

# Introduction to Botany. Lecture 16

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## 1 Questions and answers

- Quiz

## 2 Life cycle

- Basics



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  - Quiz
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# Questions and answers

## Quiz



# Final question (3 points)

Why does meiosis happen in two stages?



# Final question (3 points)

Why does meiosis happen in two stages?

Because it has two goals:

- Reduce ploidy—split homologous pairs
- Split X-shaped chromosomes in half



# Life cycle

## Basics



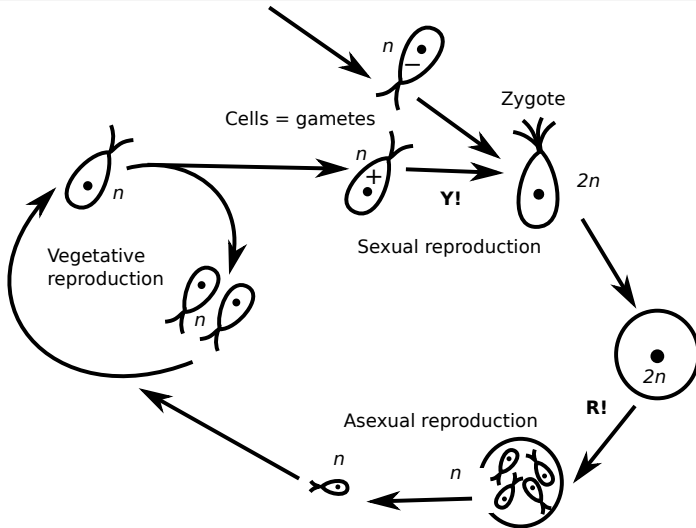
# Simple life cycle: unicellular organism

Associated terms: mitosis, meiosis (R!), syngamy (Y!), reproduction, sexual reproduction, asexual reproduction, vegetative reproduction, isogamy, heterogamy, oogamy, zygote, gamete, male, female, spermatozoon, oocyte





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# Multicellularity, or Origin of Death

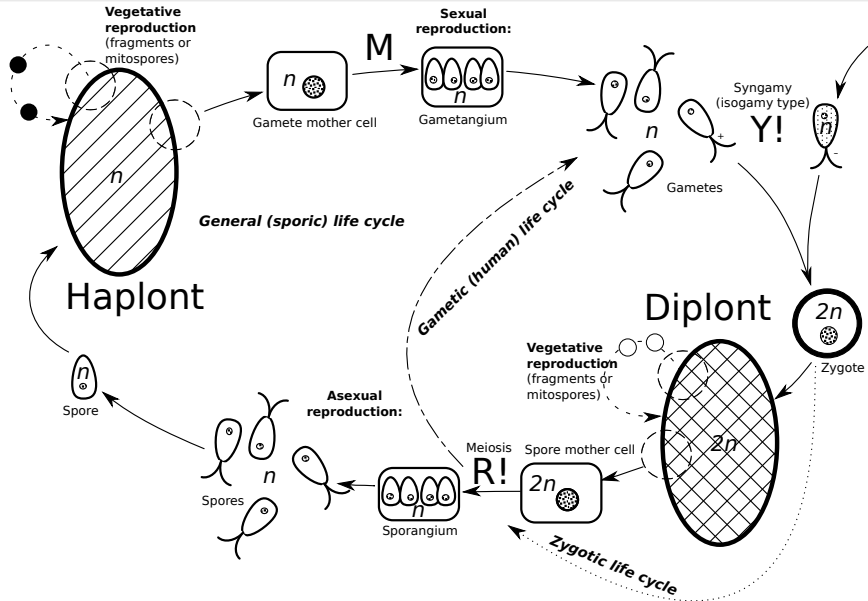
- Sometimes, cells do not part after mitosis. These simple cell aggregates may benefit from their size (e.g., harder to swallow) and putative division of labor (e.g., capture light from different sides and share products of photosynthesis)
- Next step is to separate *germ cells* and *somatic cells*. Somatic cells will eventually die whereas germ cells may give an offspring.
- This is the beginning of **multicellularity**.
- Life cycles of multicellular organisms are based on interleaving **haplont** and **diplont**, the second is making **spores**



# General life cycle: multicellular organism



# General life cycle: multicellular organism



# Final question (2 points)



# Final question (2 points)

Why are there two places of vegetative reproduction in a scheme of the life cycle?



# For Further Reading



A. Shipunov.

*Introduction to Botany* [Electronic resource].

2016.

Mode of access:

[http://ashipunov.info/shipunov/school/biol\\_154](http://ashipunov.info/shipunov/school/biol_154)

