

Teachers' Notes

Aims of sciencehorizons

The sciencehorizons pack contains stories about what life might be like in 2025, based on current and emerging technology. The aim is to help your students have group discussions and feed their views back to us. We will include your responses in a report to the government, which will help them understand how people feel about developments in science and technology.

Curriculum links 14-16

Both old and new KS4 Science curricula stress the importance of knowledge, skills and understanding through a range of domestic, industrial and environmental contexts; and of considering and evaluating the benefits and drawbacks of scientific and technological developments, including those related to the environment, personal health, quality of life, and those raising ethical issues. The stories in the pack address each of these requirements but also contribute to various other KS4 subject areas. The relevant curriculum requirements are listed below, with the corresponding sciencehorizons link alongside.

Citizenship

Developing skills of enquiry and communication and developing skills of participation and responsible action (including participation in group debates and considering other people's opinions): *all themes*

Knowledge and understanding about becoming informed citizens: *Home & Community: Emily & the Robot, Henry & the Cameras; People & Planet: all stories*

Design & Technology

Developing, planning and communicating ideas: *all themes*

Knowledge and understanding of materials and components: *Mind & Body: George & the Jogging Cap; Work & Leisure: Katie at the Park, Malcolm at the Wheel*

Knowledge and understanding of systems and control: *Home & Community: Malcolm & the Shopping, Henry & the Cameras*

Geography/History

The Humanities entitlement area 'involves students in exploring the spatial, political, social, economic, environmental concerns to humanity in the past, present and future': *all themes*

ICT

Students are expected to reflect critically on the impact of ICT, considering the social, economic, political, legal, ethical and moral issues (for example, changes to working practices): *Work & Leisure: Henry at the Café; Home & Community: Emily & the Robot*

English

Group discussion and interaction and understanding texts (including analysing and discussing alternative implications): *all themes*

PE

Knowledge and understanding of fitness and health (specifically the importance of exercise to personal, social and mental health): *Mind & Body: George & the Jogging Cap; Work & Leisure: Katie at the Park*

PSHE

Consider moral and social dilemmas: *all themes*

Developing a healthy, safer lifestyle: *Mind & Body: Ruth & the Tests, Roy & the New Heart; Home & Community, Malcolm & the Shopping*

Developing good relationships and respecting the differences between people: *People & Planet: Roy & the Migrants; Home & Community: Paul & his Love Life; Work & Leisure: Henry at the Café*

Science

Old GCSE: SC1: Scientific Enquiry: Ideas and evidence in science, including the limitations of science and ethical issues: *all themes*.

New GCSE: Applications and implications of science - how and why decisions about science and technology are made, including those that raise ethical issues, and the social, economic and environmental effects of such decisions: *all themes*.

Specific topics:

Biology: *Mind & Body: all stories; People & Planet: Rajpal & the Relatives, Emily & the Vaccines; Home & Community: Malcolm & the Shopping.*

Chemistry: *People & Planet: Cynthia & the Gas Bill, Rajpal & the Relatives; Work & Leisure: Katie at the Park.*

Physics: *Home & Community: all stories; Work & Leisure: Malcolm at the Wheel, Katie at the Park, Henry at the Café; Mind & Body: George & the Jogging Cap.*

Curriculum links 16+

Many A-level specifications stress the importance of students being able to “show understanding of the ethical, social, economic, environmental and technological implications and applications of science” and to “develop and communicate a personal position on an issue”.

All of the themes in the pack would be suitable for discussing as part of **General Studies, Critical Thinking, PSHE, or Science for Public Understanding**. Some themes or stories within the pack are particularly suitable for some AS/A2 subjects, for example:

Biology/Health And Social Care: *Mind & Body: all stories; Home & Community: Malcolm & the Shopping; People & Planet: Emily & the Vaccines*
Chemistry: *People & Planet: Cynthia & the Gas Bill and Rajpal & the Relatives*
Physics/Engineering/ICT: *Home & Community: all stories; Work & Leisure: Katie at the Park, Malcolm at the Wheel and Henry at the Café*
Environmental Science: *People & Planet: all stories.*
Psychology: *Mind & Body: all stories; Work & Leisure: Henry at the Cafe; Home & Community: Paul & his Love-life, Emily & the Robot.*

Using the discussion pack in a lesson

See the ‘Introduction to the **sciencehorizons** discussion pack’, and ‘Step by Step guide’ in the pack for more detail. Your first step is to decide which of the four themes in the pack your group will discuss. Reading the story sheets, and then discussing and answering the questions in one theme will take at least an hour. If your lesson time is shorter, you may wish to copy the story sheets or direct students to the interactive pack online so that students can read them prior to the lesson (www.sciencehorizons.org.uk).

Alternatively, you could split the task over two lessons, the first for reading the stories and the second for holding the discussion and recording the results. It is not essential that students answer all of the questions. **sciencehorizons** would like to hear from as many young people as possible.

1. Split the class into groups

Get students into groups of between 4 and 12. Each group will need its own copy of the pack, or access to the interactive pack online. You can order more copies of the pack online or by emailing contact@sciencehorizons.org.uk.

2. Assign roles

Each group needs a chairperson to lead the discussion (using the Step by Step guide) and a scribe to write down the results of the discussion (using the response form).

3. Read the information

If they have not read the story cards before the lesson, allow students 10 minutes to read the stories for one theme. They can do this using the story sheets, either each read all of the sheets independently or each student can read out a card for the rest of the group. Alternatively the whole group can read the stories together using the CD-ROM or website.

4. Discuss the questions

The chairperson reads out the questions and makes sure that everyone who wants to say something has had a chance to do so. The group should try to come to a consensus, or record the range of views if this has not been possible. The teacher can emphasise that students are free to make their own responses to the questions; there are no right or wrong answers.

5. Record the answers

The scribe’s job is to write down the group’s answers on the reply form. Teachers may wish to complete the ‘Tell us About Your Group’ section, and supply their own contact details for keeping in touch.

Please note:

If your school completes more than one response form, for example if you split your class into smaller groups, please give each group a unique name, e.g. “St Mary’s School, Group 1”, and enter this in the ‘Name of your group’ box on the form.

BA Science Communicators Awards

Through taking part in **sciencehorizons**, students can embellish their achievement portfolio, by gaining credits towards the BA Science Communicators Awards Scheme. Students will gain a sticker of 2 hours per theme, gaining a Bronze Science Communicators Award on completion of all four themes.

For more information about the BA Science Communicators Scheme, visit:

www.the-ba.net/the-ba/YPP/Sciencecommunicators/index.html

Please complete and return the response form or enter your results online at www.sciencehorizons.org.uk by 25th June 2007.