

Answers to end-of-chapter questions

Chapter 16: Reproduction in plants

- 1 a gamete
b zygote
c mitosis
d pollination
e seed
f fertilisation

Asexual reproduction	Sexual reproduction
only one parent involved all offspring genetically identical	one or two parents involved involves gametes involves fertilisation zygote formed genetic variation among offspring

- 3 a i age of seeds; [1]
ii water;
oxygen;
warm temperature; [3]
(if light also given, max 2 marks)
b i young plants will need light for
photosynthesis; [1]
ii D;

- 4 a asexual; [1]
b produces new banana plants that are identical
to the parent (so the bananas will be exactly the
same variety);
produces large new plants quickly; [2]
c all new plants will be genetically identical;
if the parent did not have resistance to the
disease then nor will the offspring; [2]

- 5 a pin-eyed has stigma above anthers;
thrum-eyed has anthers above stigma; [2]
b i thorax; [1]
ii abdomen; [1]
c i abdomen; [1]
ii thorax; [1]
d cross-pollination means pollination between
two different flowers;
pollen picked up from one part of the body
in one type of flower will be deposited on the
anthers of the other type of flower;
pin-eyed flower unlikely to have pollen from
another pin-eyed flower deposited on its
stigma / same idea for thrum-eyed; [3]
e thrum-eyed;
pollen can fall from anthers down onto
stigma; [2]
f offspring show genetic variation;
not all individuals will be vulnerable to the
same diseases / some may survive a disease;
different individuals may survive better in
different environments;
species may be able to survive
environmental change; [max 2]