e-Bug: The Junior and Senior School Packs

Donna M Lecky¹, David Farrell², Patty Kostkova² and Cliodna AM McNulty¹

1 HPA Primary Care Unit, Gloucestershire
2 City eHealth Research Centre (CeRC), City University, London

Junior Pack Contents

1. Micro-organisms
   1.1 An Introduction
      Students learn about the different types of microbes – bacteria, virus and fungi. They learn about the different shapes and that microbes are found everywhere.
   1.2 Good Microbes
      A yogurt making experiment is the key to this activity in which students learn that microbes can be beneficial.
   1.3 Bad Microbes
      Close examination of various illnesses illustrates to students how and where bad microbes cause disease. Students test their knowledge of bad microbes by completing a crossword puzzle and word hunt!

2. Spread of Infection
   2.1 Hand Hygiene
      Through a classroom experiment students learn how microbes can spread from one person to another through touch and why it is important to wash hands properly.
   2.2 Respiratory Hygiene
      In this fun experiment students learn how easily microbes can be spread through coughs and sneezes by recreating a giant sneeze.
   2.3 Food Hygiene
      Students make a chicken salad for their classmates and observe just how far they have spread bad microbes.

3. Treatment of infection
   3.1 Antibiotic Use
      Through teacher lead discussion and debate, students learn the importance of using antibiotics and other medicines appropriately.
   3.2 Vaccinations
      Students use their reading comprehension and creative skills to answer questions on and act out the discovery of vaccinations.

4. Prevention of Infection
   4.1 Vaccinations
      Students follow a doctor as he carries out a range of tests to determine which antibiotics are best to use on his patient. This activity helps students learn the skill of graph reading.

Senior Pack Contents

1. Micro-organisms
   1.1 An Introduction
      Students are introduced to the world of microbes. Through an interactive learning game students explore the different types and shapes of microbes.
   1.2 Good Microbes
      By examining the various ways and means by which humans utilize microbes for their own benefit students learn that not all microbes are dangerous.
   1.3 Bad Microbes
      Students are encouraged to discuss as a class how microbes can be harmful. They research a range of bacterial and viral diseases in various countries around the world and examine how far these diseases have spread.

2. Spread of Infection
   2.1 Hand Hygiene
      Through a classroom experiment students learn how microbes can spread from one person to another simply by shaking their hands. They will also have to decide which method is best for hand washing.
   2.2 Respiratory Hygiene
      Through a set of trial experiments, students learn that covering your mouth when you cough and sneeze helps prevent the spread of infection.
   2.3 Sexual Transmission
      Students carry out a chemical experiment to observe how easy many people can become infected unknowingly by unprotected sexual intercourse.

3. Treatment of Infection
   3.1 Antibiotic Use
      Students follow a doctor as he carries out a range of tests to determine which antibiotics are best to use on his patient. This activity helps students learn the skill of graph reading.
   3.2 Vaccinations
      Through World Health Organisation data students research the measles outbreak and vaccine use in Europe and Africa.

The Characters and the Pack

The Children

Harry
Amy

The Students

Harry
Amy

The Microbes

Bacteria
Viruses
Fungi

Junior Character Development

The artists have worked closely with various students and teachers in the development of the pack, from basic graphic design through to final character selection. The main comments from these groups were:

- Human characters should be realistic looking
- They should be wearing comfortable ‘play’ clothes
- The female character should have a distinct ‘gritty’ look
- Although the microbes characters should have a cartoon look and feel they should also closely resemble the real microbes
- ‘Bad’ microbes have a generic task i.e. menacing bushy eyebrows
- ‘Good’ microbes have a happy smiley face

Feedback on the pack contents suggested that the pack:

- Should have distinct easy to find areas highlighting, health and safety, curriculum links, materials required, etc
- Should be bright and attractive to use
- All student handouts should be available as whiteboard presentations
- The activities should be novel with easy to follow instructions
- All sheets should be photocopyable and available to download and modify to suit the teachers requirements
- Each activity should be stand alone
- A word glossary section would be beneficial not only for the teachers but also for the students

Senior Character Development

- The children in the junior pack have grown up to provide continuity and student familiarity with the pack
- Again comfortable clothes and not school uniforms were the clothes of choice
- It was important to the students that the female character looked athletic but not skinny
- The microbes have taken on a more realistic and less cartoon feel

Junior Pack Development

- Many aspects from the junior pack were taken forward to the senior pack
- The graphic design and layout of the pack had a more adult feel
- The activities were more factual and research based
- Classroom presentations accompanied many of the activities
- Teacher background information is more detailed
- Where appropriate the activities focus on a more global range of information as opposed to the traditional individual country based approach