1. State one difference between the seeds of monocotyledons and dicotyledons other than the number of seed leaves.

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1. What is meant by the germination of a seed?

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1. State three environmental factors that are necessary for germination.

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1. Answer the following in relation to an experiment that you carried out to investigate the effect of these factors on germination. (i) What seeds did you use? (ii) Describe how you carried out the experiment; (iii) State the results of your experiment.

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1. What is meant by the dormancy of seeds?

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1. Suggest an advantage of dormancy of seeds to a plant.

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1. What is meant by germination?

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1. List three factors that are essential for germination.

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1. In the case of one of the factors that are essential for germination, explain how it affects germination.

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1. Describe an experiment to demonstrate the factors essential for germination. Include a diagram of the apparatus in your answer.

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1. True or False. Light is essential for the germination of seeds.

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1. What is meant by the germination of a seed?

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1. State one reason why water is needed for germination

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1. Answer the following questions in relation to an experiment that you carried out to investigate the effects of water, oxygen and temperature on germination. (i) Describe how you carried out the experiment (ii) Describe the results of this experiment, including the result of the control.

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1. In the case of starch or skimmed milk agar plates state: 1. An investigation in which you used it, 2. The precise purpose for its use in the investigation that you have indicated.

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1. In your practical work you investigated digestive activity during germination. (i) What type of agar did you use in this investigation? (ii) Describe how you carried out the investigation. Refer to a control in your answer. (iii) Describe the results of your investigation.

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1. Following dispersal, the seed undergoes a period of dormancy. What is dormancy?

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1. Suggest two advantages of dormancy.

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1. What is germination?

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1. State three factors necessary for the germination of a seed.

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1. What is meant by the germination of seeds?

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1. Seeds may remain inactive for a period before germination. What term is used to describe this period of inactivity?

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1. Answer the following questions about an investigation that you carried out on the effect of water, oxygen and temperature on germination. (i) What seeds did you use? (ii) Explain how you set up a control for the investigation. (iii) How did you deprive some of the seeds of oxygen? (iv) How did you ensure that some of the seeds were deprived of a suitable temperature for germination? (v) State the results of the investigation, including those of the control.

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1. What is meant by germination?

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1. Why is digestion necessary in a germinating seed?

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1. Digestive activity during germination can be demonstrated by using agar plates. (i) What is an agar plate? (ii) An extra food material is added to the agar plate for this demonstration. Give an example of such an extra food material. (iii) Outline the procedures that you carried out in setting up this demonstration. (iv) What control did you use for this demonstration? (v) What procedure did you carry out in order to show that digestive activity had taken place? (vi) Describe the results that you obtained in: 1. The experimental plate. 2. The control plate.

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1. Following dispersal most seeds enter a period of dormancy. What is dormancy?

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1. Give an advantage of dormancy.

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1. Name the stage in the plant’s life cycle that follows dormancy.

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1. What is meant by the dormancy of seeds?

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1. Give one way in which the dormancy of seeds is of benefit to plants.

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1. Suggest one way in which a knowledge of dormancy is useful to farmers and gardeners.

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1. Water, oxygen and a suitable temperature are all required for the germination of seeds. In the case of each of these factors describe its effect on the process of germination.

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1. What term is given to the growth of an embryo into a plant?

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1. In order for germination to be successful, certain environmental conditions must be present. Name any two of these conditions.

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1. State a use for a water bath in biological investigations.

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1. For what purpose did you use an Anaerobic jar in the course of your practical activities?

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1. From what part of a seed does the root develop?

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1. What type of agar plates did you use when investigating the digestive activity of seeds? How did you demonstrate that digestive activity had taken place in this investigation?

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1. How did you demonstrate the requirement for oxygen when investigating the factors necessary for seed germination?

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1. What is the advantage of dormancy to seeds?

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1. Give three conditions necessary for seeds to germinate.

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1. When investigating digestive activity during seed germination: 1. How did you supply a substrate suitable for the digestive enzymes? 2. How did you ensure that no digestive enzymes were available on the control plate?

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1. Name a part of a seed in which food for germination is stored.

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1. Name the three factors necessary for seeds to germinate.

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1. At the start of the investigation to show digestive activity during germination the seeds were sterilised. Why is this necessary?

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1. At the start of the investigation to show digestive activity during germination the seeds were sterilised. How did you sterilise the seeds?

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1. Name the substance that is used as a medium on which to germinate the seeds in the investigation to show digestive activity.

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1. In the investigation to show digestive activity by seeds during germination what substance, to be digested by the seeds, was added to the medium?

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1. In the investigation to show digestive activity by seeds during germination what control did you use?

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1. In the investigation to show digestive activity by seeds during germination how did you demonstrate that digestive activity had taken place?

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1. Why is a dicotyledonous (dicot) plant so called?

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1. Name a carbohydrate you would expect to find stored in a seed.

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1. What type of agar did you use in the investigation of the digestive activity in germinating seeds?

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1. In the experiment to investigate digestive activity in germinating seeds the seeds were divided into two batches. One batch was used untreated. How did you treat the other batch of seeds before using them in the investigation?

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1. In the experiment to investigate digestive activity in germinating seeds the seeds were divided into two batches. Each batch was treated differently. Why was such treatment necessary?

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1. In the experiment to investigate digestive activity in germinating seeds describe how you carried out the investigation and indicate clearly how you showed whether or not digestion had occurred.

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1. In the experiment to investigate digestive activity in germinating seeds the seeds were divided into two batches. Give the results of your investigation for the untreated seeds.

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1. In the experiment to investigate digestive activity in germinating seeds the seeds were divided into two batches. Give the results of your investigation for the treated seeds.

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