



SUPPORTING REMOTE LEARNING

Work Set up by individual Classes

Work further subdivided by date and subject

Tasks only accessible to the right pupils

P/SC1

- Biology W/C 14th September 2020
- Restricted** Not available unless: You belong to 20-10pSc1
- Chemistry W/C 14th September 2020
- Restricted** Not available unless: You belong to 20-10pSc1
- Physics w/c 14th September 2020
- Restricted** Not available unless: You belong to 20-10pSc1
- Biology W/C 21st September 2020
- Restricted** Not available unless:
- You belong to 20-10pSc1
- It is after 21 September 2020, 7:00 AM
- Chemistry w/c 21st September
- Restricted** Not available unless: You belong to 20-10pSc1
- Physics w/c 21/09/20
- Restricted** Not available unless: You belong to 20-10pSc1
- Biology W/C 28th September 2020
- Restricted** Not available unless: You belong to 20-10pSc1
- Physics w/c 28/9/20
- Restricted** Not available unless: You belong to 20-10pSc1

P/SC2

- Biology W/C 14th September 2020
- Restricted** Not available unless: You belong to 20-10pSc2
- Chemistry W/C 14th September 2020
- Restricted** Not available unless: You belong to 20-10pSc2

P/SC1

- Biology W/C 14th September 2020
- Restricted** Not available unless: You belong to 20-10pSc1
- Chemistry W/C 14th September 2020
- Restricted** Not available unless: You belong to 20-10pSc1
- Physics w/c 14th September 2020
- Restricted** Not available unless: You belong to 20-10pSc1
- Biology W/C 21st September 2020
- Restricted** Not available unless:
- You belong to 20-10pSc1
- It is after 21 September 2020, 7:00 AM
- Chemistry w/c 21st September
- Restricted** Not available unless: You belong to 20-10pSc1
- Physics w/c 21/09/20
- Restricted** Not available unless: You belong to 20-10pSc1
- Biology W/C 28th September 2020

1. Pupils go to their class
2. Work is arranged by week commencing date
3. For each week, the bio/chem/phys lessons for that week are attached with explanations
4. To prevent any mix ups – class restrictions are placed on tasks (only pupils in that class can access the work)

BIOLOGY W/C 21ST SEPTEMBER 2020

Your science work is attached here.

The worksheets are set out in the same format you are used to in class. Most of the answers can be found in the model answers but you will often have to use the model answer and think carefully.

Ensure you complete the worksheets and bring them back in to school with you, there will be a space saved in your book for you to glue in your work.

This week your lessons are:

- 4.3.1.1 Preventing disease
- 4.3.1.2 Viral diseases

Good luck, and be sure to contact your

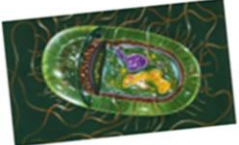
4.3.1.3 Bacterial Diseases

Learning objectives: Bacteria may produce poisons (toxins) that damage tissues and make us feel ill. Symptoms, complications and cures/ prevention of Salmonella and Gonorrhoea.

Model Answers

Not all bacteria are pathogens which cause disease. Many bacteria, like those found in the intestines, are useful. All bacteria are prokaryotes, and do not have a nucleus. Unlike viruses, they are cells and so are larger but cannot be seen without a microscope.

Salmonella food poisoning is spread by bacteria ingested in food, or on food prepared in unhygienic conditions. It is often found in unhygienic kitchens, undercooked foods such as meat, eggs and poultry, or the same foods that have not been reheated properly. To prevent the spread of salmonella in the UK, all poultry are vaccinated against it. Cooking food thoroughly, after preparing it in hygienic conditions, is the best way to avoid illness. Fever, abdominal cramps, vomiting and diarrhoea are caused by the bacteria and the toxins they secrete.



Gonorrhoea is a sexually transmitted disease (STD) with symptoms of a thick yellow or green discharge from the vagina or penis and pain on urinating. It is caused by a bacterium and was easily treated with the antibiotic penicillin until many resistant strains appeared. If untreated it can result in infertility.

Gonorrhoea is spread by sexual contact. The spread can be controlled by treatment with antibiotics or the use of a barrier method of contraception such as a condom.

Independent practice

1. Is Salmonella a bacteria or virus?
2. Name 2 symptoms of food poisoning.
3. What is gonorrhoea?
4. How can gonorrhoea be prevented and treated?
5. What can gonorrhoea cause if left untreated?
6. What does 'antibiotic resistant strain' mean?
7. What are the symptoms of bacterial diseases caused by?

Challenge task

Food poisoning can be caused by eating food that is contaminated with Salmonella bacteria.

(a) Give one difference between a bacterial cell and an animal cell.

The table shows the number of confirmed cases of salmonella food poisoning in the UK.

Year	Confirmed cases per 100 000 population
2006	23.82
2007	22.24
2008	18.82
2009	17.17
2010	15.36
2011	13.12
2012	14.00
2013	13.16
2014	12.63
2015	14.50

(b) Describe the trend in the number of confirmed cases of salmonella food poisoning between 2006 and 2014.

(c) Explain the trend in the data between 2006 and 2014.

- All work matches in-class CLF lessons
- Set as "Assignments" so pupils can submit through the VLE
- Feedback (answer sheets) can be returned to pupils who submit

4.3.1.2 Viral diseases

LO: Viruses live and reproduce inside cells, causing cell damage. Symptoms, complications and cures/ prevention of measles, HIV, tobacco mosaic virus (TMV).

Model Answers

There are 4 main categories of pathogen: virus, bacteria, protists and fungi. Viruses cannot reproduce on their own, they must infect cells and then use the machinery in that cell to replicate. When the cell is over-full of this newly replicated virus, it can burst, further spreading the virus within the body. This is how viruses make people feel unwell.

Measles is a viral disease showing symptoms of fever and a red skin rash. Measles is a serious illness that can be fatal if complications arise. For this reason, most young children are vaccinated against measles. The measles virus is spread by inhalation of droplets from sneezes and coughs.

HIV initially causes a flu-like illness. Unless successfully controlled with antiretroviral drugs the virus attacks the body's immune cells. Late stage HIV infection, or AIDS, occurs when the body's immune system becomes so badly damaged it can no longer deal with other infections or cancers. HIV is spread by sexual contact or exchange of body fluids such as blood which occurs when drug users share needles.

Infection by Tobacco Mosaic Virus



Tobacco mosaic virus (TMV) is a widespread plant pathogen affecting many species of plants including tomatoes. It gives a distinctive 'mosaic' pattern of discoloration on the leaves which affects the growth of the plant due to lack of photosynthesis. It is transmitted by contact between plants, either naturally or through the hands of farmers. It infects the chloroplasts of plant leaves and changes their colour from green to yellow or white in a mosaic pattern. It can also make leaves crinkle or curl up. This reduces the plant's ability to photosynthesise and grow properly, which reduces the crop yield for farmers. There is no cure therefore farmers must try to reduce the infection to their crops or attempt to reduce the spread of the virus.

Independent Practice

1. How do viruses reproduce?
2. How do viruses make people feel unwell?
3. How is measles spread?
4. Name 2 symptoms of measles?
5. What cells are affected by HIV?
6. How is HIV spread?
7. What are the symptoms of TMV?
8. How is TMV spread?
9. TMV destroys chloroplasts in the leaf. Explain how this could affect the growth of the plant?
10. How could farmers reduce the spread of TMV?

Challenge Task

In 2020 a global pandemic was caused by the Covid-19 virus. Explain as many steps as you can that could be taken to reduce the effects of a virus like this.