I volunteer teach 5th grade science and would like a protocol for monitoring the quality of air. How would it be done with foldscope? count particles? measure size? range of particle sizes? numbers with respect to time?

The protocol for detecting 2-micron to 40-micron particles on a slide has been recommended by a commercial air filter company. Coat the view area with white petroleum 100% ASP. All images were prepared with the protocol. One was additionally stained with an iodine solution.

![test Air particles](attachment_78330)

This slide was placed outside about 4 meters from my back porch taped to a brick with three other slides. After taking it inside on after four days, it was stained with RitAid antiseptic solution (provide-iodine 10%) and covered with scotch tape.

There are two dark particles near the 1:30 edge of the image. At 3:00 nearer the center is a large white-black unidentified object, possibly some stain fluid. Also, over 12 grey particles appear randomly on the slide.
above and to the right are vaseline preped slides exposed outside for several days. After taken inside
the preped area was taped. The upper left one has several particles with sizes less than 10 microns in
diameter. The right-hand one may have too much vasoline on it.

Next, less vasoline will be spread with lens paper instead of tape, plastic cover slips will be tried.
Other harmless non-toxic stains will be tried.

Inner-city students will be given foldscopes to have fun with, however they will be asked to collect
samples of air particles every week for one year and send images to me. They will be given RitAid
antiseptic solution (provide-iodine 10%), plastic slides and covers.

They will be asked to explore other environmental changes helpful to everyone. As Confucius said,
"Between the four oceans we are all brothers and sisters".

Please comment on the tests, on the preping and covers and stains. If there is a way to identify
particles please send links to kenglobeatyahoodotcom. I will be grateful for additions, corrections,
comments, and suggestions. It may be easier to use the form...

Second test results:
5 day air particles several to over 10-um size thin petroleum jelly wipped glass slide from my back patio.

Air particles collected in my rear patio on 12/4-12/9/2018. A thin layer of petroleum jelly applied with a piece of lens paper on a glass slide. No stain or slide cover. Image taken with an S5 iPhone.

The blur and several dark spots are from the foldscope lens. An image in a different location would show what is air particles and what is the Foldscope contribution.

A cleaning method for the foldscope lens is being investigated.

For 5th grade students it is wiser to use plastic slides. Please suggest how to reuse them and how best to capture air particles. Thank you.

Ken

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