orbiter Image

This is a picture of the Apollo 11 Landing site on the moon. NASA's Lunar Reconnaissance Orbiter (LRO) has taken pictures of all the Apollo moon landing sites.

*Image credit:
NASA/Goddard
Space Flight
Center/Arizona
State University*





1 µm

Cholera3

1/6/0 REMF

IDENTIFY THE OBJECTS

Observe and form a hypothesis as to what the objects in the image are.



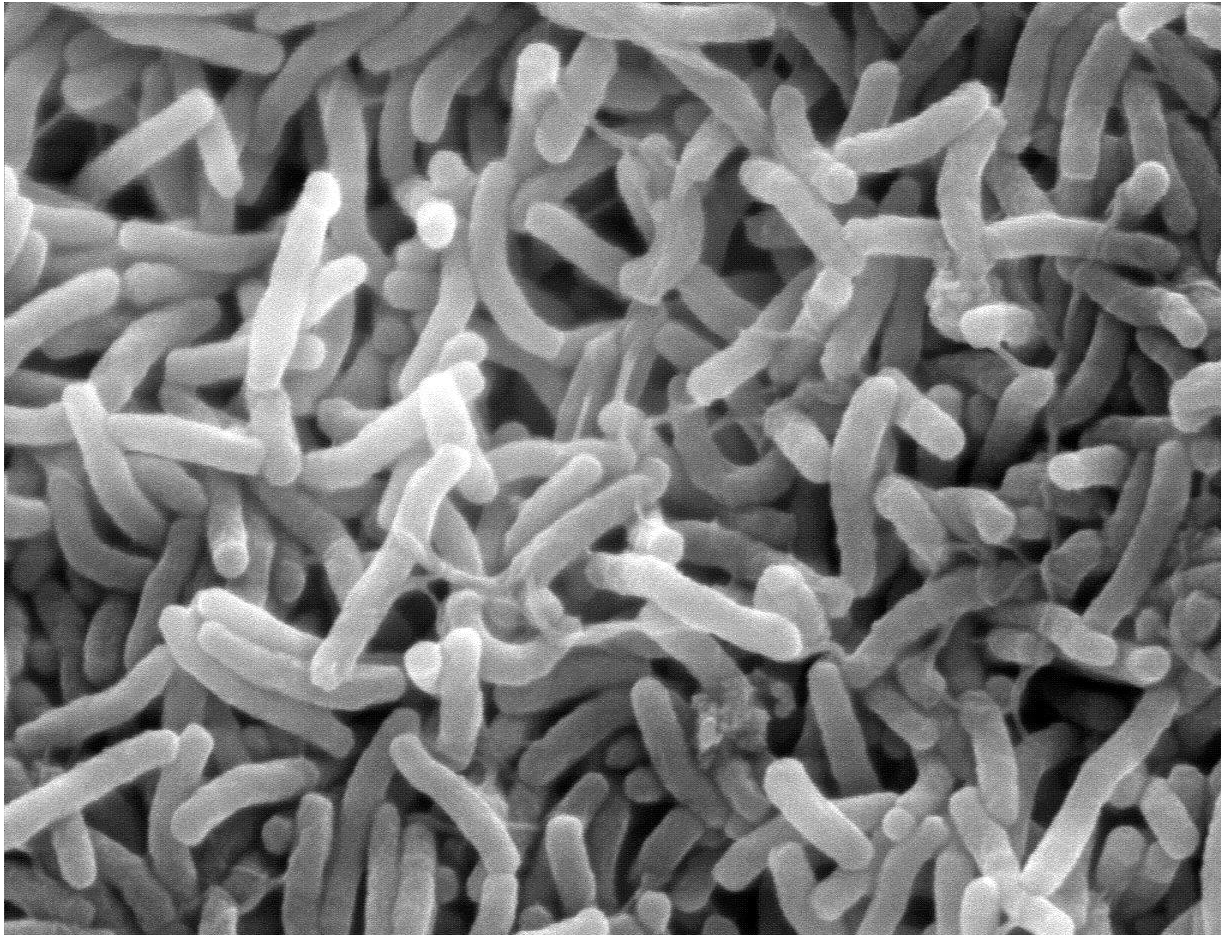
CHOLERA BACTERIA

Microscope image of Cholera Bacteria, which cause a potentially fatal disease of the digestive system.

These bacteria are each about 500 nm wide and 1–2 μm long.

Dartmouth
Electron
Microscope
Facility

http://www.nisene.t.org/viz_lab/image-collection



1 μm

Cholera3

1/6/0 REMF

