

Human Being As Circuit Board, Human Being As Dictionary

Using the resource and Inventive podcast

This resource is based on the [Inventive podcast](#). The podcast mixes engineering fact with fiction. Each podcast features an interview with an engineer. That interview was used as inspiration by a variety of authors and poets to create a piece of fiction.

These resources make use of those pieces of writing to support the teaching of English.

Audio clips from the podcast provides context and can be played during a lesson. Students may wish to listen to the whole podcast in their own time. All resources can be accessed using the QR code below.

This English lesson resource supports students in:

Reading:

- read a wide range of challenging fiction including poetry
- draw on knowledge of the purpose and context of the writing to inform evaluation
- seek evidence in the text to support a point of view.

Writing

- select and organise ideas, facts and key points, citing

Additional context and careers resources

Audio clips from Inventive podcast

- **Clip 1: Miniaturisation** - Shrouk describes the process of miniaturisation of an ESR machine.
- **Clip 2: Shrouk's life and work**
- **Clip 3: Tania Intro** - Tania describes how she used the interview with Shrouk to write a story.

For other resources including posters and more information about Shrouk:



nustem.uk/inventive/#shrouk

Meet the engineer



Shrouk El-Attar

Electronics Design

Engineer

Shrouk arrived in the UK as an asylum seeker. She is now an electronics design engineer, activist and belly dancer. She currently works to design technology products which make women's lives better.

Meet the author



Image: Naomi Woddis

Tania Hershman
Human Being as Circuit Board, Human Being as Dictionary

Tania is a poet, writer, teacher and editor based in Manchester. She was a science journalist for 13 years, but then decided to write fiction and poetry instead.

The table provides an outline of the resource activities, and suggests approximate timings for each activity. You may wish to adapt these to suit your students' needs.

You may wish to listen to the whole podcast with your students. However, shorter clips are available which could be used instead.

This story and resource pack contain references which some students may find difficult, including refugees, and sexuality. This may need to be handled sensitively in class.

1	Meet the Engineer (pg 2)	30 min	<p>Listen to Clip 2 where Shrouk talks about her life, work and education. She also describes some of the technology that she is working on.</p> <p>As they listen, students should create a spider diagram of the challenges that Shrouk overcame to become an engineer.</p> <p>There is also a written summary that students could use for this.</p>
2	Developing inference skills (pg 3)	15 min	<p>Listen to Clip 3: Tania Intro</p> <p>Analyse the title: Human Being As Circuit Board, Human Being As Dictionary</p> <p>In pairs students discuss their initial thoughts.</p> <p>A series of key questions are provided which will allow a guided discussion about the engineer and the writing.</p>
3	Textual analysis - Opening (pg 4)	15 min	<p>Read the opening paragraph.</p> <p>Use the prompt questions to analyse the use of language and the key points which are raised.</p>
4	Stereotypes: Engineers (pg 5)	10 min	<p>Explain what is meant by the term 'stereotype'.</p> <p>If you wish you could show the students what an image search for 'engineer' produces. This will often involve hard-hats, high vis jackets and male engineers.</p> <p>The sheet provides a range of different, more diverse engineers and engineering careers.</p> <p>Discuss the prompt questions, and link the images to Shrouk's life.</p>

Teacher Information

Resource Activity Overview continued

5	Textual Analysis - Metaphor (pg 6)	20 min	Read the next section of the story. Explain (recall) what a metaphor is, and why it is used. Use the prompt questions to help students understand the use of metaphor in the story. You might wish to model suitable answer with the class.
6	What is this magic? (pg 7)	10 min	A short activity which includes the next section of the story. Draw attention to the change of words in the refrain of the story. Help students to consider how this change links to Shrouk's story.
7	Challenging stereotypes (pg 8 - 9)	30 min	Read the next section of the story. Referring back to the images and stereotypes of engineers, students are asked to consider how Shrouk and the story challenge stereotypes. This could be used as a more extended writing task.
8	Closing the circuit (pg 10)	15 min	The final section of the story makes use of more metaphors. Students answer the prompt questions to help them consider these metaphors in more detail.
9	Review question (pg 11)	30 min	Extended writing opportunity "Explain how Hershman uses the image of a circuit board to connect Shrouk's love of circuit boards with the challenges she faced to become an engineer." Some prompts are provided to help students structure their answers.

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