

SPECIALISED CELLS**KEY STAGE(S):** 3-4**SUBJECT(S):** Science**TOPIC:** Cells, organs and life processes**LANGUAGE LEVEL:** New to English - Developing competence**RESOURCE CONTENTS**

- A reference / revision booklet for learners on PowerPoint
- A set of flashcards provided on PowerPoint
- Graphic organiser activity and answers on PowerPoint
- A cloze activity and answers on PowerPoint
- Four substitution tables on PowerPoint

CURRICULUM OBJECTIVES

- To know the features of a range of specialised animal and plant cells
- To know the functions of these specialised cells

Language functions**Useful Language****Describing**

- 3rd person plural present tense: have, are, contain, can

Explaining

- The function of _____ cells is to ...
- This enables them to ...
- This allows them to ...
- This makes it possible to ...
- This helps them to ...
- This means they are able to ...

Vocabulary

plant, animal, cell, nucleus, cytoplasm, chloroplast, photosynthesis, to absorb, electric signals, to join, messages, minerals, soil, specialized, specific, surface area, to transmit, haemoglobin, oxygen

PREPARATION**You will need:**

- Interactive White Board (IWB) or projector and screen to be able to use the PowerPoint with whole class
- A copy of the reference booklet for each beginner EAL learner in the class
- Copies of the flashcards for each targeted pair or group of learners for the graphic organiser activity
- Copies of the substitution tables and cloze activity as required (or these can be used electronically)

You will need to:

- print off a copy of the reference booklet for each beginner EAL learner in the class
- make flashcards by printing out the PowerPoint files as two-to-a-page handouts and then cutting them up. These can be laminated for reuse.
- print off A3 copies of the partially completed graphic organiser (slide 2 on the graphic organiser PowerPoint) for each group of learners, and a few A4 copies of the answers (slide 3) if you want the learners to check their own work when ready rather than showing the answers to the whole class
- print off A4 copies of the substitution tables and cloze activity as required for differentiation
- print off an A3 copy of the useful language for more detailed explanations laminate for display in the classroom

IDEAS FOR USING THE RESOURCE**This resource could be used:**

- Whole class
- As differentiation within class
- One-to-one or small group
- Independent learning

What to do

- To introduce key vocabulary, use the PowerPoint of the reference booklets
- Slide 20 of the flashcards PowerPoint shows pictures of 6 types of specialised cells (one at a time) and is designed to be used for the whole class to look at the cells and observe their particular features.
- This vocabulary can be reinforced through using the flashcards and the visuals from the reference booklets. Print the booklets out and give to every EAL learner for future reference. Use the EAL learners' first language by making sure they translate the words in the glossary prior to teaching the topic.
- Matching activity: EAL learners can work in pairs or groups with a set of the flashcards to match the name, picture and function of each of the six types of specialised cells. This is a collaborative activity giving an opportunity for exploratory talk.
- Graphic organiser: Give each group the A3 version of the partially completed graphic organiser (slide 2 of the graphic organiser PowerPoint) and a copy of the reference booklet. Explain that they need to complete the grid with information about the appearance, special abilities and function of the cells. This is a collaborative activity giving an opportunity for exploratory talk.
- Cloze activity: This can also be done as a collaborative activity in pairs or small groups so as to give an opportunity for exploratory talk. The words are given on a separate slide so the activity can be differentiated. An answer sheet is also provided.
- When the exercise is completed either show the answer slides, or give each group a hard copy of the answer sheet.
- For beginner EAL learners, two substitution tables are provided to model describing the specialist cells, one with visuals and one without. These can be used to scaffold oral or written responses to the question 'What can you tell me about _____ cells?'

- For intermediate EAL learners two further substitution tables model explaining the function of each type of cells. Again, one contains visuals and the other is just words. These give an opportunity to practice academic language, first orally and then in writing. E.g. 'What is the function of leaf cells? The function of leaf cells is to absorb sunlight for photosynthesis.

Other ideas for making the best use of this resource

- Pairs game (Pelmanism): The flashcards can be used for a pairs game, either words and images, images and functions or words and functions. The aim is for learners to match the flashcards:
 - Both sets of cards should be placed face down on a desk / table.
 - The first player turns over two cards. If they match, they win the pair and have another turn.
 - If they do not match it is the next person's turn.
 - The winner is the person who has the most pairs at the end of the game.

POSSIBLE EXTENSION ACTIVITIES

- Slide 6 of the substitution tables PowerPoint can be used as a scaffold to support learners to produce more complex explanations about how the features of particular cells are adapted to the function of that cell. This can be displayed in the classroom or used electronically. More detailed explanations can be rehearsed orally first before producing a written version. An example is given on the slide:

Nerve cells have connections at all ends and can carry electric signals. This enables them to transmit messages around the body.