

### 3.3.1: Resonance

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Resonance occurs in an oscillating system when the driving frequency happens to equal the natural frequency. For this special case the amplitude of the motion becomes a maximum. An example is trying to push someone on a swing so that the swing gets higher and higher. If the frequency of the push equals the natural frequency of the swing, the motion gets bigger and bigger. Resonance is a key concept in the production of sound in instruments and in acoustics and we will come across it many times.

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