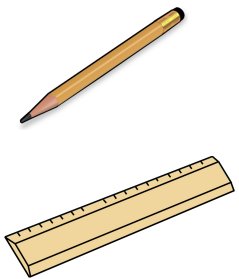
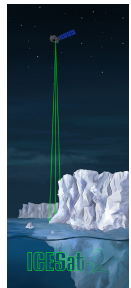
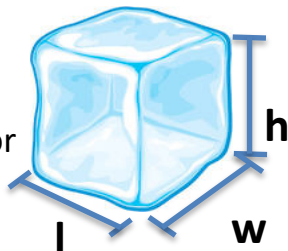


# THAT'S A LOT OF ICE!

Background: Launched September 15, 2018, the Ice, Cloud, and Land Elevation Satellite-2 or ICESat-2 measures 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:

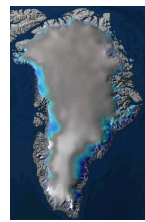
- 1 ice cube
- ICESat-2 bookmark/ruler or Standard ruler
- Pencil



### Procedure:

1. Measure, with a 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)

- Length (l): \_\_\_\_\_ cm
- Width (w): \_\_\_\_\_ cm
- Height (h): \_\_\_\_\_ cm



Greenland



Antarctica

1. With these measurements, calculate the volume of your ice cube.  
1. Record that number here: \_\_\_\_\_ cm<sup>3</sup>

2. 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 cm<sup>3</sup> to km<sup>3</sup>)

- Conversion of your ice cube volume from cm<sup>3</sup> to km<sup>3</sup>
  - Record that number here: \_\_\_\_\_ km<sup>3</sup>
- Greenland= 2,850,000 km<sup>3</sup>; Antarctica= 25,700,000 km<sup>3</sup>
- Record those numbers here
  - Ice cubes needed to equal Greenland: \_\_\_\_\_ km<sup>3</sup>
  - Ice cubes needed to equal Antarctica: \_\_\_\_\_ km<sup>3</sup>

### Additional Questions for Discussion

- How fast did your ice cube melt?
- How might your ice cube melting relate to the melting of ice from Greenland and Antarctica?

