

Activity #5: Hat sizes?

This activity should be done in pairs.

Hat size is actually the average diameter of your head. But how do you find the average diameter of your head. Most people's head circumference is not circular. The circumference of your head is kind of ovoid. And, how do you measure your head diameter ... through your ears?

No problem, since students have learned about π they can calculate the diameter of their heads by first measuring the circumference of their heads.

Using a flexible tape measure (cloth measuring tape works well) or a string that can be measured afterwards, have students measure the circumference of their heads in the place where a hat would rest.

- a. One partner could make an estimate of the other partner's head diameter by measuring ear-to-ear and front to back from above their partner's head and averaging the two measurements.
- b. Or, partners could measure the circumference of their partner's head and divide by π (since circumference = $2 * \pi * r$) and $2 * r = \text{diameter}$ then solving the circumference formula, $C = 2 * r * \pi$ for $2 * r$ will let you calculate the diameter of your head.

1. What is your hat size?

2. What is the diameter of your head?

3. What does the diameter of your head times π equal?