

Presentation Notes

Slide One



**Looking for
superheroes**

Do something amazing
– Be an engineer!



ENGINEERS
AUSTRALIA



STEM
PUTTING THE **E** IN STEM

Slide Two

Looking for superheroes!

- Planet cleaner
- Star maker
- Robot ruler
- Matter shaper
- Time traveller

Problem Solver!



ENGINEERS AUSTRALIA | STEM PUTTING THE E IN STEM

PRIMARY SCHOOL

Your aim: inspire kids about the big-picture of why engineering matters, and how engineers shape the future...without using the word 'engineering' in this slide.

(Choose an application of engineering, and describe the person who does this without saying 'engineer', e.g.)

- Improving the environment
- Building roads, bridges and skyscrapers
- Inventing a sustainable future

How do you get there? Enjoy learning about:

- How things work
- How to make things
- Be a good problem solver

Slide Three

Do you know a superhero?

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PRIMARY SCHOOL

Your aim: illustrate how engineering touches modern-day life.

(Depending on your available time and your interests, you could choose one or more of these to talk about.)

Did you know that engineering is everywhere? From the games you play to the smells you sniff - engineers help to change the world.

Examples:

Lego

<video Robot maker>

0:40

TV

<video BBC TV engineer>

0:40

Fragrances

<video Fragrance Finder>

0:40

We call those who use their learned skills to solve problems 'engineers' – they're like quiet superheroes no one hears about.

There are many kinds of engineers.

Engineers bring us most things we enjoy today.

Slide Four

You can be a superhero!

ENGINEERS AUSTRALIA PRESENTS
NOT ALL HEROES WEAR CAPES

Pick a problem > find the answers > get people to help you

PRIMARY SCHOOL

Your aim: connect engineering disciplines with real-life problems (and their answers) that could shape the future.

There are people who work every day on solving some pretty big problems, like:

- how to grow gold on trees
- reverse-engineering butterflies
- building the world's largest 3D printer

<video 1:04 >

(if you have a practical example in your discipline, you could also use this to personalise the presentation)

Point out that:

- Problem solvers learn a set of skills we call 'engineering'
- It takes great team to bring a project to life
- You start learning how to do this at school

Eg:

- Grow gold on trees = chemical engineering
- Recycling plastic = chemical and mechanical engineering
- Building a skyscraper = civil and mechanical engineering

There are 3 simple steps to changing the world:

- 1. Pick a problem**
- 2. Work out the answers**
- 3. Get people to help you**

The takeaway - maths, science and technology subjects are the pathway to solving these problems.

Slide Five



Your aim: introduce the videos one at a time, then generate some interaction.
(Depending upon audience size and age, ask for ideas, then talk about the ideas' possible problems and ways to solve them, etc.)

Engineering superheroes solve problems.
Let's think about:

- finding a new way to recycle plastic?

<video - Darren recycling plastic>
1:35

- building a skyscraper that reaches right into space?

<video - Isabel shaping matter>
1:00

Slide Six

Choose your own superhero adventure!

There are plenty of ways to change the world, but where do you start, and what can you do right now?

STARportal
This site is full of free and low-cost STEM activities. Log on and discover a world of online and home-based activities to spark your curiosity.
starportal.edu.au

Questacon
The National Science and Technology Centre
Shell Questacon Science Circus
A free, lively and energetic science show that visits schools across Australia. Would your school like to bring the show to its students?
questacon.edu.au/outreach/programs/science-circus/schools-and-teachers/science-circus-incursions

EA JUNIOR CLUB
Find lots of fun and informative engineering activities and resources that help students apply their science knowledge in class and at home.
EAJuniorClubInkTBC

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PRIMARY SCHOOL

Wrap-up time. Discuss how students can get involved.

- Encourage attendance and interest in class and engineering-related subjects like maths and science
- Encourage self-motivated research and learning (resources for this featured on the slide)
- Encourage kids to start thinking about ways to solve problems now;

as an example, leave them with an inspirational video on how to be an inventor (next slide).

Slide Seven

Choose your own superhero adventure!



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PRIMARY SCHOOL

Leave them with an inspirational video on how to be an inventor!

<Little Big Idea Winners> (Aus version)
2:34

or

<How to be an inventor> (US version)
4:59

Final Slide

