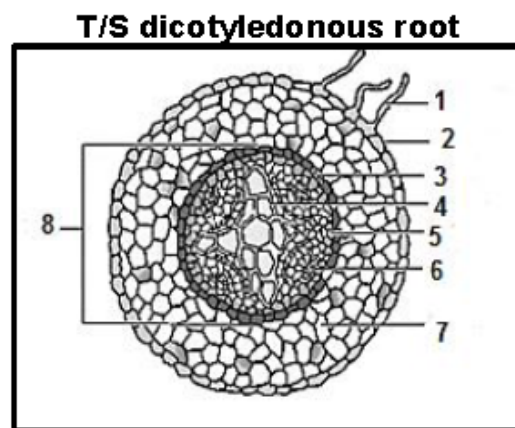
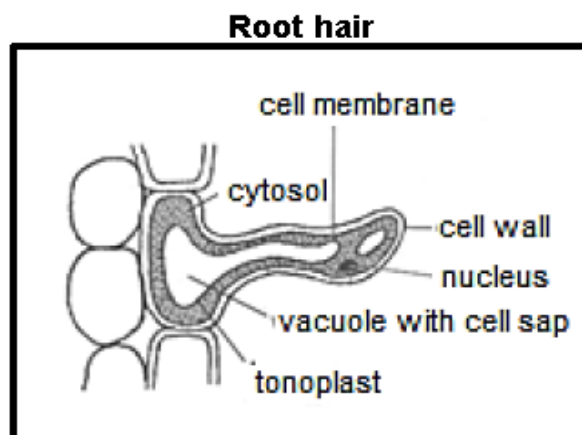


2.2 Study the diagrams below and answer the questions that follow



[Source: [Plant-struktur.weebly.com](http://Plant-struktur.weebly.com)]



[Source: [www.sliderbase.com](http://www.sliderbase.com)]

- 2.2.1 Provide labels for 1 and 2. (2)
- 2.2.2 Give the number of the tissue that:
- (a) Gives rise to side/lateral roots (1)
  - (b) Transports organic food in the plant (1)
  - (c) Stores starch in the root (1)
  - (d) Transports water in the plant (1)
- 2.2.3 Give ONE way in which the root hair is structurally adapted for its function. (2)
- 2.2.4 Does the root hair have a cuticle? Give a reason for this. (3)
- 2.2.5 Predict what would happen if root hairs were not there at all. (2)

2.3 A scientist wanted to investigate whether light is required for the germination of seeds. She filled two plant pots of the same size with equal amounts of soil.

Pot 1 was labelled 'LIGHT' and Pot 2 'DARK'. Five lettuce seeds were planted in each of the pots. Both plants were given sufficient water.

Pot 1 was put in direct sunlight. A cardboard box was placed over Pot 2 and no light was allowed to enter.

- 2.3.1 Write down a hypothesis for the investigation. (2)

- 2.3.2 Identify the:
- (a) Independent variable (1)
  - (b) Dependent variable (1)
- 2.3.3 List TWO variables that were kept constant. (2)
- 2.3.4 Suggest TWO ways in which the reliability of this experiment could be improved. (2)