**Formative Assessment**  Name: **ANSWER KEY**  
BIOLOGY: Human Circulatory System Time: 15 minutes

**Q1.** A haematologist was studying a blood smear. What they viewed under the microscope is shown below.

A circular object with circles and dots

Description automatically generated



1. ***Label*** the components of blood on the blood smear image above. **(4 marks)**
2. ***Compare*** the structure of white blood cells and red blood cells. **(4 marks)**

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| White blood cells are larger **(1)**, than red blood cells **(1)** |
| White blood cells contain organelles such as a nucleus **(1)**, whereas red blood cells |
| lack a nucleus and other organelles **(1).** |
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c) The haematologist did not think this blood smear came from a healthy sample. ***Propose*** why he might think this by describing evidence shown in the diagram and referring to your learning of blood. **(3 marks)**

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| White blood cells make up less than 1% of bloods composition **(1).** |
| This blood smear has more white blood cells than expected in a healthy sample **(1).** |
| The high levels of white blood cells in this smear suggest this person is sick / has an |
| Infection / has a disease such as cancer **(1).** |
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**Q2.** A student was labelling a diagram of a heart. Their diagram is shown below.

A diagram of a heart

Description automatically generated



a) The student made an error when labelling their diagram. ***Circle*** the error and ***explain*** why it is incorrect. **(3 marks)**



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| Student has identified the error in the diagram – see above **(1)** |
| Veins carry blood to the heart [OR] arteries carry blood away from the heart **(1)** |
| The major vessel in the diagram above is carrying blood away from the heart, therefore |
| it should be labelled as an artery, not a vein **(1)** |

b) Valves can be found in the heart and veins. ***Describe*** the role of valves in the circulatory system and ***add*** a label for a valve to the diagram above. **(3 marks)**

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| Valves ensure the one-directional flow of blood in the circulatory system [OR] |
| Valves prevent blood from moving backward **(1)** |
| This maintains the efficiency / effectiveness of blood circulation **(1)** |
| Student has labelled one valve on the diagram above – see example **(1)** |

**PERSONAL LEARNING REFLECTION**

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| One thing I have learnt from doing this activity is… | **SCORE:**  \_\_\_\_\_\_ / 17  \_\_\_\_\_\_\_ % |