Name: _____ Group: _____ Date: _____

CONCEPT REVIEW 15

SOUND WAVES AND THE DECIBEL SCALE

PAGES 100 TO 105

Complete this concept review handout and keep it as a record of what you have learned.

DEFINITIONS

- Sound is *a longitudinal mechanical wave produced by the vibration of an object and transmitted to the object's environment.*
- The decibel scale is *a relative scale that represents the perception of the intensity of sound by the human ear.*

CHARACTERISTICS OF SOUND

- The speed of sound varies *quite a bit from medium to another.*
  In the air, the speed of sound is *1224 km/h or 340 m/s.*
- The intensity of sound depends on *the amplitude* of the sound wave.
  The intensity of sound is measured in *decibels (dB).*
- Sound tones correspond to the *frequency*, which is measured in *hertz (Hz).*

THE DECIBEL SCALE

Intensity (dB)	How much louder than 0 dB	Example	Hearing damage
20	100	Murmur (2 m away)	None
40	*10 000*	*Calm classroom*	*None*
70	*10 000 000*	*Intense road traffic (3 m away)*	*None*
110	*100 000 000 000*	*Rock music concert*	*Long term*
120	*1 000 000 000 000*	*Jet motor (14 m away)*	*Immediate*