B3.2 Transport: data-based questions

What the Cell · DP Biology · data-based questions

Name _____ **Date** _____ **Total** _____ / 7

Read the data carefully before you answer. The number of marks shows how many separate points to make. Show your working in calculations.

1 Returning blood from the legs

7 marks

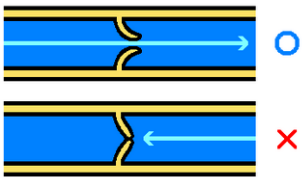
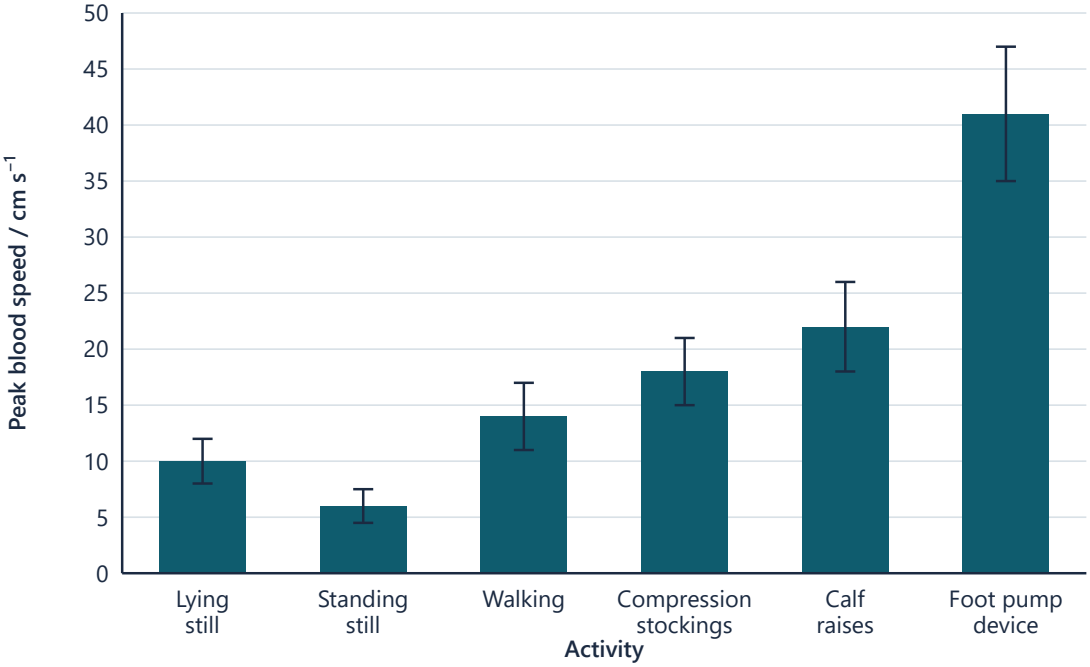


Photo: made by Was a bee., Public domain, Wikimedia Commons.

Blood in leg veins returns to the heart partly because contracting leg muscles squeeze the veins, and valves stop it flowing back. The peak speed of blood in a vein behind the knee was measured in 24 adults during six activities. Lying still was the control. Error bars show ± 1 SD.



a **Identify** the activity that reduces blood speed compared with the control. **[1]**

b **Suggest** a reason for this reduction. **[1]**

c **Calculate** the percentage increase in blood speed with compression stockings compared with lying still. **[1]**

d **Determine** the difference in blood speed between lying still and using the foot pump device. **[1]**

e People on long flights are advised to move their legs regularly. **Discuss** the benefits of this, using the data. **[3]**