

Dry Land Plants

Plants well adapted to land

We will be looking at conifers
and flowering plants.

What are some examples of conifers?

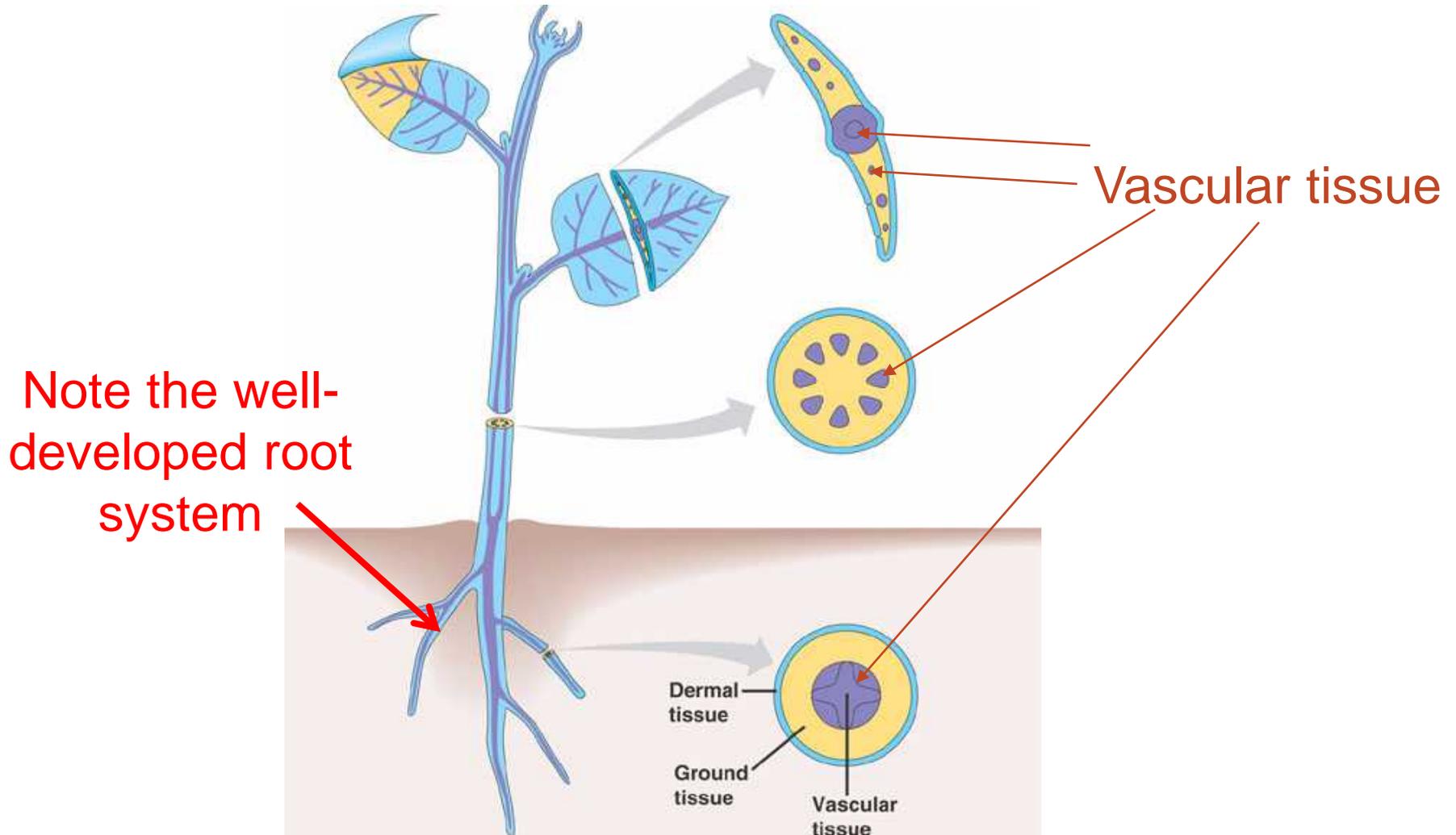
What are some examples of flowering
plants?

What features do they have that
allow them to be successful on
dry land?

Dry Land Plant Features

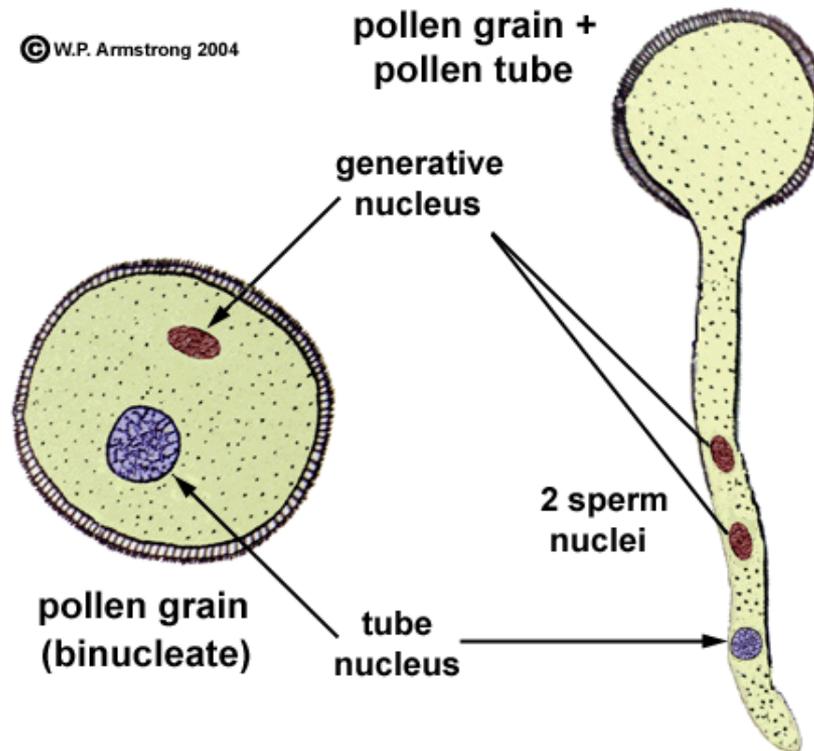
1. They have well-developed vascular systems.
They have phloem (transports food) and xylem (transports water.)
2. Unlike ferns and mosses, they do not depend on water to move their sperm. (no flagelalted sperm)
They produce pollen (male gametophyte) to move their sperm.
3. They produce seeds which contain the embryo (young sporophyte) for dispersal.
The seed can go dormant until good conditions which is a much better way of dispersal than vulnerable spores.

1. Vascular tissue (phloem and xylem) runs throughout a plant



2. Pollen

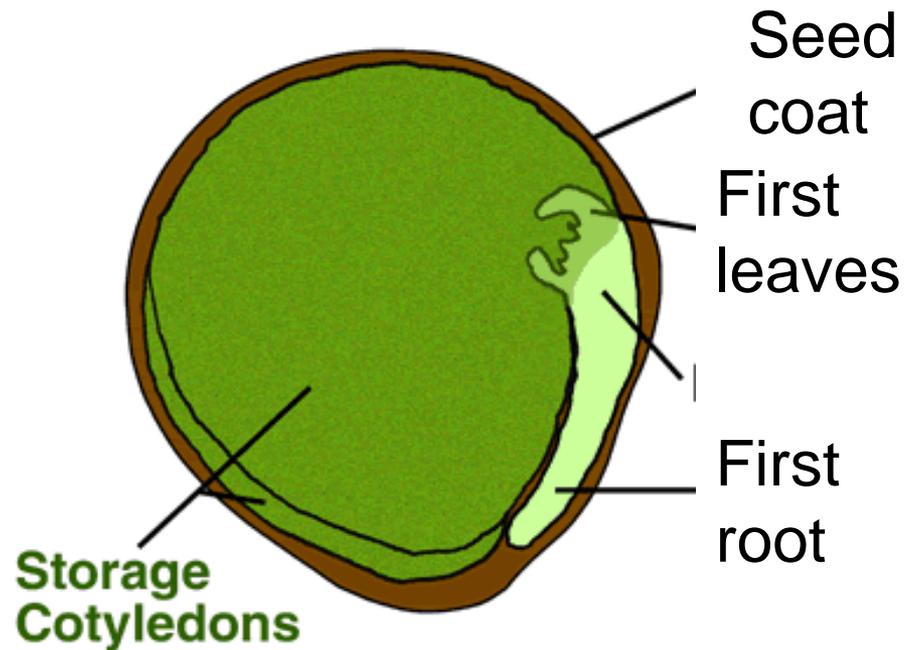
- Pollen (male gametophyte) has sperm inside.
- How can it get around?



3. Seed

- Seeds (produced post sex) have a protective seed coat surrounding an embryo (young sporophyte) with nutritive material.

Remember – seeds can go dormant until good conditions.



Where does sexual reproduction occur?

- In conifers, sexual reproduction occurs in cones.
- In flowering plants, sexual reproduction occurs in flowers.

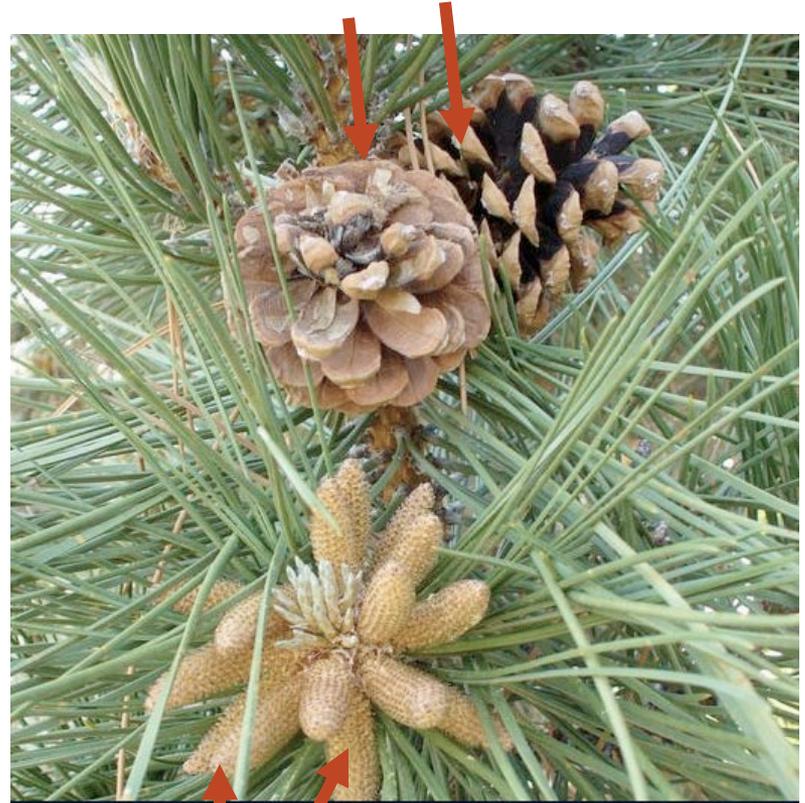
Pine Cones

-where seeds and pollen are produced

Immature female cones



Mature female cones
-have seeds



Male cones make pollen

Pine Reproduction



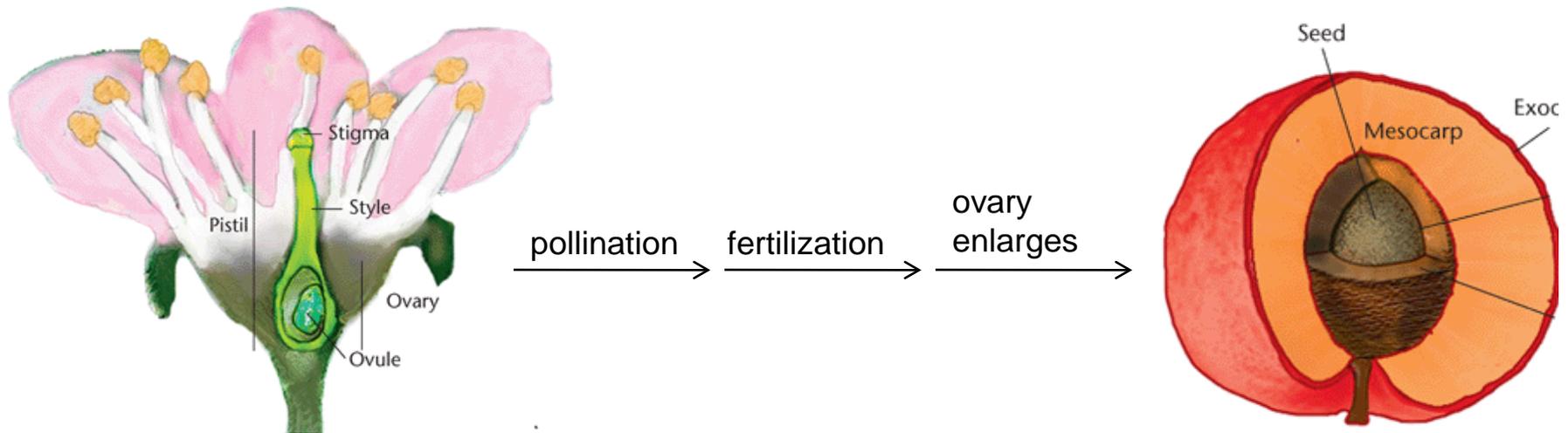
pollination → fertilization →



Very immature female cones containing immature seeds with egg inside.

Mature cones containing mature seeds with embryo (sporophyte) inside.

Reproduction in Flowering Plants



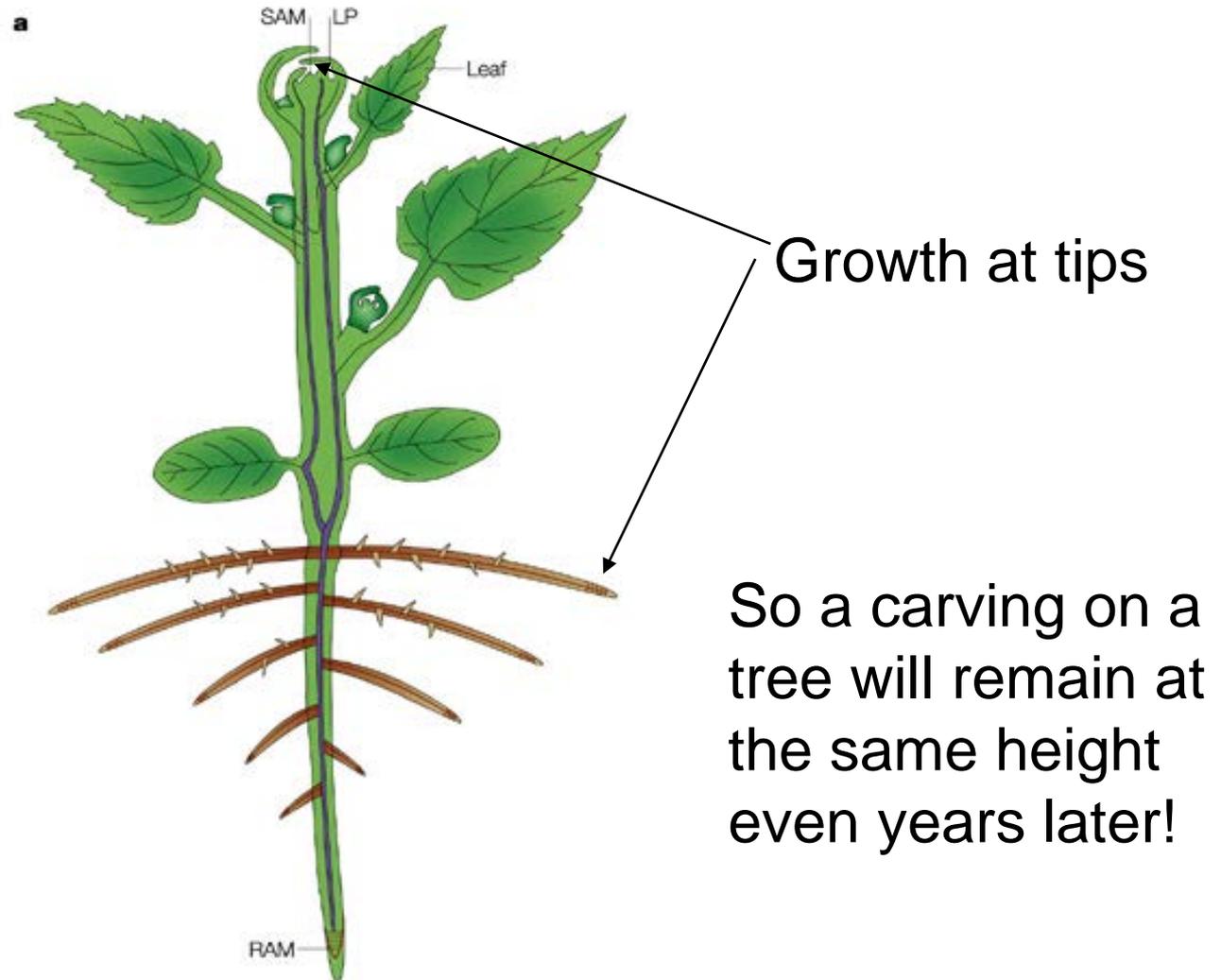
Flower with
immature ovary
with immature
seeds with eggs

Enlarged ovary (a
fruit!) with mature
seeds with embryo
(sporophyte) inside.

If you put a carving on a tree, where does it end up? In other words, where did this carving start out?



Plants grow at their tips for length, not throughout.



How does pollen get around?

- Wind
- Insects
- Birds
- Bats
- In today's lab you will use a dichotomous key to identify the pollinator of the flowers on display.

How do seeds get disperse?

- You will try and figure out how the seeds on display will be dispersed.
- Discuss this among yourselves.
- No looking it up! See if you can figure it out on your own.

Grocery Store Botany

- What part of the plant does is on display?
- What function does it have for the plant?
- Fill in the chart.
- Again, don't look it up, see if you can figure it out!

Clean Up, Please:

- Put microscopes and dissecting scopes away properly.
- Put prepared slides away in proper tray.
- Wash and dry used slides and throw away cover slips.
- Wipe down tables and push in chairs.
- Thank you.

