**Asexual Reproduction**

Q 2009 15 a

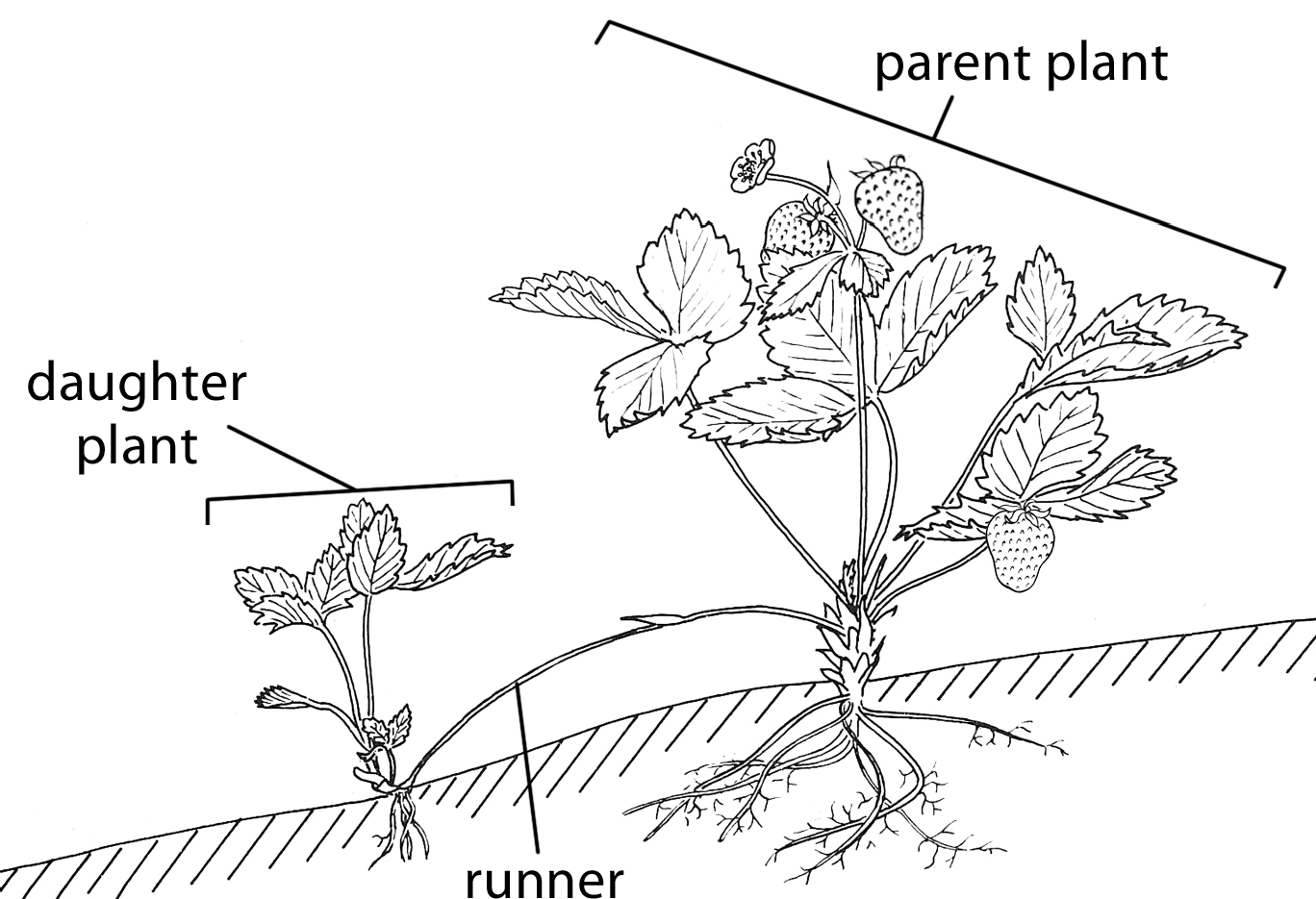
1. What is meant by *vegetative propagation*?
2. Horticulturists use a number of methods to artificially propagate plants. Suggest **one** advantage of artificial propagation.
3. Describe **two** methods used by horticulturists to artificially propagate plants.
4. Give **two** differences between vegetative propagation and propagation involving seeds.

MS 2009 15 a

|  |  |  |  |
| --- | --- | --- | --- |
| (a) | (i) | Production of new plant from root **or** from stem **or** from leaf **or**  plant asexual reproduction (or described) | **3** |
|  | (ii) | Fast **or** preserves desirable features **or** cheap **or** more reliable | **3** |
|  | (iii) | Cuttings (or described) / layering (or described) / grafting (or described) / micro propagation (or described) | **2(3)** |
|  | (iv) | No gametes (or one parent) / identical plants or example / rapid production / no outside agent | **2(3)** |

Q 2013 4

1. The diagram shows a strawberry plant from which a runner has given rise to a daughter plant.



* 1. The runner is a modified stem. How could you tell this from
     1. external observation?
     2. viewing a thin section of it under the microscope?
  2. What term is used for the type of asexual reproduction that produced the daughter plant?
  3. Would you expect the daughter plant to be haploid or diploid?

Explain your answer.

* 1. What evidence is there in the diagram that sexual reproduction has also taken place?
  2. Give one method, other than runners, and not involving seeds, that is used by horticulturists to produce new plants.

MS 2013 4

1. 1. Bud(s) **or** node(s) **or** leaf

2. Vascular bundles [*plural only*]

1. Vegetative propagation
2. Diploid

Product of mitosis **or** genetically identical (to parent) **or** clone

1. Fruit **or (**straw)berries **or** seeds
2. Cuttings **or** layering **or** grafting **or** micro-propagation **or** tissue culture