

<b>CHAPTER 8</b>	<b>Investigation 8.B: Factors Affecting Heart Rate and Blood Pressure Answer Key</b>	<b>BLM 8.1.8A</b>
<b>ANSWER KEY</b>		

### Answers to Analysis Questions

1. The resting blood pressure will vary but should be approximately 120 mmHg/80 mmHg.
2. Blood pressure should increase when the human body is placed under stress. Blood pressure should decrease when the stress is removed.
3. Your answer will be directly related to the factor that you are investigating. As well, each individual will respond differently to the factor being studied. For example, if you are investigating the effects of exercise, the results will depend on the level of physical fitness of the test subjects. A fit student's heart will return to the resting rate more quickly than an unfit student's.

The more vigorous the exercise is, the greater the difference in heart rate, and the longer it may take to return to resting heart rates.

### Answers to Conclusion Questions

4. The differences within the class could be due to any number of factors. It will also depend on the variable that was tested (i.e., exercise might have a more dramatic affect on heart rate and blood pressure than drinking a cup of coffee would have).
5. The adaptive advantage to an increase in blood pressure is that this would increase the blood flow to the body tissues. For example, when the body's demand for oxygen increases, as it does during exercise, more blood must be delivered through the capillaries to meet the tissue's needs. Higher blood pressure is needed to ensure an increased flow to all parts of the body that require additional oxygen and nutrients.

### Answers to Extension Questions

6. All effective remedies must decrease the blood pressure by relaxing the patient and decreasing the effects of stress on the body. Reducing blood pressure can happen through medical treatments that reduce the chemical responses or through methods in which an individual could naturally control the chemical responses to stress.
7. Special training and practice are required in order to accurately use a manual sphygmomanometer. It may be difficult for you to match the sound you hear in the stethoscope with the movement of the needle in the pressure gauge. Digital sphygmomanometers may not be as accurate but are much easier to use.