



Overview

The intriguing title of this article leads to an exploration of our sense of taste and the many factors that help us determine whether food tastes nice or nasty. The text is strongly supported by diagrams and close-up photographs of the tongue and taste buds and includes an experiment students can do to detect different flavours.

The text accompanies the humorous story "Living on a Shoestring" from the same Journal and provides opportunities for students to make connections between the fictional and factual presentation of information.

Text characteristics from the year 6 reading standard

a significant amount of vocabulary that is unfamiliar to the students (including academic and content-specific words and phrases), which is generally explained in the text by words or illustrations

abstract ideas, in greater numbers than in texts at earlier levels, accompanied by concrete examples in the text that help support the students' understanding

some information that is irrelevant to the identified purpose for reading (that is, some competing information), which students need to identify and reject as they integrate pieces of information in order to answer questions

Take a look at your tongue

Stand in front of a mirror, stick your tongue out, and have a close look at it. Even better, use a magnifying glass. You'll see that the top of your tongue is covered in little bumps, called papillae. Inside each of these papillae are groups of tiny taste buds. You have about 10 000 taste buds hidden in papillae across the surface of your tongue. Each taste bud in turn is made up of about a hundred cells, called receptors, which recognise tastes and send information about them to the brain.

There are five main types of receptors, which recognise sweet, sour, salty, bitter, and umami (savoury) tastes. Each taste bud contains a selection of all the different receptors.

Human tongue

tongue
tongue
tongue
tongue

Cross-section of a papilla

papilla
taste buds
connective tissue
salivary glands
muscle layer

The surface of a human tongue, seen through a microscope

Cross-section of a tongue's surface, seen through a microscope

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sentences that vary in length and structure (for example, sentences that begin in different ways and different kinds of complex sentences with a number of subordinate clauses)

illustrations, photographs, text boxes, diagrams, maps, charts, and graphs that clarify or extend the text and may require some interpretation

Possible curriculum contexts

SCIENCE (Living World)

LEVEL 3 – Life processes: Recognise that there are life processes common to all living things and that these occur in different ways.

ENGLISH (Reading)

LEVEL 3 – Structure: Show a developing understanding of text structures.

ENGLISH (Writing)

LEVEL 3 – Structure: Organise texts, using a range of appropriate structures.

Possible reading purposes

- To explore the way our sense of taste works
- To learn how our sense of taste can protect us from harm.

Possible writing purposes

- To describe or explain another sense and how it works
- To compare two senses, such as taste and smell
- To make a chart of nice and nasty tastes, with explanations for the differences.

See [Instructional focus – Reading](#) for illustrations of some of these reading purposes.

See [Instructional focus – Writing](#) for illustrations of some of these writing purposes.

Text and language challenges

VOCABULARY:

- Possibly unfamiliar words and scientific terms, including “magnifying glass”, “papillae”, “taste buds”, “receptors”, “umami”, “tonsils”, “cross-section”, “connective tissue”, “salivary glands”, “picky eaters”, “saliva”, “clogged up”, “blindfold”, “chilli”, “wasabi”
- The Latin singular and plural forms, “papilla” and “papillae”.

Possible supporting strategies

Identify words that will be unfamiliar to the students and introduce them before reading. You could also use the reading to discuss the words as they are encountered.

Prepare a vocabulary list of key words in this text. For each word, include a simple definition in English or an illustration and a simple example sentence. Have students use this list in conjunction with pre-reading tasks that focus on building prior knowledge (see below). For students who have some knowledge of this vocabulary (or as a follow-up activity), you could cut up the words, definitions, and example sentences and have the students work in pairs or groups to match them.

Help students prioritise useful vocabulary (for example, “magnifying” rather than “papilla”). *The English Language Learning Progressions: Introduction*, pages 39–46, has useful information about learning vocabulary.

SPECIFIC KNOWLEDGE REQUIRED:

- Experiences of many different tastes
- Knowledge of life processes and body structures, including cells and sensory organs
- Familiarity with close-up and cross-section photos and diagrams.

Possible supporting strategies

Over several days, ask students to share their taste experiences. They could keep a taste log or make lists of the foods they taste each day.

Discuss the tastes and prompt the students to begin classifying their combined lists. After reading, they can re-classify the tastes and discuss them using key vocabulary.

TEXT FEATURES AND STRUCTURE:

- Descriptions and explanations
- Dramatic close-up photos, illustrations, and diagrams
- Headings
- The instructions (procedural text)
- The use of humour in the title and the final (rhetorical) question
- Many complex sentences with more than one subordinate clause.

Possible supporting strategies

If students have not encountered close-up photos and diagrams, they may need support. You could use other highly magnified images of common objects, such as an insect’s leg or wing or a part of a plant, to accustom students to extreme magnification.

Cross-sectional diagrams can be supported by cutting a piece of fruit in half to compare the perspective with those in the article.

The text contains a lot of new information, often contained in dense sentences (sentences with several clauses and phrases). Some students may benefit from working through the text in small sections and talking about them several times. After reading pages 25 and 26, you could conduct a jigsaw reading. Ask pairs of students to read their section and prepare to summarise the main points for their classmates. Have the pairs work in small groups to share their information with others who read different sections, and repeat the process until each student has heard about each section. Then read the whole text as a group.

Instructional focus – Reading

Science (Living World, level 3 – Life processes: Recognise that there are life processes common to all living things and that these occur in different ways.)

English (Level 3 – Structure: Show a developing understanding of text structures.)

Text excerpts from “Mmm, That’s Tasty!”

Taste is only one of the senses that help you decide whether you like a food, as well as whether it is safe to eat. Your sense of taste mostly comes from the top surface of your tongue.

There is a big difference between taste and smell, but they work as a team to help give you the flavour of food.

Your tongue checks the temperature and texture of food.

You use your eyes to check the colour and appearance of food ...

Sound and touch are also important.

The hotness of chilli and wasabi does not come from their taste. They contain a chemical that affects pain receptors wrapped around the taste buds.

You’ll see that the top of your tongue is covered in little bumps, called papillae. Inside each of these papillae are groups of tiny taste buds. You have about 10 000 taste buds hidden in papillae across the surface of your tongue. Each taste bud in turn is made up of about a hundred cells, called receptors, which recognise tastes and send information about them to the brain.

Students (what they might do)

The students ask a question of the text (“What senses are involved when we taste food?”) and search for answers as they read. They locate and evaluate information across the text, then integrate it to understand that smell, touch, sight, and sound are all involved in taste. They use this information and their own knowledge and experiences to understand that rather than being a single sense, taste is a complex process that involves all the senses.

The students make connections between the information in the text and the four images. They locate labels on the photos and diagrams to match the information in the text. They integrate this information with what they already know about the structure of the body as they work out what each part is, where it is, and what it does.

Students ask questions such as “Where are the receptors?” and “What do they look like?”

Teacher (possible deliberate acts of teaching)

EXPLAIN that good readers often locate, evaluate, and integrate information from more than one part of the text.

- When we read, we integrate ideas from the text and from other things we know. This means we combine many ideas and pieces of information to understand what the author is telling us.

PROMPT the students to answer a question as they read the text.

- Read page 25, and as you read, look for information to help answer the question “What senses are involved when we taste food?”
- As you find information, check to see if it helps answer the question.
- Highlight the text or make notes as you read.
- When you think you’ve found all the information you need, work with a partner to compare notes.
- Integrate the information you’ve found.
- Come up with a sentence that answers the question and demonstrates your new knowledge.

Record the students’ answers in a modelling book or on a chart and discuss them with the group.

- How does what you know now compare with what you knew before you read the article?
- What further questions do you have about taste or our other senses?
- What can you conclude about the way our life processes work?

PROMPT the students to work with a partner to clarify their understanding of the text.

- As one person reads a piece of information aloud, the other person identifies a place in the images that relates to that information.
- Discuss each part with your partner to make sure you understand what it is, where it is, and what it does.
- Record any further questions you have about the parts of the tongue for further research?

Discuss the activity with the group, clarifying any misunderstandings and recording the students’ questions for later research.

GIVE FEEDBACK

- I listened to your discussion and noticed that you were using the main text and the diagrams to work out where the taste buds are. Using all the sources of information in a text helps you gain a full understanding.
- You reviewed what you already knew and then added the new information. That’s called integrating and it’s how we build on what we already know to learn more.

METACOGNITION

- Tell me about a place where you changed your thinking. How did you do that? How does your new understanding compare with what you knew before?
- What questions did you ask yourself as you read this article? How did your questions help you?
- What aspects of this text could help you when writing for a scientific purpose?

Reading standard: by the end of year 6

The Literacy Learning Progressions

Assessment Resource Banks

Instructional focus – Writing

Science (Living World, level 3 – Life processes: Recognise that there are life processes common to all living things and that these occur in different ways.)

English (Level 3 – Structure: Organise texts, using a range of appropriate structures.)

Text excerpts from “Mmm, That’s Tasty!”

Children often seem to be picky eaters, partly because they have more taste buds than adults, making them more sensitive to taste. Younger children are often especially sensitive to sweet tastes – which could be why chocolate is more popular than broccoli at birthday parties.

When you put food in your mouth, some of it dissolves in saliva and is washed over the taste buds, which pick up the taste. The watery saliva is important – without it, dry food would be even more tasteless than normal. Other chemicals in the food are carried through the air up to the back of your nose, where you recognise them as smells.

Close your eyes (or put on a blindfold) and pinch your nose shut with a finger and thumb. Then have someone pop a jelly bean into your mouth. Chew it a bit.

Examples of text characteristics

COMPLEX SENTENCES

Complex sentences combine two or more ideas, using connecting words (such as prepositions, participles, or conjunctions) to show the relationships between the ideas. Complex sentences are often used in non-fiction texts because the sentences need to convey a lot of information.

EXPLAINING

Explanations tell how or why something happens or how a process works. They often use words that signal a sequence (“when”) or a move from one place to another (“through”, “where”).

INSTRUCTIONS

Instructions often use imperative or directive verbs that tell the reader what to do. Verbs such as “Close”, “pinch”, and “Chew” are directed at the reader. They have an implied subject, “you”.

METACOGNITION

- Writing becomes easier when you have some good strategies for planning, reviewing, and revising. What strategies helped you the most?
- How does thinking about your purpose help you find things that need fixing?
- Show me how you planned this explanation. What diagrams or other graphic features will help your readers to understand it?

Teacher (possible deliberate acts of teaching)

EXPLAIN that interesting writing uses a variety of sentence types, including complex sentences.

- A simple sentence contains one idea and uses a single verb, for example “Children are picky eaters.”
- Compound sentences use a connecting word to join two ideas (or short sentences) together, for example, “Children are picky eaters, *and* they have more taste buds than adults.”
- Complex sentences combine more ideas and use words that show the relationships between the ideas. “Children are picky eaters, *partly because* they have more sensitive taste buds *making* them more sensitive to taste.”

MODEL some ways to combine ideas to form satisfying complex sentences.

You could use this example or choose a piece of student writing.

- Luke walked out to recess. He saw his best friend playing with Jarrod. He turned away in disgust. (Simple sentences)
- When Luke walked out to recess and saw his best friend playing with Jarrod, he turned away in disgust. (Complex sentence)
- As he walked out to recess, Luke saw his best friend playing with Jarrod and turned away in disgust. (Complex sentence)

Support the students to experiment with different ways sentences can be combined to make interesting complex sentences that will better engage their readers.

TELL the students that good writers use a mix of sentence types, depending on the effect they want to achieve. For example, a series of short, simple sentences can convey a sense of tension or clarify important facts. Not all sentences need to be complex!

DIRECT the students to review their writing.

- If you’re explaining something in your writing, read over your work and look for the words that help the readers follow your explanation.
- Ask a partner to imagine you’re explaining something completely new to them: would they be able to follow the sequence or actions?
- What kinds of words will help make your explanation completely clear?

PROMPT the students to discuss the features of instructions.

- Why might you want to include a set of instructions in your writing? What do you want your readers to do with them?
- What structural features have you used to show the reader what to do?
- Have you experimented with other ways of writing instructions? For example, instead of making a list of steps, can you write the instructions in a more informal way?
- What effect do you want to achieve? How will the instructions help you achieve that?

GIVE FEEDBACK

- You’ve combined these simple sentences to form a complex sentence, using great connecting words. The meaning is the same, but it’s a lot more interesting to read.
- The feedback you had from Elsie was that your explanation was hard to follow. The changes you’ve made to the order and the words you’ve added make it a lot clearer.

 Writing standard: by the end of year 6

 The Literacy Learning Progressions