Blog resource: <http://tinyurl.com/69yqaxk> Click4Biology: <http://tinyurl.com/46env5l>

Cite all sources using the CSE method (or ISO 690 Numerical in Word). Highlight all objective 1 command terms in yellow and complete these **before class**. Highlight all objective 2 and 3 command terms in green – these will be part of the discussions in class. After class, *go back and review them*.

Complete the **self-assessment rubric** before submitting to Moodle. Avoid printing this if possible.

1. Label the structures of this single nucleotide.

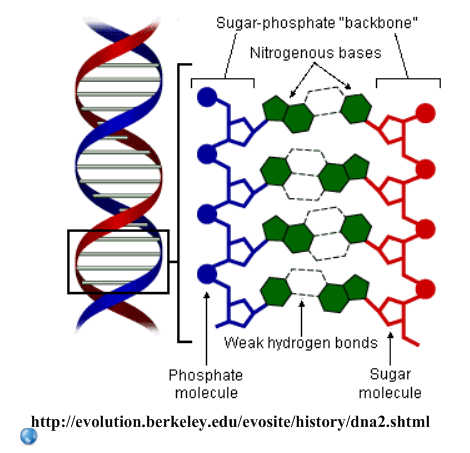
|  |  |  |
| --- | --- | --- |
|  | a. |  |
| b. |  |
| c. |  |

1. Complete the table below to show the pairings of the bases in DNA:

|  |  |
| --- | --- |
| **Purine** | **Pyramidine** |
|  |  |
|  |  |

1. State where the base uracil can be found.
2. In the space below, draw a **single strand** of **three nucleotides**, naming the bonds between them and showing the correct relative position of these bonds.
3. In the space below, draw a **section of DNA**, showing **two *anti-parallel* strands** of **three nucleotides**. Label the *bonds which hold the bases together* as well as the correct *complementary base pairs*.
4. Define the term *double helix*.





1. Explain the relevance of the following in the **double-helix** structure of DNA:
2. Complementary base pairing



1. Hydrogen bonds
2. Relative positioning of the sugar-phosphate backbone and the bases
3. The discovery of the structure of DNA earned a Nobel Prize for Watson, Crick and Wilson.

Go to the Nobel Prize website: <http://nobelprize.org/educational_games/medicine/dna_double_helix/readmore.html>

Discussion - How is it a good example of the following:

1. *Internationalism* in science?
2. *Cooperation* in science?
3. *Competition* in science?

# Works Cited

1. **Allott, Andrew.** *IB Study Guide: Biology for the IB Diploma.* s.l. : Oxford University Press, 2007. 978-0-19-915143-1.

2. **Mindorff, D and Allott, A.** *Biology Course Companion.* Oxford : Oxford University Press, 2007. 978-099151240.

3. **Clegg, CJ.** *Biology for the IB Diploma.* London : Hodder Murray, 2007. 978-0340926529.

4. **Campbell N., Reece J., Taylor M., Simon. E.** *Biology Concepts and Connections.* San Fransisco : Pearson Benjamin Cummings, 2006. 0-8053-7160-5.

5. **Taylor, Stephen.** *Science Video Resources.* [Online] Wordpress, 2010. http://sciencevideos.wordpress.com.

6. **Burrell, John.** *Click4Biology.* [Online] 2010. http://click4biology.info/.

7. **IBO.** *Biology Subject Guide.* [Online] 2007. http://xmltwo.ibo.org/publications/migrated/production-app2.ibo.org/publication/7/part/2/chapter/1.html.

**Self Assessment:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Essential Biology** | | | **Assessment** | |
| **Criterion** | **Complete (2)** | **Partially complete (1)** | | **Self** | **MrT** |
| Presentation & Organisation | NA | Complete and neat. All command terms highlighted, tables and diagrams well presented. | |  |  |
| Academic Honesty | NA | Sources cited using the CSE (ISO 690 numerical) method, with Works Cited section complete and correct. | |  |  |
| **Objective 1** understanding | **All** answers for the following command terms correct: | Most answers for the following command terms correct: | |  |  |
| **Define Draw Label List Measure State** | | |
| **Objective 2** understanding | **All** answers for the following command terms correct: | | Most answers for the following command terms correct: |  |  |
| **Annotate Apply Calculate Describe Distinguish Estimate Identify Outline** | | |
| **Objective3**  understanding | **All** answers for the following command terms correct: | | Most answers for the following command terms correct: |  |  |
| **Analyse Comment Compare Construct Deduce Derive Design Determine Discuss**  **Evaluate Explain Predict Show Solve Sketch Suggest** | | |
| Logic, notation, mathematical working | NA | Answers are presented in a logical and concise manner. SI units used most times, with correct unit symbols and definitions of terms. All mathematical working shown. | |  |  |
| Further research | NA | *Evidence* is apparent of research and reading beyond the textbook and presentations to find correct answers to challenging questions. **If any questions are unanswered, this criterion scores zero.** | |  |  |
|  | **Total (max 10):** | | |  |  |