

APOLLO

Experimentation Skills

FBISE Biology Class 12 (HSSC-II)

Domain X: Experimentation Skills

6 questions | questions

Original FBISE question crops. National Curriculum 2022-23 topic.

Q.1 Figure 1.1 shows the setup of an experiment in which activity of catalase enzyme is being studied.

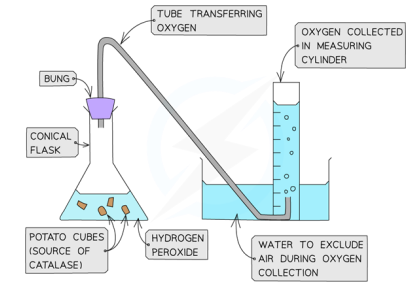


Fig: 1.1

a) If the effect of substrate concentration is to be investigated, what would be the independent variable and dependent variable in this activity: [2]
being studied.

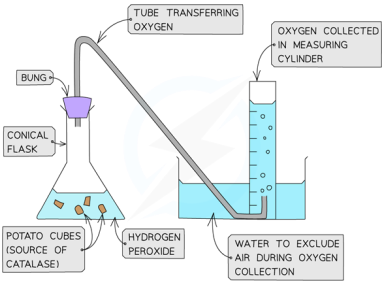


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a) If the effect of substrate concentration is to be investigated, what would be the independent variable and dependent variable in this activity: [2]
b) If the conditions for the above experiment are kept constant and the amount of oxygen collected in the cylinder is 10ml at 5 minutes. Predict the amount of oxygen at 15 minutes: [1]
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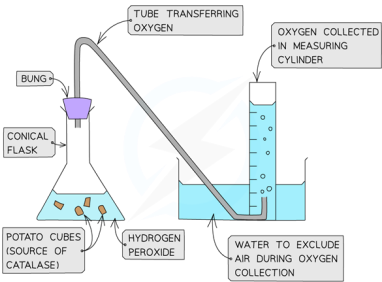


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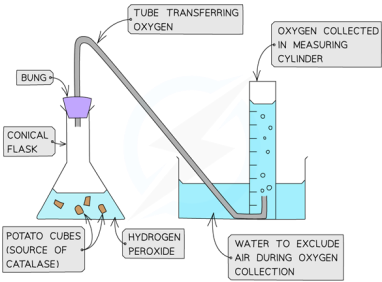
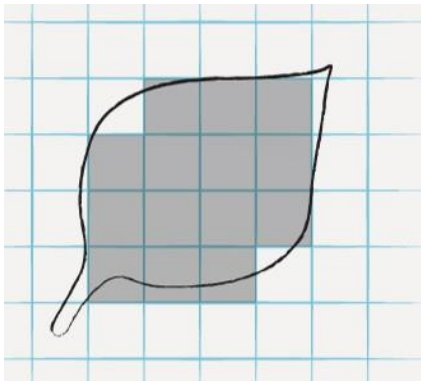


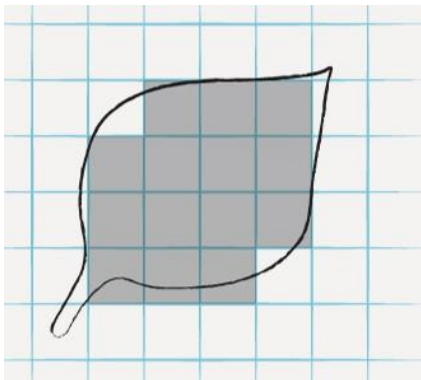
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d) Which apparatus can be used to maintain the temperature in the above experiment: [1]

Q4. Leaf surface area is calculated by placing it on a graph paper as shown below:

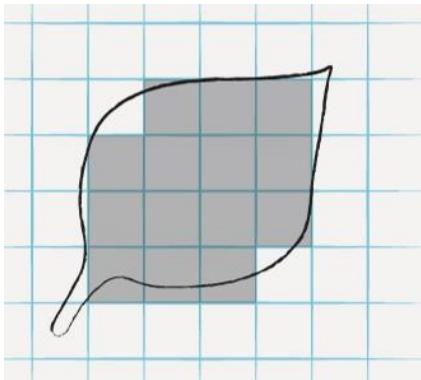


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- a) Calculate the surface area of the given leaf with all steps. [2]
- b) How leaf surface area affect the rate of transpiration in plants? [1]
- c) Describe how the graph-paper method can be used to estimate the surface area of an irregularly shaped leaf. [2]

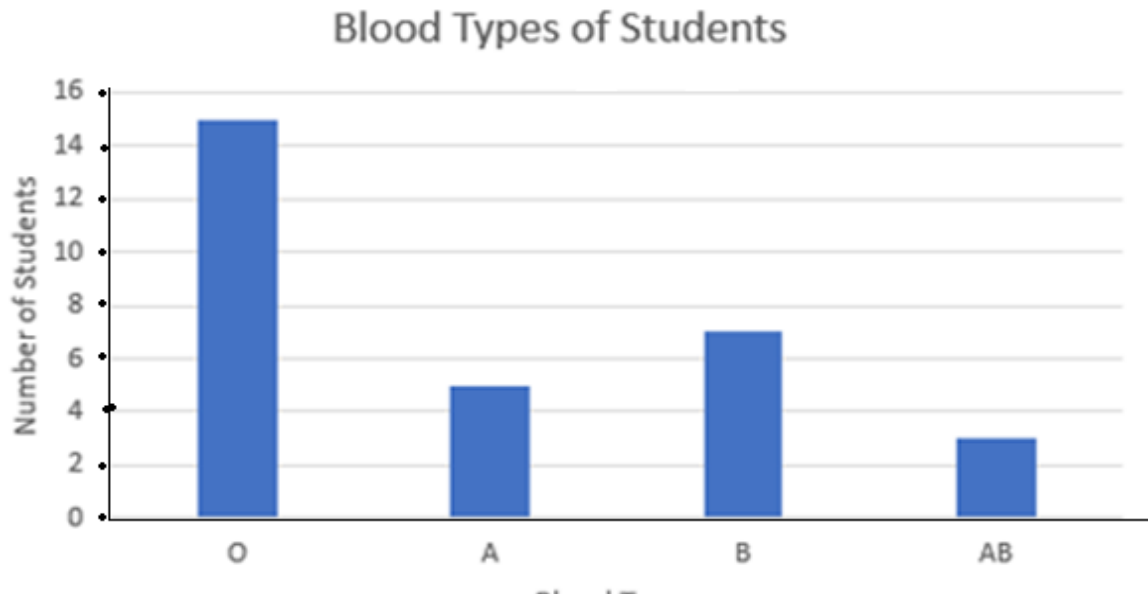


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- c) Describe how the graph-paper method can be used to estimate the surface area of an irregularly shaped leaf. [2]
- d) A student counts only the complete squares inside the outline of the leaf and ignores all incomplete squares. Explain how this would affect the estimated area. [1]

- b) Explain how to prepare temporary slides of plant cells of leaf epidermis to observe under light microscope. [2]

- Q1. A group of students performed ABO blood group testing in biology lab. After getting results, the data was plotted into following graph.



- iii. Write the numbers of students having each blood type according to this graph. (2)

Figure 1.1 shows the setup of an experiment in which activity of catalase enzyme is being studied.

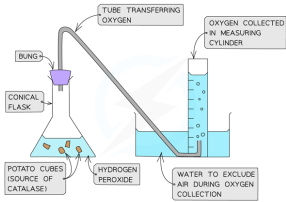


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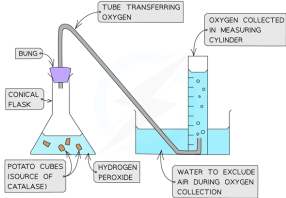


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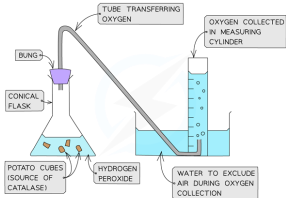


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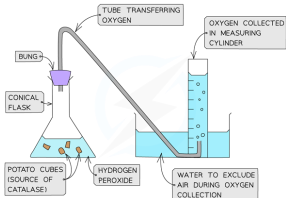


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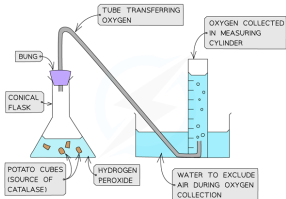


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Q.2 The antibiotic sensitivity test, also known as the Kirby-Bauer test, is a widely used laboratory method for determining the effectiveness of antibiotics against specific bacterial strains. Table 2.1 below presents the diameters of the zones of inhibition for

a) Analyze the data given in table 2.1 and pinpoint the anomalous reading: [1]