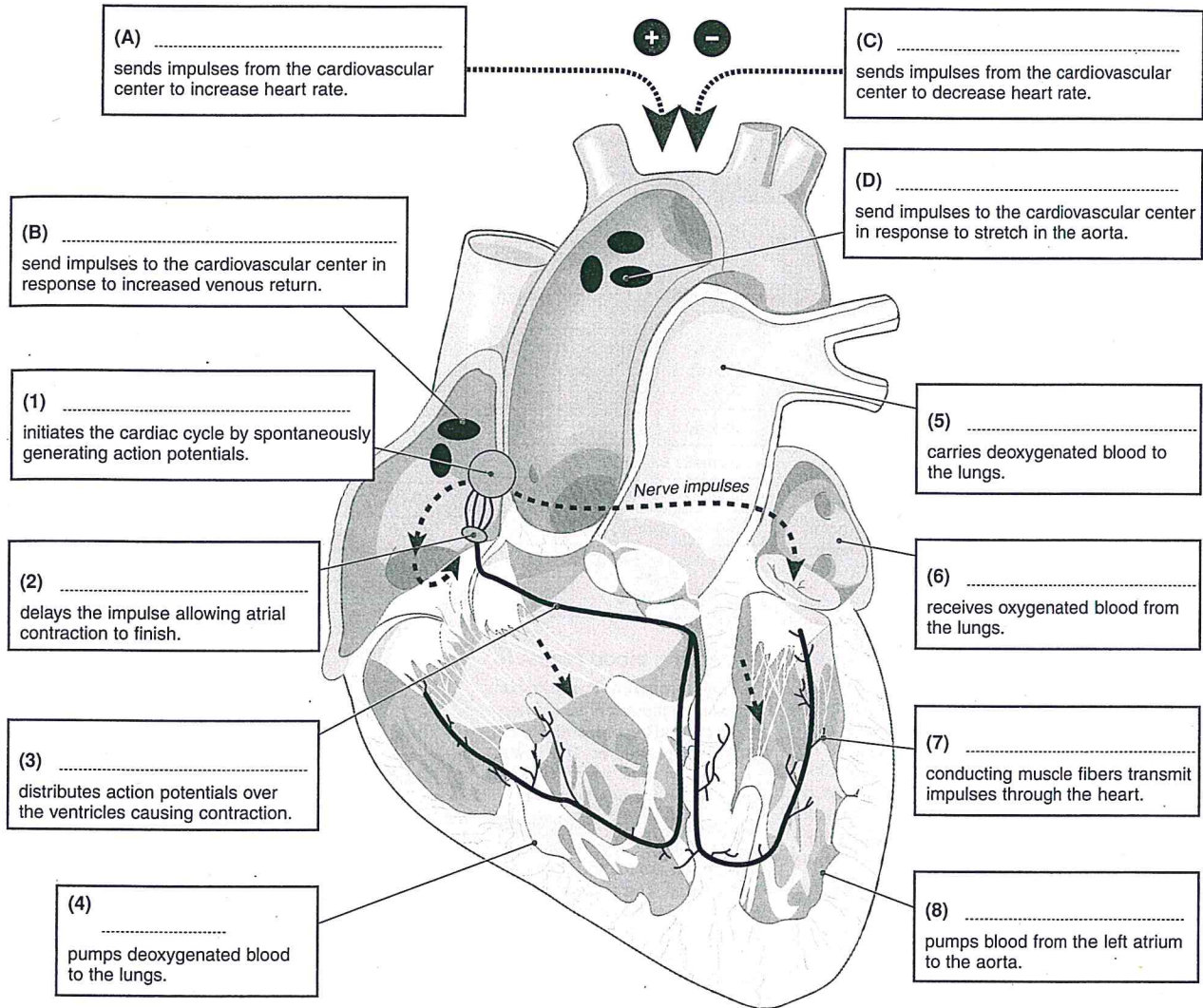


# Review of the Human Heart

A circulatory system is required to transport materials because diffusion is too inefficient and slow to supply all the cells of the body adequately. The circulatory system in humans transports nutrients, respiratory gases, wastes, and hormones, aids in regulating body temperature and maintaining fluid balance, and

has a role in internal defense. The circulatory system comprises a network of vessels, a circulatory fluid (blood), and a heart. This activity summarizes key features of the structure and function of the human heart. The necessary information can be found in earlier activities in this topic.

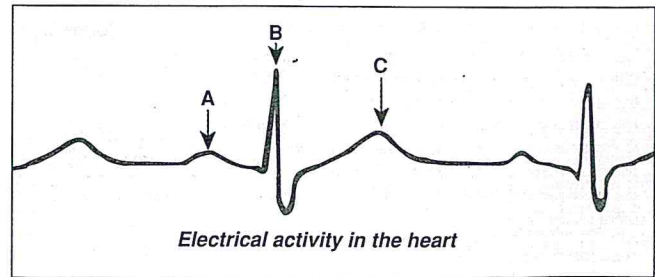


The Cardiovascular System

1. On the diagram above, label the identified components of heart structure and intrinsic control (1-8), and the components involved in extrinsic control of heart rate (A-D).

2. An **ECG** is the result of different impulses produced at each phase of the **cardiac cycle** (the sequence of events in a heartbeat). For each electrical event indicated in the ECG below, describe the corresponding event in the cardiac cycle:

- A .....  
The spread of the impulse from the pacemaker (sinoatrial node) through the atria.
- B .....  
The spread of the impulse through the ventricles.
- C .....  
Recovery of the electrical activity of the ventricles.



- 3. (a) On the trace above, mark the region where the ventricular pressure is highest.
- (b) What is happening to the ventricular volume at this time?