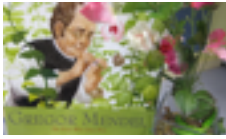


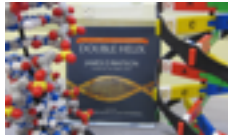
THIS WEEK IN BI 102

TUESDAY LECTURE



Mendel
Mendel's life and research, and the genetics work that followed.

THURSDAY LECTURE



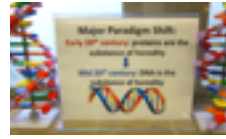
DNA and Proteins
The search for the structure of DNA and its relationship to proteins.

RECITATION



Artificial Selection
The role humans have played in developing dog breeds.

LABORATORY



Chromosomes, DNA, and Protein
Linking DNA with the various proteins organisms produce.

ON-LINE READINGS



Mendel, DNA/RNA, Protein Synthesis
Background information on the week's topics.



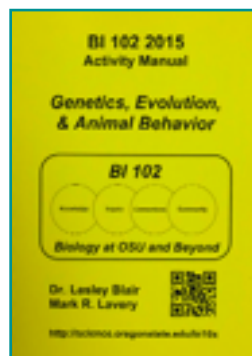
Work Ahead for Tuesday's Lecture

Read "Mendel" and answer the following questions.

From last week's recitation, Mendel studied inheritance in bees and _____.

In Mendel's "Principle of Segregation" the pair of _____ from each parent separate and only one _____ passes from each parent on to an offspring.

In Mendel's "Principle of Independent Assortment" what are assorting independently from each other?



Bring your activity manual to lab and recitation this week.

Work Ahead for Laboratory and Thursday's Lecture

Read "DNA/RNA" and answer the following questions.

List three structural differences between DNA and RNA molecules.

The four letters representing the nucleotide bases in DNA are: _____, _____, _____, and _____.

Where is DNA typically found in a cell?

Work Ahead for Laboratory and Thursday’s Lecture

Read “Protein Synthesis” and answer the following questions.

List the three different types of RNA.

Contrast what is produced by the process of transcription with what is produced by the process of translation.

From the online readings and the *Chromosomes, DNA, and Protein Synthesis* lab in the activity manual (p. 35) a nucleotide consists of a phosphate, a base, and a _____.

Which RNA is a copy of the template strand of DNA (in question #6, p. 36)? _____

The ribosome consists of _____ and proteins (question #8, p. 37).

“DNA” is short for the full molecular name of _____ (Station B, p. 40)

See if you can answer this question (Station D, Question #1, p. 43) from memory: From the Week #1 Corn Lab, a gene is the area of DNA that codes for a _____. Different versions of genes are called _____.

Referring to the information on the right (gray box), why is it a **misconception** to say “DNA, genes, and chromosomes are separate structures?” (Station G, question #2, p. 45).

Portfolio #1 is due next Tuesday, Jan. 20 You can check your four portfolio assignments to make sure they are complete by reviewing the requirements (Activity Manual, Appendix B, p. 193)



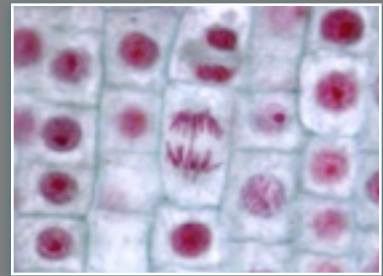
This model is of DNA, not RNA

How can you tell?

Any Questions?

Ask in class, visit office hours, or email Lesley.

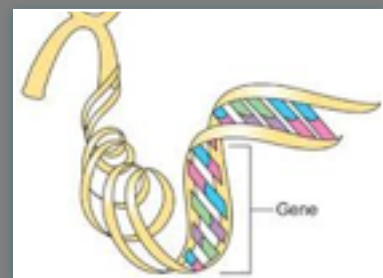
Genetic Structures



Chromosomes: The chromosomes we see under the microscope, that look like tiny stained strings, are made up of coiled DNA and protein spacers.



DNA: DNA is a macromolecule made up of smaller connected nucleotide molecules, and it is coiled tightly, fitting within the nucleus.



Genes: Genes are sequences of DNA nucleotides that contain the information to direct protein assemblage.