

A microscopic image showing several green, rod-shaped bacteria, possibly Bacillus subtilis, on a purple background. The bacteria are arranged in various patterns, including single cells and small clusters. The image has a slightly grainy texture, characteristic of a micrograph.

INTRODUCTION TO YR 12 BIOLOGY

COURSE OUTLINE & ASSESSMENT
2017 STUDY DESIGN

WHAT'S THE GO WITH YR 12???

- * WHAT'S AN ATAR?
- * WHAT'S A STUDY SCORE?
- * WHO ASSESS US?
- * HOW DO WE GET ASSESSED?
- * WHERE CAN I GET THE STUDY DESIGN?

WHAT'S AN ATAR SCORE?

Australian Tertiary Admission Rank

The following process is used to calculate the ATAR

1. All VCE study scores are scaled to adjust for any differences in abilities of students
2. Your best ATAR subject score in any of the English subjects PLUS
3. The subject scores of your next best 3 studies, PLUS
4. 10% of the subject score for a fifth study (where available) PLUS
5. 10% of the subject score for the sixth study (where available)

ATAR is a rank between 0 and 99.95, the highest being 99.95 and the lowest being less than 30.

WHAT IS A STUDY SCORE?

The study scores are reported on a scale of 0 to 50

The average being 30 meaning the student has performed better than half the students.

It is not a score out of 50, it is a ranking or relative position which compares students performances.

A student with a study score of 40 has performed better than about 91% of all students.

ATAR CALCULATORS

There are a number of websites that allow you to estimate your ATAR score

www.atarcalculator.com.au

www.atarcalc.com.au

www.vce.atarcalc.com

WHO DOES THE ASSESSMENT?

The SAC's are assessed and designed by the classroom teacher in accordance with the assessment guide.

The end of year EXAM is assessed by VCAA assessors which are trained teachers.

Your exam paper is marked several times by a number of people.

WHERE CAN I GET THE STUDY DESIGN & PAST PAPERS?

The VCAA website

Google search VCAA biology

UNIT 3: HOW DO CELLS MAINTAIN LIFE?

Area of study 1

How do cellular processes work?

Key knowledge:

- Plasma membranes
- Nucleic acids & proteins
- Gene structure & regulation
- Structure & regulation of Biochemical pathways (Enzymes)
- Photosynthesis
- Cellular respiration

Area of Study 2

How do cells communicate?

- Cellular signals (neurotransmitters, cytokines, hormones & pheromones)
- Apoptosis
- Immunity (responding to antigens)

UNIT 3 ASSESSMENT

SACs contributes 16% to the study score

Outcome 1: (2 Pracs + test)

Explain the nature of cells in terms of cellular processes (photosynthesis & cellular respiration) & factors that affect the rate of these reactions.

(50%)

Outcome 2: (Test + short research task)

Outline human responses to invading pathogens & distinguish types of immunity & explain an immune malfunction.

(50%)

UNIT 4: HOW DOES LIFE CHANGE & RESPOND TO CHALLENGES OVER TIME?

Area of Study 1

How are species related?

- Changes in the genetic makeup of a population
- Changes in biodiversity over time
- Determining relatedness between species
- Human change overtime.

Area of study 2

How do humans impact on biological processes?

- DNA manipulation
- Biological knowledge & society (Biomedicine & humans fiddling with things)

Area of study 3

- Practical investigation (can be undertaken in unit 3 or 4)

UNIT 4: ASSESSMENT

School assessed course work for unit 4 contributes 24% to study score.

Outcome 1: (Report)

Evidence for evolution, how is relatedness determined & biological human evolution.

30%

Outcome 2: (Lab + test)

Describe how tools can be used to manipulate DNA & analyse the relationship between scientific knowledge & applications in society

30%

Outcome 3: (Scientific poster)

Design & undertake an investigation related to cellular processes.

30%

EXAM

**1 End of year Exam
(2.5 hours)
60%**

WHY STUDY

BIOLOGY ?????

WELL WHO ISN'T INTO.....

BLUE ROSES

GLOW IN THE DARK MICE

FACIAL TUMOURS

FLESH EATING PATHOGENS

KOOKY CATS

ZONKEYS

RATIONAL DRUGS

SNAKE EVOLUTION

AND SO ON.....

SMALL
SNAKE

HEAD
EVOLUTION
heads





The Zebroid is the result of breeding a female Horse and a male Zebra.



The Zedonk / Zonkey is the result of breeding a female Donkey and male Zebra.





BLUE ROSES



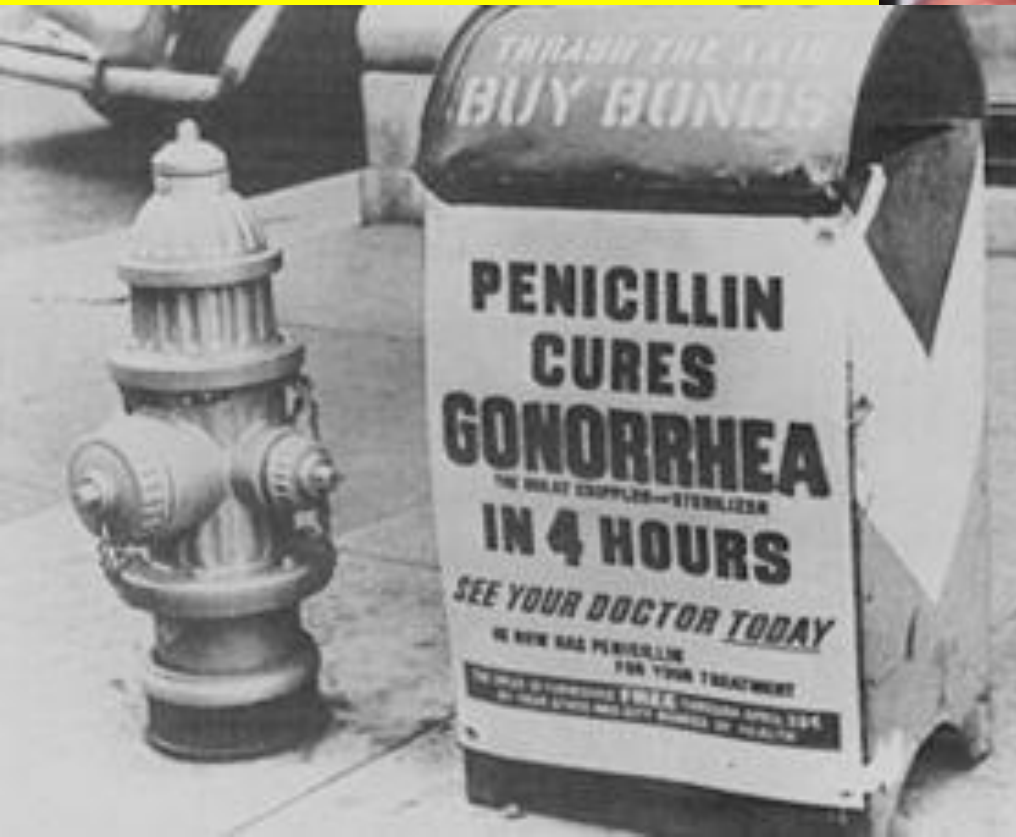
Everyone
starts off
with a tail &
gills

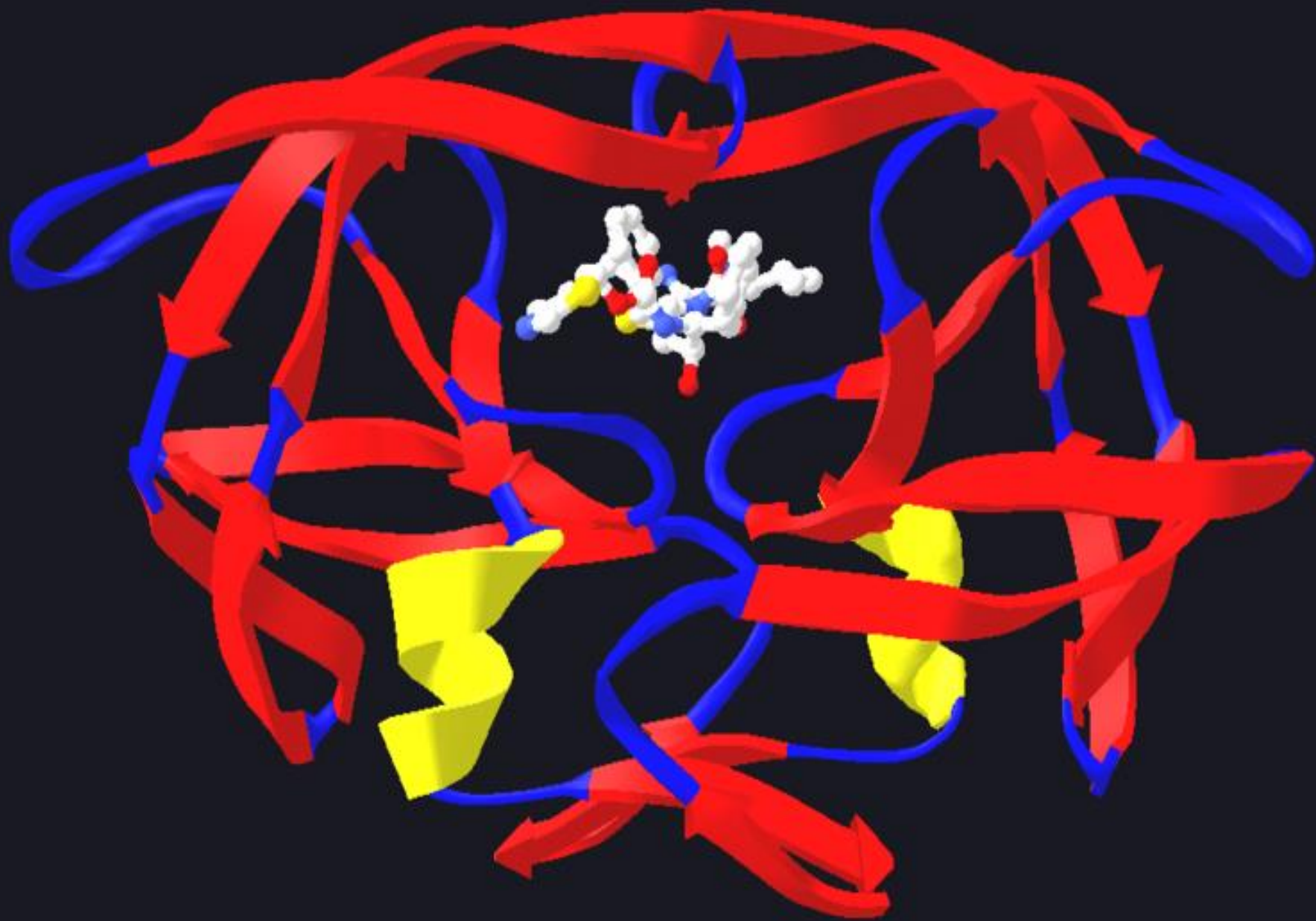
Ebola

Ebola plush toys for kids "selling like hot cakes"



Ugly Disease





HIV DRUGS

- **Anti retroviral Drugs used to treat HIV**
- **These drugs prevent viral replication by inhibiting the activity of HIV- 1 protease.**
- **An enzyme used by viruses to cleave proteins for the production of new viral particles.**

GLOW IN THE DARK MICE





French genetic researchers created Alba for artist Eduardo Kac. Thanks to genes borrowed from a jellyfish, the albino rabbit glows green when placed under special lighting. In regular light, Alba appears like any other furry white rabbit. But place her under a black light, and her eyes, whiskers and fur glow a otherworldly green.

TASSIE DEVIL FACIAL TUMOURS



Our Family tree



Human intervention in Evolution

