Resonance

The natural frequency of vibrating objects
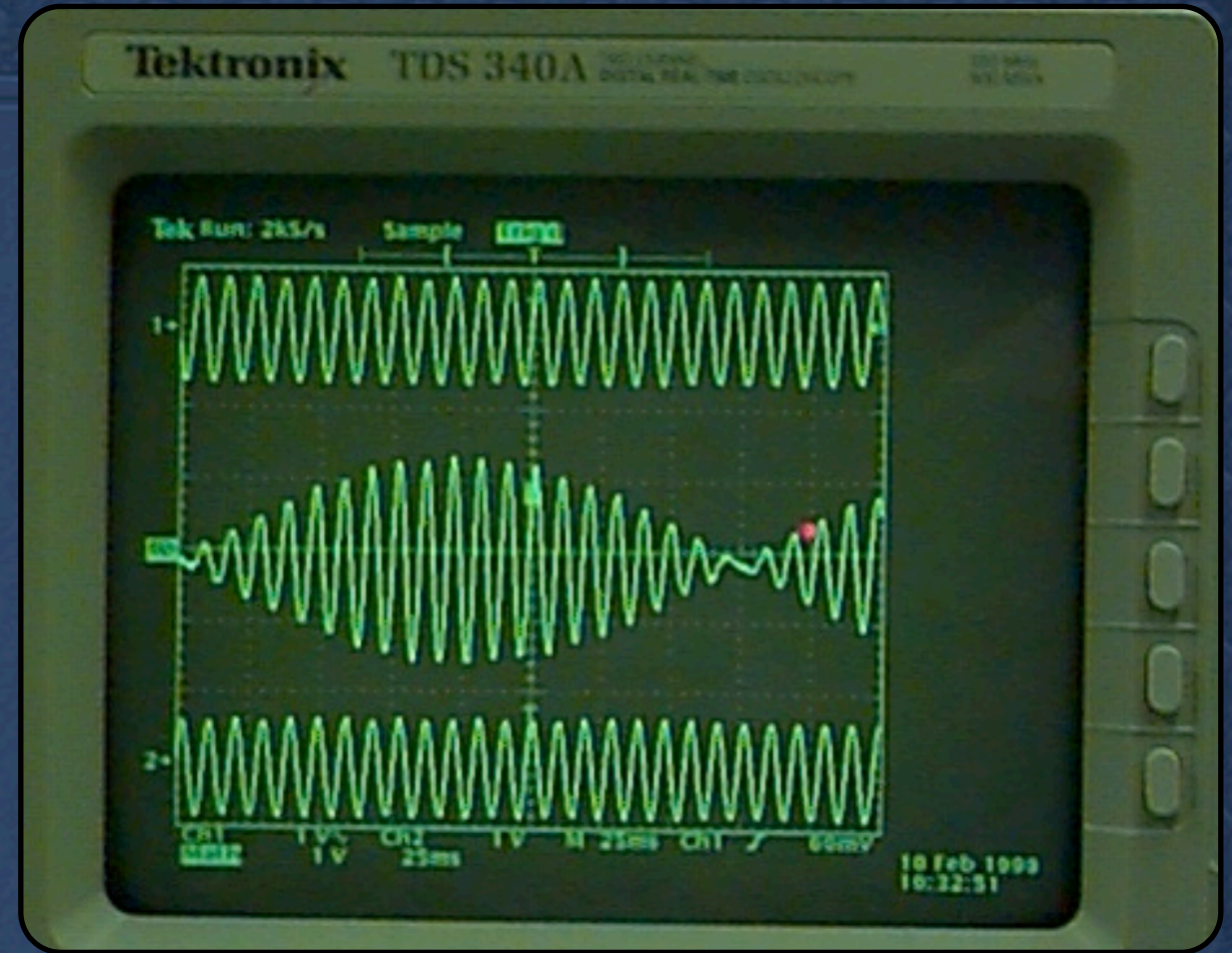
How does a swing work?

Tuning Forks

Beat Frequency

Beat Frequency

$$f_b = f_1 - f_2$$

Sample: A student plays a "middle C" (256 Hz) on an instrument and also from a slightly lower source. A beat is heard 25 times in 10 seconds. What is the lower note?

The Tacoma Narrows Bridge

TACOMA NARROWS BRIDGE COLLAPSE

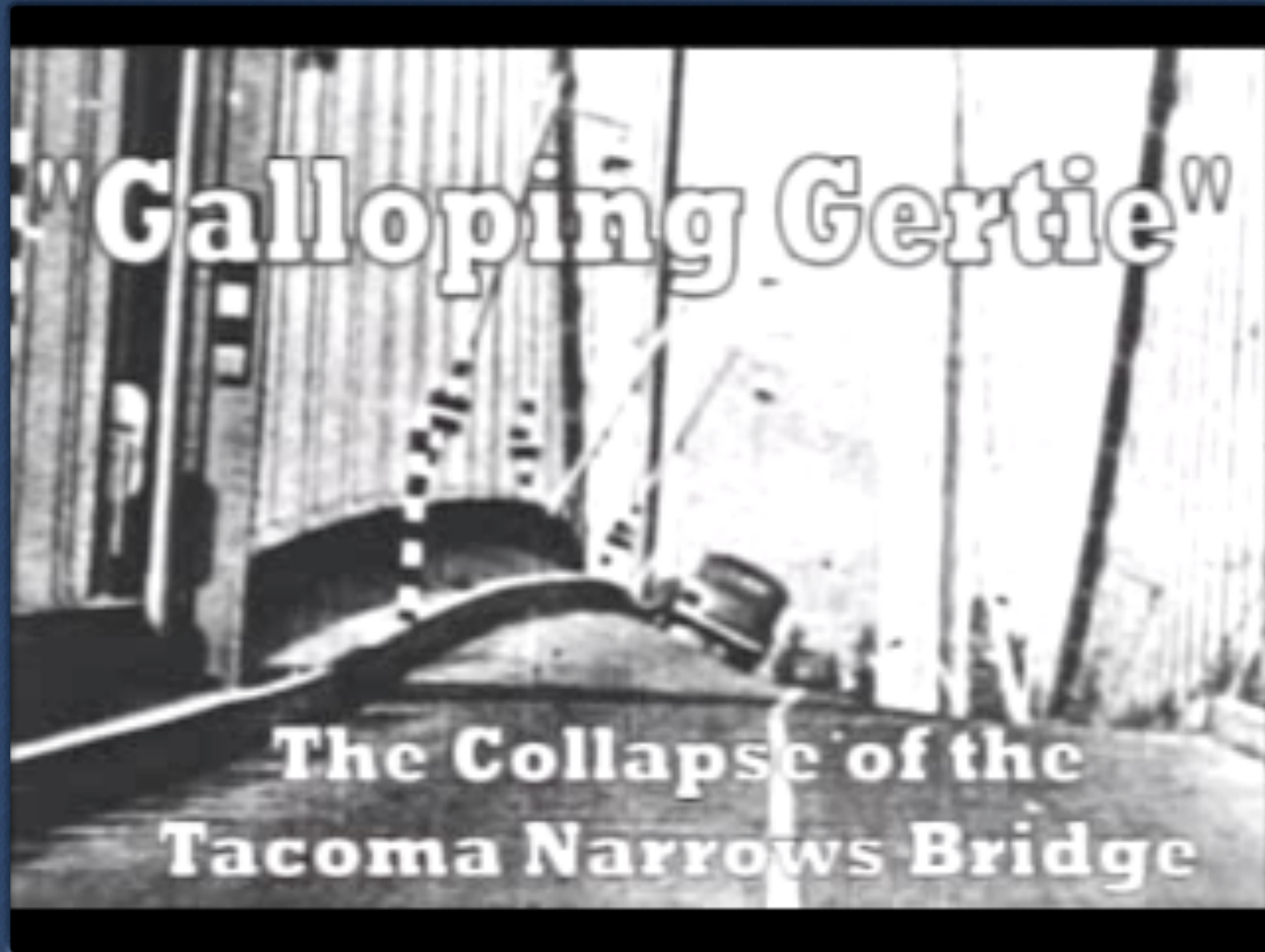|	
Length of center span	2800 ft
Width	39 ft
Depth of stiffening girders	8 ft
Start of construction	Nov. 23, 1938
Opened for traffic	July 1, 1940
Collapse of bridge	Nov. 7, 1940

The Tacoma Narrows Bridge

with values

The wine glass

Mythbusters

The Tacoma Narrows Bridge