

Mary Jones and Sally Burbeary

Cambridge Checkpoint Science

English Language Skills Teacher's Support



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Introduction to language support

The English Language Skills Workbook for Checkpoint Science Stages 7, 8, 9 addresses the fact that learners are not only developing their science knowledge and skills, but are also doing this using an additional language. Some learners can be reluctant to use English in science, due to the fear of making a mistake or just not having the language needed to express what they are thinking. The workbook focuses on key English language points that are commonly used in different topics in the Checkpoint Science curriculum framework, in order to increase learners' skills and confidence in using English in science.

The exercises are designed to encourage the use of all four language skills: reading, writing speaking and listening. The approach of using all four skills together strengthens learners' language development. The process of hearing, reading, saying and writing a word or phrase reinforces the usage and understanding of the target language.

The exercises will help learners to:

- understand language structures used in science topics
- focus on key vocabulary in context
- understand how to pronounce key words accurately
- use and practise English through the four skills
- build confidence in using English within the context of science.

The exercises will provide opportunities for learners to:

- read science questions in English
- write answers to science questions in English
- talk about science topics
- build a personal science dictionary.

Unlike the English Language Skills Workbook, this Teacher's Support document has not been through the Cambridge Assessment International Education endorsement process.

Vocabulary

Vocabulary can be challenging when learning science in an additional language. In science, there are many specialist words to understand and use. It is important for learners to see and hear these words in context to help them to learn the meanings of these words effectively. For example:

Sandstone is a sedimentary rock formed when grains of sand are pressed together.

The word 'sedimentary' is much more accessible because the other words in the sentence provide clues. Playing word games such as crosswords, word searches, and matching flashcards can be a fun way to reinforce vocabulary.

Pronunciation

When learners read a word in English, it can be very difficult for them to know how to pronounce it because English is not a phonetic language. Therefore, it is important to encourage learners to listen to the vocabulary, as well as read the words. This can be done in a number of ways. For example, learners can use an online dictionary and listen to the pronunciation; the teacher can say the word and learners can use the phonetic pronunciation column in the 'words to add to your dictionary' sections in the workbook. It is also helpful for learners to create their own science dictionary and to encourage them to make notes on pronunciation.

English in the classroom

Learners may be able to use general English in social situations very well, but it is quite a different skill to use English for academic purposes. Learners will need different and specialist vocabulary and suitable structures to describe, explain and express ideas about science. The book helps learners to understand that some English words have different meanings in everyday situations and in science.

The book covers key language structures that learners typically need to use in science. The aim is to develop functional language skills that allow learners to communicate science clearly in English. Some examples are how to talk about facts, explain differences between things, connect ideas together and make conclusions. Each topic focuses on a particular language point and starts with an explanation of the English language function and how it relates to science. It includes examples of the target language in science contexts and is followed by a series of exercises to practise the target English language point within biology, chemistry and physics topics.

The workbook will help to develop learners' additional language skills, while at the same time, strengthening their first language literacy skills.

Overview of the English Language Skills Workbook

The English Language Skills Workbook for Checkpoint Science is a write-in workbook designed to help learners to develop their English language skills alongside their knowledge and understanding of the Secondary 1 Science curriculum.

Structure of the workbook

The workbook is divided into three stages, matching the Science Curriculum Framework. Within each stage, there are 10 topics. These have been chosen to focus on difficulties in communication that science learners frequently encounter. The authors have worked closely with teachers of the Secondary 1 Science course in many different countries, and have also analysed answers written by science learners, in order to identify the main areas of difficulty.

Who this workbook is for

It is expected that the workbook will be used in science lessons or as science homework, under the guidance of the science teacher.

The workbook is designed to be used by any learner who is following the Cambridge Secondary Science 1 course. It will be particularly valuable for learners whose English language skills are not strong. However, as all of the exercises are firmly rooted in the learning objectives of the Secondary Science 1 Curriculum Framework, they will be valuable for all learners, even those whose first language is English.

Skills and content coverage

The main focus of this workbook is to help learners to develop strong English language skills, which will help them to understand their work in science, and to read and answer questions on Progression Tests and Checkpoint Tests with confidence. The book does **not** aim to cover every learning objective in the Science Curriculum Framework. The learning objectives that are supported in the exercises have been chosen to provide good opportunities for practising the specific English language skills that are covered in that topic.

Stage 7 Mapping Grid

| Stag | e 7 | | | ces | | | | | | | |
|--------|---|---------------------|------------------|--|---------------|-------------------|-------------------------|----------------|--------|---------------------|---------------------|
| Τορί | C | Talking about Facts | Connecting ideas | Talking about differen and extremes | Helping Verbs | Words and Phrases | Planning Experiments | Results Charts | Graphs | Writing Conclusions | Answering questions |
| | 7Ep Plan investigative work | | | | | | | | | | |
| SE | 7Eo Obtain and present evidence | | | | | | | | | | |
| | 7Ec Consider evidence and approach | | | | | | | | | | |
| | 7Bp, 7Bh Plants and humans as organisms | | | | | | | | | | |
| ogy | 7Bc Cells and organisms | | | | | | | | | | |
| Biol | 7Be Living things in their environment | | | | | | | | | | |
| | 7Bv Variation and classification | | | | | | | | | | |
| | 7Cs States of matter | | | | | | | | | | |
| iistry | 7Cp Material properties | | | | | | | | | | |
| Chem | 7Cc Material changes | | | | | | | | | ĺ | Ì |
| | 7Ce The Earth | | | | | | | | | | |
| S | 7Pf Forces and motion | | | | | | | | | | |
| hysic | 7Pe Energy | | | | | | | | | | |
| | 7Pb The Earth and beyond | | | | | | | | | | |

Stage 8 Mapping Grid

| Stag Topi | e 8 c | king about Facts | nnecting ideas | king about differences d extremes | lping Verbs | rds and Phrases | inning oeriments | sults Tables | scribing and erpreting graphs | nclusions and blanations | swering questions |
|--------------|------------------------------------|------------------|----------------|--------------------------------------|-------------|-----------------|---------------------|--------------|----------------------------------|-----------------------------|-------------------|
| | 8En Plan investigative work | Tal | ပိ | and | Не | Ň | EXI EXI | Re | inte De | S ž | Ä |
| | | | | | | | | | | | |
| SE | 8Eo Obtain and present evidence | | | | | | | | | | |
| | 8Ec Consider evidence and approach | | | | | | | | | | |
| | 8Bp Plants | | | | | | | | | | |
| _ | 8Bh Food and digestion | | | | | | | | | | |
| olog | 8Bh The circulatory system | | | | | | | | | | |
| Bi | 8Bh Respiration | | | | | | | | | | |
| | 8Bh Reproduction and development | | | | | | | | | | |
| try | 8Cs States of matter | | | | | | | | | | |
| emis | 8Cp Material properties | | | | | | | | | | |
| CP | 8Cc Material changes | | | | | | | | | | |
| | 8Pf Forces and motion | | | | | | | | | | |
| sics | 8Ps Sound | | | | | | | | | | |
| Phy | 8PI Light | | | | | | | | | | |
| | 8Pm Magnetism | | | | | | | | | | |

Stage 9 Mapping Grid

| Stag | e 9 | | | ces | | | | | | | |
|------------|--|---------------------|------------------|--|---------------|-------------------|-------------------------|----------------|--------|---------------------|---------------------|
| Τορί | 5 | Talking about Facts | Connecting ideas | Talking about differen and extremes | Helping Verbs | Words and Phrases | Planning Experiments | Results Tables | Graphs | Evaluating Evidence | Answering questions |
| | 9Ep Plan investigative work | | | | | | | | | | |
| SE | 9Eo Obtain and present evidence | | | | | | | | | | |
| | 9Ec Consider evidence and approach | | | | | | | | | | |
| ~ | 9Bp Plants | | | | | | | | | | |
| liolog | 9Be Living things in their environment | | | | | | | | | | |
| | 9Bv Variation and classification | | | | | | | | | | |
| nistry | 9Cp Material properties | | | | | | | | | | |
| Chem | 9Cc Material changes | | | | | | | | | | |
| s | 9Pf Forces and motion | | | | | | | | | | |
| hysic | 9Pm Electricity | | | | | | | | | | |
| _ C | 9Pe Energy | | | | | | | | | | |

How does this workbook fit with the Cambridge Checkpoint series?

The back cover of the Workbook shows the other books in this series. For each stage, the Coursebook covers every learning objective in the Science Secondary 1 Curriculum Framework, while the Workbook, Skills Builder and Challenge books are write-in books that provide learners with structured, progressive exercises that help to build their understanding and skills. The English Language Skills Workbook complements those books by providing specific guidance on the use of English in science.

How to use the workbook effectively

The workbook should be used in science lessons or as science homework. The way in which it is used will largely depend on the standard of English that your learners have achieved. This is also likely to vary between individual learners in the class, so you may need to consider different approaches for different learners. It is recommended that you consider how and when you will use the topics and exercises in this workbook as you construct your medium-term plans (schemes of work).

There are three exercises in each of the topics, arranged with biology first, then chemistry, then physics. It is very important to appreciate that these can be done in any order. The order in which learners do the exercises should depend on the order in which you cover the science content in them. If biology, chemistry and physics are taught by different teachers, there should be agreement about how and when these exercises will be used.

One approach is to deal with a topic when you are teaching a learning objective that is addressed in one of the exercises. (These are shown in the grid on pages 5–7.)

Here is an example.



By regularly revisiting a topic in this way, you will help learners to reinforce that particular aspect of their English language usage and make sure that their skills continue to develop throughout the course.

Look inside





At the end of each topic, there is a table listing important words that have been covered. Learners should be encouraged to practise saying these words out loud. They can write a sentence using the word in the 'notes' column. They may also like to add the meaning of the word in their own language. It would be useful for learners to steadily build up their own dictionary in a separate notebook.

| Word | Pronunciation | Notes |
|-----------------------|----------------------|-------|
| ball-and-socket joint | borl-and-soket joynt | |
| chemical | ke-mi-kal | |
| count | kawnt | |
| cranium | krav-nee-vum | |
| crystals | kris-tals | |
| energy | en-er-ii | |
| fact | fakt | |
| fossil | fos-sel | |
| grain | arevn | |
| hinge joint | hini iovnt | |
| igneous rock | ig-nee-yus rok | |
| jawbone | jor-bown | |
| joint | joynt | |
| , magma | mag-ma | |
| metamorphic rock | met-am-or-fik rok | |
| plural | plur-el | |
| porous | por-us | |
| rock | rok | |
| sedimentary rock | se-di-men-tary rok | |
| singular | sing-yu-la | |
| skull | skul | |
| source | sorse | |
| | | |

Author biographies

Mary Jones

Mary obtained an MSc in Zoology from the University of Oxford. She has worked as a teacher and a lecturer in different types of educational institutions, teaching students of all ages.

Mary's greatest interest is in sharing her love of science with young learners. She has written many textbooks, in which she aims to encourage learners to 'think like a scientist'. Her long involvement in examining and in training has given her insight into the difficulties that learners all over the world have in understanding some topics in science, and this has informed her writing approach. She is passionate about the need to develop skills rather than just accumulating knowledge – skills that are vital for learners to be successful as they move into higher education or the world of work.



Sally Burbeary

Sally obtained a BEd honours degree in secondary education and a Post Graduate Certificate in Teaching English as a Second Language. She has worked both in the UK and internationally teaching English as a Second Language to learners of all ages.

Sally is an examiner and trainer, which continues to enrich her knowledge of language acquisition and usage. Sally is passionate about sharing her experience of teaching English as a Second Language with other teachers and helping learners to gain the language skills they need in order to communicate effectively in the global world we live in.



Sally has a deep interest in how we learn subjects in an additional language and is keen to support learners on their educational journey.

Acknowledgements

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