Autumn 2

Year 10 B6 Preventing and treating disease and B7 Non-communicable diseases

Aiming for Grade 4

Extended Homework Assignment

Name: _____

Set: _____

Instructions

A printed copy should be handed into your teacher.

The knowledge required to complete this assignment will be supported in class in lessons of the half term.

B6 Preventing and treating disease and B7 Non-communicable diseases extended homework – Aiming for Grade 4

Aims

The aim of this homework is to help you revise the main topics in this chapter. By the end of this lesson you should know the difference between vaccination, antibiotics and painkillers. You should also be able to describe how vaccination protects you from disease and state the stages involved in drug development.

Learning outcomes

After completing this activity, you should be able to:

- state the differences between vaccination, antibiotics and painkillers
- describe how vaccination protects against disease
- state the stages of drug development.

Task

1 You will be completing a comic strip to describe how vaccination works.

2 You will be working in pairs to produce a timeline to show the stages that a drug goes through before a doctor can prescribe it.

Questions/task output

1 A 6 panel template is provided in the last page of this homework for you to draw a comic strip

Add the sentences below in each corresponding numbered box and add pictures to describe how vaccination works.

1. Vaccine is injected with a dead / attenuated pathogen.
2. White blood cells recognise antigens on pathogens surface.
3. White blood cells produce antibodies that destroy pathogen.
4. Some white blood cells left behind as memory cells.
5. If re-infected memory cells will remember these antigens
6. Antibodies and made quickly and pathogen destroyed before you get ill.

2 Answer the following questions to help you produce a summary of the stages involved in producing new drugs. You can use your class notes and the internet to help you.

a What four things does a medicine need to be?

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b What is the first thing that the chemicals in drugs are tested on in a lab?

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c The next stage is something that all new drugs should be tested on. What is it?

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d The next stage is clinical trials. What are clinical trials?

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e Why are low doses given first in clinical trials?

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f What is a double blind trial?

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g Results of drug trial are then published. Which national body decides what drugs should be prescribed by the NHS?

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h Use the information above to draw a timeline of the stages of drug development in the space below.

Task 3

You will be taking on the role of a GP and reviewing the profiles of six of your patients and giving them advice.

There are six profiles one for each of your six patients on page 7. You will need to give advice to each patient.

Complete the tables below for each patient.

Paul	Mary
Tick the risk factors that apply: smoking drinking age family history obese lack of exercise gender	**Tick the risk factors that apply:** smoking drinking age family history obese lack of exercise gender
At risk from what diseases:	**At risk from what diseases:**
Advice on prevention of these diseases: • • •	**Advice on prevention of these diseases:** • • •

Ali	Yasmin
Tick the risk factors that apply: smoking drinking age family history obese lack of exercise gender	**Tick the risk factors that apply:** smoking drinking age family history obese lack of exercise gender
At risk from what diseases:	**At risk from what diseases:**
Advice on prevention of these diseases: • • • • •	**Advice on prevention of these diseases:** • • • • •

Juan	Emma
Tick the risk factors that apply: smoking drinking age family history obese lack of exercise gender	**Tick the risk factors that apply:** smoking drinking age family history obese lack of exercise gender
At risk from what diseases:	**At risk from what diseases:**
Advice on prevention of these diseases: • • •	**Advice on prevention of these diseases:** • • •

Patient profiles:

Paul: • Age 70 • Male • Enjoys walking and gardening • Has a meat-heavy diet • Has the occasional pint of beer • BMI in normal range	**Mary:** • Age 40 • Female • Fitness instructor • Vegan • Has a glass of wine every day • BMI is less than normal • Mother has type 2 diabetes
Ali: • Age 30 • Male • Rugby player • BMI above average • Drinks heavily after a match • Has a meat heavy diet	**Yasmin:** • Age 19 • Female • Student who cycles to college • Smokes 3–5 cigarettes a day • Rarely drinks • BMI in normal range
Juan: • Age 25 • Male • Enjoys clubbing and pubbing • BMI is less than normal • Smokes 10 cigarettes a day • Drinks heavily at the weekends	**Emma:** • Age 60 • Female • Works in an office • Loves junk food • BMI is above average • Does not drink any alcohol • Parents had cardiovascular disease