

Task: Aerosols and Incoming Sun Light
Unit: Aerosols and Climate Change
Module: Atmosphere

Name: _____
Date: _____

Aerosols have an impact of the light that is reflected, scattered and absorbed by clouds. It can also impact on the plants albedo. In order to learn about how aerosol properties can affect the earth's energy budget read the section of *Aerosols and Incoming Sun Light* in the NASA article listed below. Use the link or print the PDF format version.

NASA Article: Aerosols: Tiny Particles, Big Impact – Section: Patterns

Link: <http://earthobservatory.nasa.gov/Features/Aerosols/>

Click on the section titled “Aerosols and Incoming Sun Light” on the right hand side menu.

Guiding Questions:

1. How much of the incoming radiation to earth is reflected back and why?
2. Do all aerosols scatter and absorb light at the same rate? Why?
3. What characteristics of aerosols influence the way they reflect or absorb light? What type of particles tend to reflect light and which ones tend to absorb light?

Particle Group	√ Reflect	√Absorb	Characteristics or Properties

4. How do the particles chemical properties affect the cooling or heating of the atmosphere? How can these events influence climate?

5. What natural geological events affect climate? How come they can have a long lasting effect on global temperatures?

6. What did scientists predict as a consequence of a natural geological event? Why did they predict it? What evidence were they able to gather to confirm their prediction?

7. According to this article what is albedo? What overall effect can aerosols have on the earth's albedo and how does it affect it?

8. What effects to sulfates have on the planet?

9. What challenges remain in relation to measuring the effects of aerosols?