

# Colorado Space Science Teachers Summit:

## Micrometeorites in your Rain Gutter

- A Hands-On Classroom
  - Laboratory Activity



## Look Up

Dick said, "Look, look.  
Look up.  
Look up, up, up."

**Your  
Reading  
Teacher Was  
Right**

# Lab 8: The Hunt for Micrometeorites

objective: This lab will show that you have a close connection to the Universe, by demonstrating that small amounts of material from space are falling on you all the time, and that this material is quite easy to collect.



# The Wonder of Meteorites

<http://>

[www.meteorites.com.au/](http://www.meteorites.com.au/)

[home.html](http://www.meteorites.com.au/home.html)



On a clear, dark night, far from city lights and with no Moon in the sky, one can see about six meteors per hour. Meteors are often called “falling stars” or “shooting stars,” because that’s what they look like.

They are not stars: they are rocks from space, heating up as they plunge into Earth's atmosphere, often at speeds of over 100,000 miles per hour. (A rifle bullet travels at about 2,000 miles per hour.)

## COLLECTING MICROMETEORITES

In order to increase your chances of finding any micrometeorites, you need to collect material which is likely to have a higher than average concentration of micrometeorites.

# COLLECTING MICROMETEORITES

The roof of a house or building makes a good collector of micrometeorites, since they are continuously falling from the sky.. This fine dust is likely to be rich in micrometeorites.

When it rains, the dust, pollen, micrometeorites, and other debris will be washed from the roof and carried to the rain gutters and downspouts by the rushing water. If you check under rain gutters and downspouts, you will find a very fine powdery material.

Use a magnet to pick up this fine dust, to collect any micrometeorites that are high in iron. The micrometeorites will be shiny and spherical, because they were once melted.



Step one: Get dirt from under a rainspout (a roof acts as a giant collector for micrometeorites)



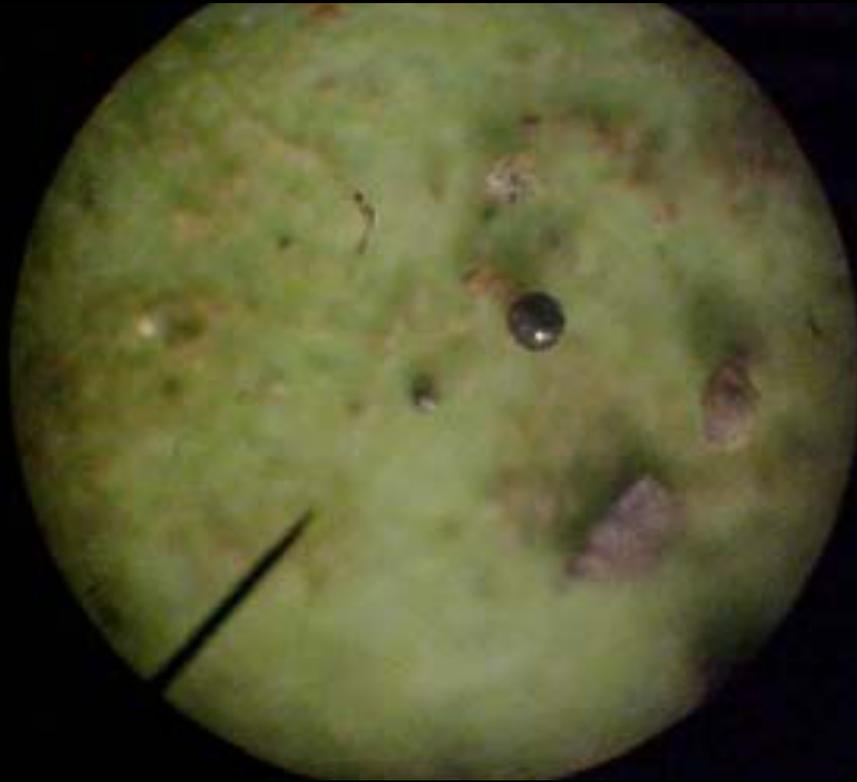
Step two:

Collect all magnetic particles with a magnet (Note: only the elements iron, nickel, and cobalt are naturally magnetic)



Step three:

Scrape particles from the magnet onto the sticky part of Post-It Notes and examine under low power (10x to 40x)



Step Four:

Ignore anything that is not perfectly spherical (40x)