King of the Hill

by Maggie Lilleby

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Overview

Damien and his friends are determined to win Nelson's annual trolley derby. To do so, they need a trolley that is fast, stable, and safe. The process they follow to design one is the focus of this text, which also includes engaging recounts of races the children take part in.

"King of the Hill" has strong links to the technology curriculum. This article offers practice in extracting technical information – the steps in the design process – from a non-technical context and would be a useful starting point for a technology topic.

Suggested reading purpose and teaching purpose

Based on the information I have about my students' learning needs, what would be appropriate reading and teaching purposes for the lesson?

- To explore a recount of how a group of children designed, made, and then raced their trolleys in an annual derby
- To support the students in developing the comprehension strategy of **summarising**.

Suggested learning goal

We are learning to summarise the steps of a process that are part of a recount.

Success criteria

To support our comprehension of the text, we will:

- use what we know about the structure of a recount and a procedural text to identify key information about the process
- brainstorm words that might help us identify the sequence of steps in the process
- look for these words and other clues to the steps as we read
- identify the steps, expressing what they are in one or two words
- describe the process as a list of instructions.

Features of the text

What are the potential supports of this text in relation to my students' learning needs and to the reading and teaching purposes?

- **Text form:** Present-tense recounts of races (beginning and end of text) and a past-tense recount of the design process (middle of text).

- **Structure and organisation:**
    - The use of bold italics at the beginning of each new section of text
    - The clear design process that the children followed: researching, designing, building, testing, modifying, and retesting
    - The supportive images, including the labelled diagram of the trolley design.
- **Language choices:**
    - The direct quotes from the children
    - The colloquial language, for example, “giving it heaps”, “goes for it”, “he was really shifting”, “cruise through”, “dead keen”
    - The contractions, for example, “that’s”, “It’s”, “They’re”, “they’ve”
    - The indicators of sequence, for example, “The first step”, “After”, “Next”, “Finally”, “In the end”.
- **Specific vocabulary:**
    - The words that convey a sense of speed, for example, “speedsters”, “*Hyper Racer*”, “Zoomers”, “Hurtling”, “goes for it”, “flashing”, “really shifting”
    - The mechanical language, for example, “axle”, “steering system”, “cable”, “lever”, “windshield”.

Readability

Noun frequency level: 10–12 years for guided reading

What text features might challenge my students and require a prompt or a brief explanation?

- Particular words and concepts, including “annual trolley derby”, “speedsters”, “king of the hill”, “category”, “first heat”, “Hurtling”, “edges ahead”, “speedo”, “sideline”, “eventually”, “offers less resistance”, “aluminium”, “plywood”, “axle”, “steering system”, “welding”, “cable”, “lever”, “looming”, “windshield”, “secret ballot”, “fastened”, “glances”, “getaway”
- The use of colloquialisms unfamiliar to English language learners, for example, “king of the hill”, “giving it heaps”, “goes for it”, “he was really shifting”, “cruise through”, “dead keen”
- The shifting time frames and verb forms
- The varied and complex sentences.

What prior knowledge or experience might help my students to read this text?

- **Topic/content knowledge:** Their familiarity with the design process and indicators of sequence
- **Personal experience:** Their experiences of competitions and of trolleys, go-karts, and other mechanical devices

- **Literacy-related knowledge:** Their familiarity with structural features of recount and procedural texts.

Preparation for reading

This could be a pre-reading activity that the students undertake independently, in pairs, or with support from the teacher.

- Elicit the students' knowledge of the technological process by discussing technological projects they have been involved with. "What steps did you take in your project? If you were going to record your process, what words would you use to indicate the sequence of steps?" Draw out words like "first", "next", "then", and "last". This could be represented in a graphic organiser (see below). (Making connections)

What I know about technological processes	**Vocabulary I would expect to see in a sequence of steps**

A framework for the lesson

How will I help my students to achieve the reading purpose and the learning goal?

Before reading

- Share the reading purpose with the students and briefly introduce the text.
- Let the students browse through the images. Have them predict what "King of the Hill" might mean. (Forming hypotheses)
- Tell the students that this text recounts how a group of children designed and built a trolley. "We're going to be summarising the steps they took. Judging by the images, on what two pages do you think most information about the design process will be?" Confirm that pages 18 and 19 are most relevant, adding that the design process is "framed" by two recounts of races. Ask for ideas on how the students might go about identifying the steps. "What clues might there be in the text?" Recap the indicators of sequence that they came up with yesterday. "Let's look out for these words." Record them in the group-modelling book (good for visual prompts, especially for English language learners). (Summarising)
- Share the learning goal and success criteria with the students.

During reading

Refer to Effective Literacy Practice in Years 5 to 8*, pages 80–93, for information about deliberate acts of teaching.*

- Create a chart like the one below but include only the words and numbers in bold text. The students' job will be to fill in the rest of the information. They could do so in pairs, in small groups (in a modelling book), or all together (on the whiteboard). "In the first column, summarise the steps. You will probably need only one or two words – notes, not full sentences. In the second column, add details about what the children did during that step." (Summarising)

Page 16

- Support the students as necessary with vocabulary such as “annual”, “derby”, and “heat”. (Building vocabulary)
- “Have you confirmed what ‘king of the hill’ refers to?” Draw attention to the words that convey a sense of speed – “speedsters”, “*Hyper Racer*”, “Zoomers”. Discuss how any technological project is based on needs. Establish that the children’s aim in the project is to build the fastest trolley – that the need is speed. (Testing hypotheses; analysing and synthesising)

Page 17

- Support the students as necessary with vocabulary such as “Hurtling”, “edges ahead”, and “he was really shifting”. Continue doing this on the other pages. (Building vocabulary)
- “We already know that the trolley needs to be fast. I wonder if we can infer any other qualities that the trolley needs?” Discuss why Damien had to concentrate to travel in a straight line. Elicit the idea that high speeds can throw vehicles off balance (the “speed wobbles”) and draw out the associated need for stability. (Inferring)
- Look at the final sentence. “How fast is 45 kilometres an hour?” Encourage your students to compare the speed to something they know, such as the city speed limit for motor vehicles. “If the trolley is travelling so fast, what else might it need?” Draw out that it needs to stop quickly and be otherwise safe. (Making connections; inferring)

Pages 18–19

- Read the first column on page 18. “What is the first step?” If they suggest design, ask “Are you sure? Was there something before that?” Point them to the sentence beginning “After some research” and establish that research came before design. Confirm where the children did their research and ask for ideas on where else they might have gone. “But wait a minute, is there something else even before research? What were we talking about on previous pages?” Elicit that identifying the needs is a step in itself. “Let’s record these steps on the chart.” (Summarising; making connections)
- Ask why the children chose the design they did and what characterised it (the driver’s position). “What does ‘the driver’s body offers less resistance’ mean, and what would the effect on the trolley be?” Draw out that the trolley would be faster. Link back to your discussion of the needs for speed and stability. (Analysing and synthesising)
- Read the second column of page 18, and page 19. “What came next in the process?” Draw out that the text on these pages covers not only finding materials but also building (the two overlap). “Where did they get their materials from? What parts did they build?” (Summarising)

Page 20

- "I've noticed two more steps in the first paragraph, but they're a little harder to find. Can you find a word that indicates the sequence?" Draw attention to the sentence beginning "After". Support your students to understand that the first part of the sentence is one step (testing or practising) and that the second part of the sentence is another (modifying or changing). Identify the modifications. "Why do they need a plastic windshield?" (Summarising; inferring)

Page 21

- Read to enjoy the action rather than looking for steps to summarise. Draw attention to the last sentence. "Is the race the end of the group's design process?" Notice how the race is actually another opportunity to test the trolley, and discuss how designers can go through an endless cycle of testing and modifying to perfect their designs. Represent this idea on your chart. (Summarising)

STEPS **(SUMMARY OF PROCESS)**	**DETAILS**
1. Identify needs	Speed, stability, safety (including an ability to stop)
2. Research	On the Internet
3. Design	Allowing the driver to lie down, head first
4. Find materials and build	Materials from: recycling centre (aluminium swing), school (wheels, plywood), friend's dad (welding materials) Parts: frame, wheels, steering system, handles, brakes
5. Test	Practice runs in the school playground
6. Modify	Extra framing for strength, foam for comfort, windshield
7. Test	The race itself
8. Modify (etc. …)	Skinnier tyres …?

After reading

- Review the chart(s) and make any necessary changes. Notice that, by doing this, you are going through a process of testing and modifying, as in the text. (Summarising; making connections)

- Discuss how summarising has helped to extract technical information from a non-technical text. Have the students consider and discuss how they could represent the process in a technical format, as a series of instructions. Draw out that numbers and arrows might be useful (perhaps a flow chart) and discuss what language the students might use. "If you used numbers, would you also need to include words that indicate the sequence of steps? How could arrows help you to represent the cycle of testing and modifying?" Have the students carry out this activity. (Summarising; making connections)
- With the students, review the learning goal and success criteria and reflect on how well the learning goal has been achieved. Note any teaching points for future sessions.

Links to further learning

What follow-up tasks will help my students to consolidate their new learning?

The students could:

- reinforce their learning through independent or partner reading of a non-technical text
- use the process they have identified as a model for designing something (Making connections)
- explore the design process as it is presented in the film *The World's Fastest Indian* (Making connections)
- further explore the vocabulary with English language learners (or others who need support) by having them translate unfamiliar words and expressions into ones they know. (Building vocabulary)