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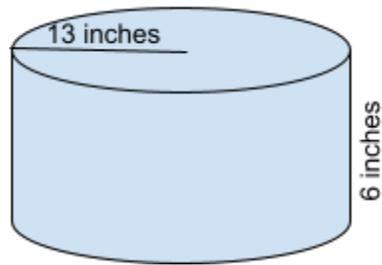
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Bentwood Box Gift

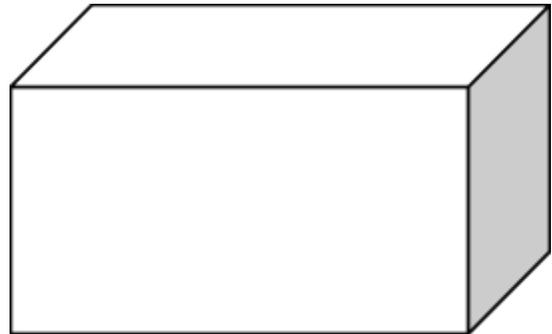
Beaver (*ina*) just finished making a special drum (*pumpum*^{•r}). In order to protect the drum, Beaver decides to make a bentwood box (*lak^haset*) out of cedar (*k^halakwati-stik*^{•r}). Beaver knows that he can steam the cedar in order to bend it into the shape of the box.



Members of the Chinook Indian Nation singing and drumming



1. What is the volume of the smallest box Beaver could build to hold the drum? Show the steps you used to come to your conclusion. Label each part of the box, such as the top/bottom, and label each dimension with the unit of measure.



2. What is the surface area for this box? Show your work.

3. Beaver wants to make sure that the drum does not get damaged while being moved in the box. Beaver collected more cedar and made it into strands to fill the empty space of the box to protect the drum. Approximately how much extra space will need to be filled in the box? (*Hint: Volume of Box - Volume of Drum = Extra Space*)



Photo courtesy of Natasha Gobin & Theresa Sheldon, Tulalip Tribal members

4. If Beaver were to make a drum with twice the radius and the same height as the original drum, how would the volume of the drum change?



a. How would the larger drum affect the surface area of the bentwood box?

b. How would the larger drum affect the volume of the bentwood box?