
My NASA Data - Mini Lesson/Activity

Valuing Albedo



Student Directions

Albedo is the fraction of light that a surface reflects. If it is all reflected, the albedo is equal to 1. If 30% is reflected, the albedo is 0.3. The albedo of Earth's surface (atmosphere, ocean, land surfaces) determines how much incoming solar energy, or light, is immediately reflected back to space. This can have an impact on climate.

Review the video [Climate Bits: Albedo](#) and answer the following questions.

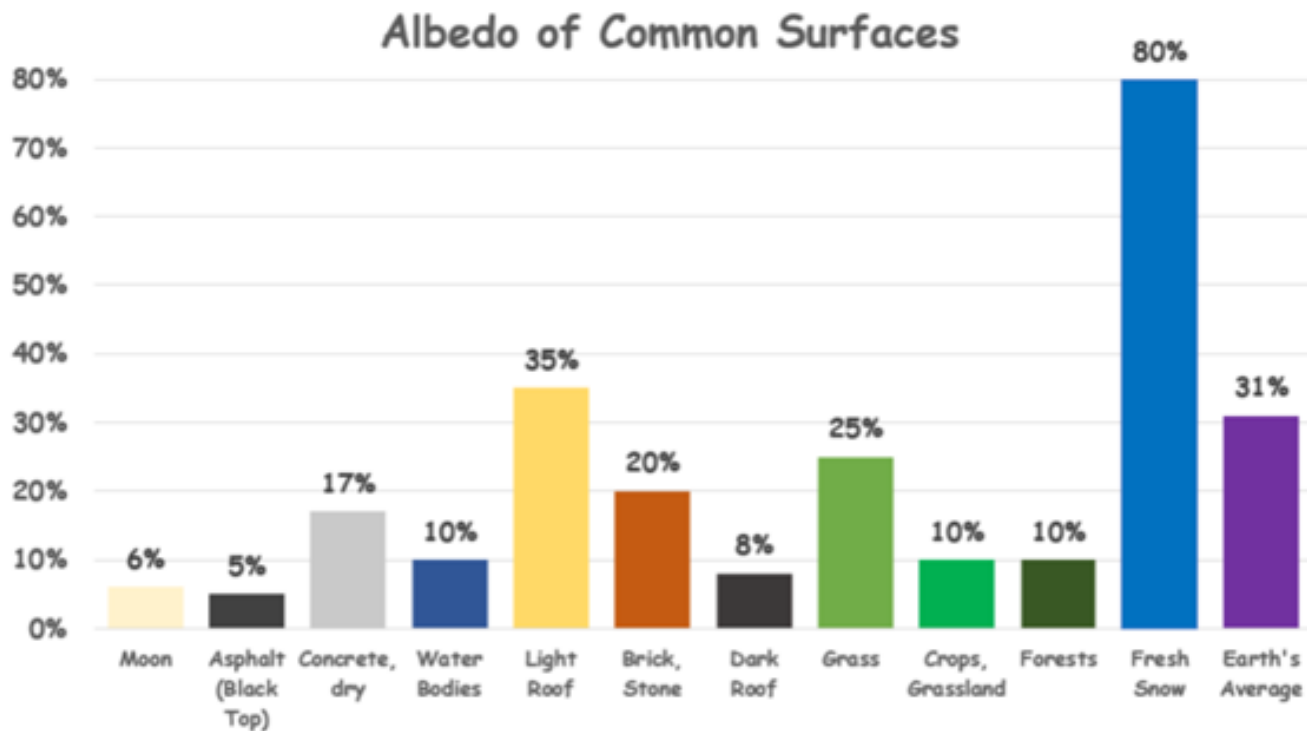
[Video: ClimateBits: Albedo](#)

Video

ClimateBits: Albedo | <https://www.youtube.com/watch?v=d1U7X1k3d0Y> | Source: ClimateBits

Steps:

1. Check with your instructor on how to submit your answers.
2. How does albedo play an important role in Earth's Energy Budget?
3. What reflects the most sunlight and has the biggest impact on Earth's albedo?
4. Contrast lighter colors and darker colors in terms of reflection.
5. How do humans modify Earth's albedo and impact the global energy balance?
6. View the bar graph [Albedo of Common Surfaces](#).
 1. Identify the surface with the highest albedo. What does this indicate about the reflectivity of this surface?
 2. Name the surface with the lowest albedo. What does this indicate about the reflectivity of this surface.
 3. What are two other surfaces that have low albedos?
 4. Describe the relationship between color of a surface and its reflectivity
 5. Predict what would happen to Earth's Energy Budget if the snow started to melt.



[Albedo of Common Surfaces. Source:](#)

[NASA | https://mynasadata.larc.nasa.gov/sites/default/files/inline-images/Bar%20Graph.png](https://mynasadata.larc.nasa.gov/sites/default/files/inline-images/Bar%20Graph.png)

Teachers, these mini lessons/student activities are perfect "warm up" tasks that can be used as a hook, bell ringer, exit slip, etc. They take less than a class period to complete. Learn more on the "[My NASA Data What are Mini Lessons?](#)" page.

Teachers who are interested in receiving the answer key, please complete the [Teacher Key Request and Verification Form](#). We verify that requestors are teachers prior to sending access to the answer keys as we've had many students try to pass as teachers to gain access.

My NASA Data Visualization Tool

- [Earth System Data Explorer](#)