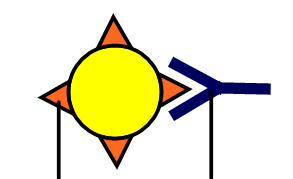
1. State the functions of the following components of the blood:

|  |  |
| --- | --- |
| Lymphocytes |  |
| Phagocytic leukocytes (macrophages) |  |
| Erythrocytes |  |
| Platelets |  |
| Plasma |  |

Use the animation and card sort game before you outline the processes:

1. Outline how phagocytic leukocytes ingest pathogens in the blood and body tissues.
2. Distinguish between antibodies and antigens.

|  |  |
| --- | --- |
| Antibody | A globular protein. *(revise levels of protein structure)*  Produced as part of the immune response.  Specific to the antigen on the pathogen – the antigen binding site is analogous to the active site of an enzyme. |
|  |  |



*Link thought: how is this important in ABO blood typing and how is that an example of codominance?*

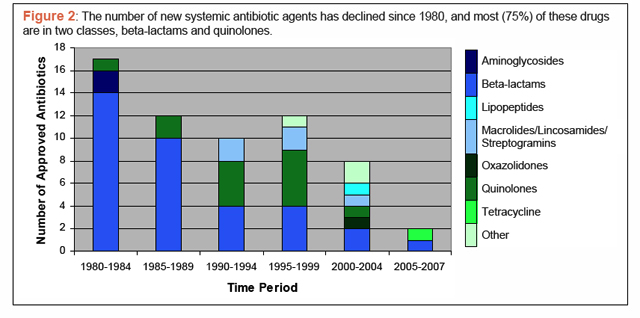
1. Explain how antibodies are produced.

|  |  |
| --- | --- |
|  | There are many different types of lymphocytes in the immune system. |
|  |
|  |
|  |
|  |
|  |

1. State the role of memory cells following an infection.
2. Explain why antibiotics can be used to treat bacterial infections but not viral infections.
3. Outline how overuse of antibiotics is leading to antibiotic resistant strains of bacteria?
4. Analyse the graph over time, outline what has happened to:

* The number of new approved antibiotics
* The diversity of new approved antibiotics

Suggest reasons for your answers

[](http://www.wired.com/wiredscience/2011/02/not-many-antibiotics/)

1. Discuss the ways in which Florey and Chain’s work is in accord with and breaches the modern practices of drug testing.
2. Define the terms HIV and AIDS

HIV =

AIDS =

1. Outline the effects of HIV on the immune system.

|  |  |
| --- | --- |
| Effect on lymphocytes |  |
| Effect on antibody production |  |
| Effect on health |  |

1. What are the risk factors in HIV transmission?

NO RISK LOWEST RISK HIGHEST RISK

**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):** | | |  |  |