



CREATIVE WRITING IN SCIENCE

ACTIVITIES THAT INSPIRE

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CHAPTER 1

WHY WRITE CREATIVELY IN SCIENCE?

Creative writing allows students to apply their knowledge in an imaginative way. To engage students and meet a range of learning styles, this book demonstrates a variety of writing forms – from fictional narrative essays to poetry to comics.

By assessing students through creative writing, you will see new strengths in your students and have a better understanding of their writing skills and science knowledge. Each student's approach to an assignment may be different, which allows students to take pride in the individuality of their final product.

Before integrating writing into the content area, you must ensure that students have a solid foundation of the knowledge and vocabulary of a given unit. Assignments throughout the book could serve as formative assignments if you implement them while teaching your unit. The assignments could also be summative assignments if you use them after a concept has been taught or at the end of your unit.

The activities and rubrics were written to meet a range of year level and teacher needs. Depending on your class or year level, the same assignment may be used by one teacher as a class activity, by another teacher as homework, and by a third teacher as their final assignment for a unit. At least one model of writing is also included for each activity to help students understand expectations and to inspire their own creativity.

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CHAPTER 2

SCORING STUDENT WRITING

Teachers have a range of comfort levels when scoring the actual writing within a piece, especially writing fluency and conventions. Therefore, two different rubrics are included for each assignment. One rubric scores the application of science knowledge and vocabulary. The other rubric scores the science content, language use and conventions. Scoring the mechanics and style of writing benefits students by reinforcing what they are learning in language arts, by showing them that writing is important across the content areas, and by making them more accountable for the quality of their writing.

The two rubrics that follow (Tables 2.1 and 2.2 [p. 6]) illustrate the typical scoring criteria in this book. The rubrics are applicable across year levels and are written in a purposeful, open-ended style to encourage students to be creative and take risks.

Table 2.1 Poetry Rubric: Scoring for Science and Writing Content

AREA	1 DOES NOT MEET EXPECTATIONS	2 PARTIALLY MEETS EXPECTATIONS	3 MEETS EXPECTATIONS	4 EXCEEDS EXPECTATIONS
SCIENCE CONTENT	The poem lacks information and shows that you do not understand the concepts of this unit, or the poem shows consistent misconceptions.	The poem shows correct understanding but lacks details, or poem demonstrates some minor misconceptions.	The poem includes appropriate and detailed information that shows an overall understanding of the unit.	The poem has thorough and detailed information, showing an understanding of the unit that is distinguished (very strong).
LANGUAGE USE	Writing flow and spelling errors make the poem difficult to understand.	Writing flow and spelling errors distract the reader.	The spelling is correct, and the flow of the poem is smooth to the reader.	The spelling, flow and style of the poem are distinguished (very strong).

Table 2.2 Narrative Rubric: Scoring for Science and Writing Content

AREA	1 DOES NOT MEET EXPECTATIONS	2 PARTIALLY MEETS EXPECTATIONS	3 MEETS EXPECTATIONS	4 EXCEEDS EXPECTATIONS
SCIENCE CONTENT	The narrative lacks information and shows that you do not understand the concepts of this unit, or the narrative shows consistent misconceptions.	The narrative shows correct understanding but lacks details, or narrative demonstrates some minor misconceptions.	The narrative includes appropriate and detailed information that shows an overall understanding of the unit.	The narrative has thorough and detailed information, showing an understanding that is distinguished (very strong).
USE OF SCIENCE VOCABULARY	The narrative does not include enough science vocabulary to show understanding, or the narrative uses terms incorrectly.	The narrative includes some relevant science vocabulary, but it needs more to adequately show knowledge.	The narrative consistently uses science vocabulary in the appropriate context.	The narrative uses extensive and appropriate science vocabulary throughout.
WRITING FLUENCY	Writing flow and errors in sentence structure make the narrative difficult to understand.	Writing flow and errors in sentence structure writing distract the reader.	The sentence structure is correct and the flow of writing is smooth to the reader.	The sentence structure, flow and style of writing are distinguished (very strong).
CONVENTIONS	Spelling, capitalisation and punctuation errors make the narrative difficult to understand.	Spelling, capitalisation and punctuation errors make the narrative difficult to understand.	Spelling, capitalisation, punctuation and grammar are mostly or all correct.	The spelling, capitalisation, punctuation and grammar are distinguished (very strong).



CHAPTER 4

EVERY TREE IS A CHARACTER

Writing Styles

Narrative, descriptive

Purpose

Students will work individually to apply forestry knowledge and vocabulary to a piece of fictional writing.

Overview

For this activity, students write a fictional story about a tree. It may help to have students first observe a tree, with a focus on the evidence of human or natural impact and the sensory details they experience at the site of the tree. To encourage application of knowledge from the unit, ask students to underline or italicise key vocabulary in their final piece.

English Connections

Discuss character and how conflict affects characters. Students should have various types of conflict occur in their tree story to engage the reader and show their knowledge of natural and human impact. *Personification* is a literary device that gives human characteristics to something that is not human. This device helps create imagery and engages the reader in the story. Point of view and voice can also make stories more effective. There is one first-person point of view model and one third-person point of view model. When you compare the models' opening sentences, you see that they set very different tones for the story. For example, this sentence has a playful feel: "Bob the birch is not an ordinary tree; he is more like a cat with nine lives", while this sentence reads more like a fable: "I don't remember the day the wind carried my seed from the pinecone, for it was many, many sunrises ago".

Differentiation Strategies

An alternative assignment is for students to draw circles to represent the years of a tree's life. Students can label the rings with a number and write a sentence for what the tree may have experienced during that year. Students who need more of a challenge could focus on explaining photosynthesis and cellular respiration.

Although personification is an effective literary device, it could potentially lead to misconceptions for some students. It may be helpful to emphasise that students are writing a fictional piece and that trees do not actually have the emotions portrayed in the story.

Applications to Other Science Areas

You could have students write a fictional story from the perspective of a water droplet going through the water cycle or a story from the point of view of a comet that describes our solar system.

Name: _____ Date: _____

Every Tree Is a Character

Write a fictional piece that tells the story of a tree. Be sure to show your knowledge of forestry and ecology. You can write the story from the first-person point of view (from the perspective of the tree) or the third-person point of view (from the perspective of a narrator).

Vocabulary I could use from this unit in my writing includes the following:

You will be scored according to the following rubric:

AREA	1 DOES NOT MEET EXPECTATIONS	2 PARTIALLY MEETS EXPECTATIONS	3 MEETS EXPECTATIONS	4 EXCEEDS EXPECTATIONS
SCIENCE CONTENT	The narrative lacks information and shows that you do not understand forestry/ecology concepts, or narrative shows consistent misconceptions.	The narrative shows correct understanding of forestry or ecology concepts but lacks details, or narrative demonstrates some minor misconceptions.	The narrative includes appropriate and detailed information about forestry/ecology concepts.	The narrative has thorough and detailed information, showing an understanding of forestry/ecology concepts that is distinguished (very strong).
USE OF SCIENCE VOCABULARY	The narrative does not include enough science vocabulary to show understanding, or the narrative uses terms incorrectly.	The narrative includes some relevant science vocabulary, but it needs more to adequately show knowledge.	The narrative consistently uses science vocabulary in the appropriate context.	The narrative uses extensive and appropriate science vocabulary throughout.

Use the organiser on page 15 to plan your story.

CHAPTER 4 Every Tree is a Character

Name: _____ Date: _____

Every Tree Is a Character

Write a fictional piece that tells the story of a tree. Be sure to show your knowledge of forestry and ecology. You can write the story from the first-person point of view (from the perspective of the tree) or the third-person point of view (from the perspective of a narrator).

Vocabulary I could use from this unit in my writing includes the following:

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