

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: \_\_\_\_\_

# Meiosis Virtual Lab

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Open the web browser and go the address: [http://bio.rutgers.edu/~gb101/lab10\\_meiosis/meiosis\\_web/index10.html](http://bio.rutgers.edu/~gb101/lab10_meiosis/meiosis_web/index10.html)

Pre- Lab Questions: Read the introduction and answer the following questions.

1. What kind of cell does meiosis occur in?
2. What is a diploid number?
3. How would a tetraploid organism be formed?
  
4. Why do gametes need to be haploid?
5. How does meiosis create haploid gametes?

Click "Begin Assignment"

Part I asks you are to review the stages of meiosis from your text book. Use the diagram on page 276 to draw and briefly describe the phases of meiosis below.


Click "Begin Part II"

Click "Click here to begin"

Read the Part II instructions and complete the Meiosis I section, document this by sketching what the plant sex cells look like at each of the stages you identified.

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Click "here"

Repeat the process with the Meiosis II cells, document by sketching what the plant sex cells look like at each of the stages you identified.

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Click "Begin Part 4" (really it takes you to part III it's a typo in the module)

Complete the case studies of the cytogeneticists. Record the gender/ karyotype and the diagnosis for each case studies.

Case 1: gender \_\_\_\_\_ karyotype: \_\_\_\_\_ Diagnosis description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

Case 1: gender \_\_\_\_\_ karyotype: \_\_\_\_\_ Diagnosis description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

Case 2: gender \_\_\_\_\_ karyotype: \_\_\_\_\_ Diagnosis description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

Case 3: gender \_\_\_\_\_ karyotype: \_\_\_\_\_ Diagnosis description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

Case 4: gender \_\_\_\_\_ karyotype: \_\_\_\_\_ Diagnosis description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

Case 5: gender \_\_\_\_\_ karyotype: \_\_\_\_\_ Diagnosis description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

Case 6: gender \_\_\_\_\_ karyotype: \_\_\_\_\_ Diagnosis description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

Case 7: gender \_\_\_\_\_ karyotype: \_\_\_\_\_ Diagnosis description: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_.

Case 8: gender \_\_\_\_\_ karyotype: \_\_\_\_\_ Diagnosis description: \_\_\_\_\_

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1. Why does trisomy occur?
2. What is nondisjunction?
3. What are the three possible outcomes when the gametes of a non-disjunction meiosis combines with a normal gamete?

Post- Lab Questions: Based on what you learned in the module answer the following questions.

1. What is the result of meiosis?
2. How are mitosis and meiosis similar/different?
3. In which stages of meiosis are the cells considered haploid?
4. In which stages of meiosis are the cells considered diploid?
5. Considering humans are diploid organisms  $2N=46$ , how many chromosomes would you expect to find in human gametes?