The evolution of e-Bug
A teaching resource for schools

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Main findings:

Evidence tells us that the development of resistance is related to the extent of antibiotic use - the more we use them, the more we lose them.
Teaching about antibiotics should be included as part of the National Curriculum
Examining good bugs at school workshop
Dirty hands competition
Children's knowledge about what antibiotics do - before and after school workshops

![Diagram showing changes in knowledge about antibiotics before and after school workshops. The chart compares knowledge about killing bacteria, viruses, flora, helping with colds, and the use of antibiotics for hay fever.](chart.png)
2001 DoH School Education Campaign

- Improve personal hygiene
- Benefits of antibiotics
- Overuse of antibiotics may have adverse effect

The Bug Investigators
Free on request but currently out of print

Website [www.buginvestigators.co.uk](http://www.buginvestigators.co.uk)

10,000 distributed
Helping The Good - How Well Do You Wash?

When was the last time you washed your hands? Did you use soap?

What have you done since you washed? Have you eaten, touched
else or put your fingers in your mouth?

Relations washing of your hands is one of the best ways to
spread infections, both to your yourself and to others.

Many millions of microbes are on your hands. Most of these
are not harmful but some may cause diseases. Many microorganisms
are removed using soap and water.

The Things People Say

Antibiotics can't cure some diseases by killing the bacteria that
cause them. But not all infections are caused by bacteria.

Helping The Good - Stopping Sneezing

Many diseases are spread in tiny droplets of water that are coughed
or sneezed by people.

WATER SPRAY ACTIVITY

Many diseases are spread in tiny droplets of water that are coughed
or sneezed by people.

Don't wear me out

Many diseases are spread in tiny droplets of water that are coughed
or sneezed by people.
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• A pan European educational resource
  - Junior and Senior School children
• Personal hygiene & prudent antibiotic use
• Funded by European Commission DG-SANCO
Focus groups with science teachers

- What do they require from e-Bug?
- What resources do they already use?
- Examination of other resources
- What would make you use e-Bug above other resources?
Teacher requirements

• MUST link closely to the National Curriculum

• MUST be adaptable

• Important to have IT links

• Beneficial to cover a range of teaching styles

• Be student friendly

• Be teacher friendly
Looks like he tries to be funny but isn’t!

A devil in disguise - look at his grin

Are they brother and sister?

Looks like she gets up to a lot of mischief

She thinks she’s cool but she’s not

They look like they’re made out of rubber!
Student Questionnaire 2 – Girl character

Amy
Student Questionnaire 2 – Boy character

Harry

'Boh German is Awesome'
Junior and Senior Characters
Questionnaire 3 – Bug characters

Good bugs

Bad bugs
Activity Trials – Student Feedback

Chicken Salad Questionnaire
Thank you for taking time to fill out the questionnaire. It shouldn’t take long to complete and will help us to improve the activity and make it more fun! Please be honest in your answers.

1. How enjoyable did you find the activity?
   - Loved it
   - Liked it
   - Neutral
   - Disliked it
   - Hated it

2. Name three things you liked about the activity:
   a. __________________________
   b. __________________________
   c. __________________________

3. What was the BEST part of the activity and why?

4. What was the WORST part of the activity and why?

5. After this activity, would you think more about washing your hands when handling food?
   - Yes
   - No
   - Maybe

6. What was the main thing you learned in this lesson?

7. Are you a boy or girl?
   - Boy
   - Girl

Seeing the microbes was really cool
It helped me understand more about it
It was a different type of lesson
Seeing the bacteria on the food
The whole lesson – I never knew bacteria were alive
It was really hard to keep the bacteria off the salad
Nothing – I just loved it

Germs can spread very easily
Always wash hands when dealing with food

Yes 78.3%
No 0%
Maybe 21.7%
Activity Trials – Teacher feedback

- It would be beneficial to have some background information for teachers

- Some of the activities were too long – it would be much better to stick to one main activity

- Really liked the individual student sheets

- The activities are a new fun way to teach the curriculum for both the students AND their teachers
School Pack Layout

1. Micro-organisms
   1.1 An Introduction
   1.2 Good Microbes
   1.3 Bad Microbes

2. Spread of Infection
   2.1 Hand Hygiene
   2.2 Respiratory Hygiene
   2.3 Sexually transmitted Infection

3. Treatment of infection
   3.1 Antibiotic Use

4. Prevention of Infection
   4.1 Vaccinations
Senior School Pack
e-Bug Website
www.e-Bug.eu

- Games for classroom or home play
- Revision sections for students
- All pack content
- Teacher presentations to aid lesson plans
Pack Evaluation

• France, Czech Republic and England
• Control and Intervention schools
• Evaluation carried out through
  - Quantitative Questionnaires
  - Qualitative Questionnaires
  - Student and teacher focus groups
• Completed at the end of the school year July 2008
• Packs will be modified accordingly
What next?

• The e-Bug Project
  - Final packs and website will be translated in each partner country
  - European wide school use in the academic year 2009/2010

• Road shows
  - Collaboration of e-Bug, HPA and British Society of Antimicrobial Chemotherapy (BSAC)
  - An interactive road show based on e-Bug pack activities
  - Take our messages to the general public

• European Antibiotic Awareness Day (19th November)
  - Focusing on Community Antibiotic use
  - e-Bug will be a major focus
Many thanks to all the schools who have contributed to the development of e-Bug and to our collaborators

www.e-Bug.eu