



Lesson Plan 3

Main focus of activity:

- The virus is now known to be infectious for longer, leading to a sufficient change in the number of the people becoming infected by each carrier.

Learning objectives: (This lesson is designed to extend concepts and content from lesson 2)

- To be able to predict next terms in sequences
- To be able to describe rules involving sequences
- To be able to calculate sums of series
- To understand sequences involving powers
- To be able to construct a two way table to summarise data
- To be able to construct and interpret graphs
- To interpret numbers in standard form

Links to the Maths curriculum:

- Sequences
- Predicting
- Interpreting graphs
- Communicating maths effectively
- Standard Form

Activity outline:

Introduction

- The students are split into groups and must report back to the emergency services commanders and now also government ministers on the best and worst case scenarios.
- The activity can be introduced via the third 'Daily News Newsflash' - Video clip 3.
- In the third task it is known that each person infected with the virus remains infectious for longer. For instance, the initial carrier will be able to infect people on the first, second, third day and so on. A teacher can set the period that a carrier is infectious for; however, one week is the figure in mind for the purpose of this lesson.
- The pupils need to remember that their intended audience may not understand all of the maths behind the outbreak so the information communicated needs to be as clear and concise as possible.

Main Part of Lesson:

Teaching and Learning:

- The pupils need to work in groups to find the best case and worst case scenarios. The task will require communication of ideas. The class teacher may want to provide some scaffolding around this. For example, how many people are infected after 5 days, 10 days and 20 days?
- A two way table could also be provided for them to complete. More able groups could not be given any form of scaffolding and allowed to come up with their own way of presenting the data. There is an auto marking excel resource available with this resource as well if the ICT facilities are available. Graphing packages like Autograph would also be useful here to demonstrate graphically what is happening.
- For a lower ability group it would probably only be realistic to ask them to work out the spread of the disease with a longer infectious period for a relatively small infection rate of 5 or less. There could also be scaffolding to help them through, with key answers given at key points so the pupils know they are calculating correctly.
- For a middle group they would be expected to complete the infection rate for 7 with a longer infection period as this does add significantly to the complexity of the problem.
- For a top set the group will be expected to work out the longer infectious period for both an infection rate of 7 and 12.

Plenary:

- Each group must present their best and worst case scenarios to their peers however the audience could evaluate the reports 'in role'.

Discussion point:

- What would local emergency services commanders and national government ministers need to know? When and why?
- They need to show their calculations and how many people they expect to be infected and what they think the government should do.
- The pupils can then be asked to evaluate the success of the presentations based on predefined criteria.

This could include:

- o Mathematical content and accuracy
 - o Communication of ideas
 - o Quality of presentation material used
 - o Realism of suggestions
- This is an excellent way of using comparative judgement to get the students to peer assess each other's work.