# THAT'S A LOT OF ICE!

Background: The ICESat-2 satellite will be able to measure the height of the ice sheets of Greenland and Antarctica, from space. Even though there is a lot of ice at the surface of these land masses, there is much more ice below the surface.
In this activity, you will calculate how many ice cubes it would take to equal the volume of ice in both Greenland and Antarctica.

Materials:

1 ice cube
ICESat-2 bookmark/ruler
Pencil
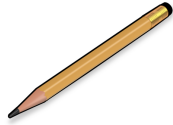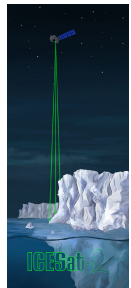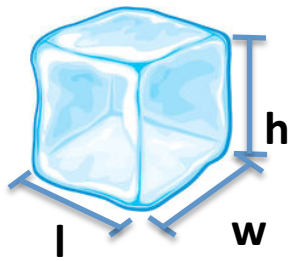
Procedure:
1. Measure, with the ICESat-2 ruler, the length, width, and height of your ice cube in centimeters. (*Hint…make sure you do this quickly and with limited contact with the ice cube, as it will melt more rapidly)

   1. Length (l): _____cm
   2. Width (w): _____cm
   3. Height (h): _____cm

2. With these measurements, calculate the volume of your ice cube.
   1. Record that number here: _____ cm3

3. Use the following volumes of ice of Greenland and Antarctica to calculate how many of your ice cubes it would take to equal the volume of ice found on these land masses. (*Note…you will need to convert cm3 to km3)

   1. Conversion of your ice cube volume from cm3 to km3
      1. Record that number here: _____km3
   2. Greenland= 2,850,000 km3;   Antarctica= 25,700,000 km3
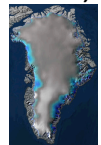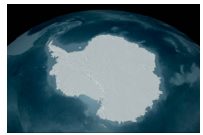
   Greenland   Antarctica

   3. Record those numbers here
      1. Ice cubes needed to equal Greenland: _____km3
      2. Ice cubes needed to equal Antarctica: _____km3

Additional Questions for Discussion
1. How fast did your ice cube melt?
2. How might your ice cube melting relate to the melting of ice from Greenland and Antarctica?