

AS Level Biology B

H022/02 Biology in depth

Question Set 12

- 1 Pathologists are often required to produce blood smears for analysing blood samples and determining the health of patients.

A pathologist produced a blood smear and then observed it using a light microscope.

Fig. 1 shows the image of the blood smear seen by the pathologist.

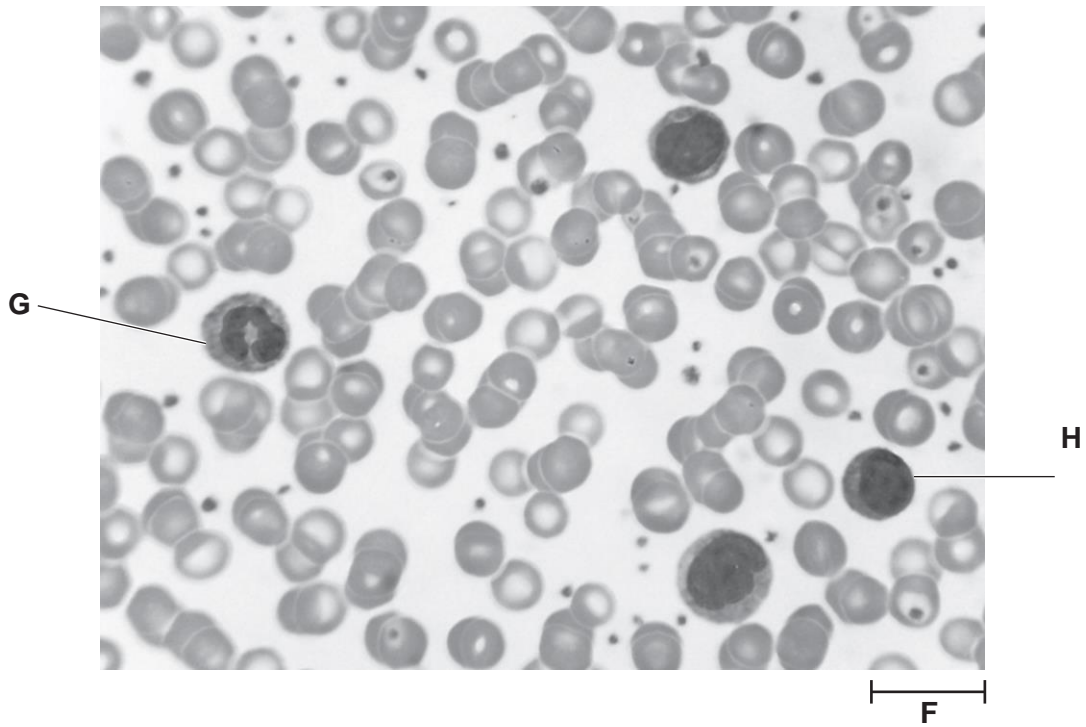


Fig. 1

- (a) (i) Name cells **G** and **H** in Fig. 1.

G

H

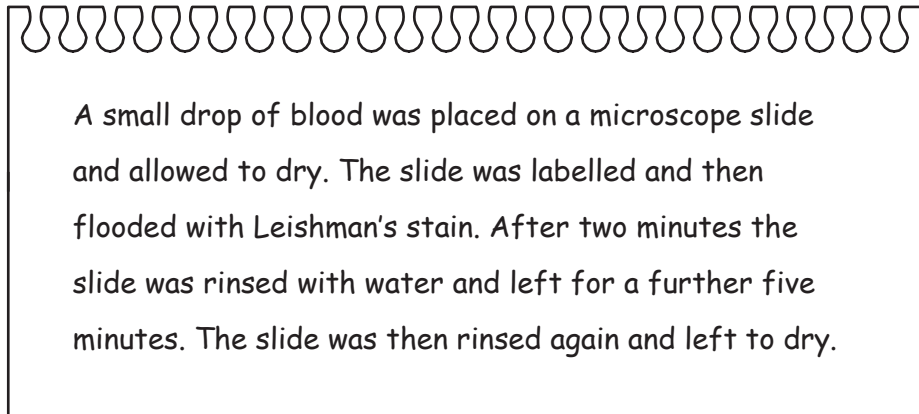
[2]

- (ii) The magnification of the image in Fig. 1 is $\times 500$.

Calculate the length represented by the scale bar labelled **F**.

[2]

- (b) Stages for preparing a stained blood smear in a school laboratory are outlined in the notes below.



- (i) Give one stage that is missing from the notes **and** explain the effect this would have on the resulting blood smear.

[2]

- (ii) Leishman's stain mentioned in the notes is a differential stain.

Explain why a differential stain is used when producing a blood smear.

[2]

- (c) Flow cytometry is another technique used by pathologists for analysing blood samples.

Describe the usefulness of flow cytometry for analysing blood samples.

[3]

Total Marks for Question Set 12: 11



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