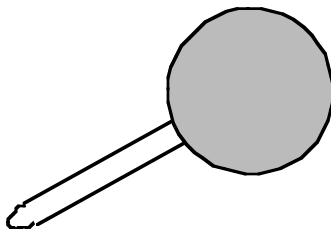




In Class Exercises (ICE) - 12/13/00

A “related rates” problem uses information about one derivative to find out about another derivative. For example, if you were sucking a lollipop,



you could approximate the shape of the lollipop as a sphere, and calculate the volume as a function of the radius.

- What is the volume of the lollipop as a function of radius?***
- Use your watch, ruler and lollipop to find some data points, and record them in the table below.***

Time (s)	Radius (mm)	Volume (mm ³)	dr/dt	dV/dt	$4\pi r^2 dr/dt$

- Based on the data that you’ve collected, how are the derivatives of radius and volume related?***