

STEVE MUSHIN: TRANSFORMING EVERY CITY INTO A JUNGLE

REFLECT: ENDLESS POSSIBILITIES

Can you think of an invention or technological breakthrough that once would have seemed impossible? What do you think people in the 1930s would have thought about the internet? Do you think people in the Elizabethan era could have imagined what modern cars look like today? Reflect on what people from a different time would have thought about things we take for granted today, including television, vaccines, or even streetlights!

PROBLEM SOLVING

What do you think are the biggest problems that humans need to solve today? Climate change is an obvious one, but what about any others? Write a list, share it with a partner, and then consider how this list reflects the values of contemporary society.

RESEARCH: SINCE YOU WERE BORN

Jump online and use reliable sources to find some data about the environment and how it has changed since you were born. You may like to use this tool from ABC News Story Lab: <https://www.abc.net.au/news/2019-12-06/how-climate-change-has-impacted-your-life/11766018>

What does this data tell us? It may make you feel worried about our future, but knowledge is power. Now that you have this information, what can we do to spread awareness and make positive changes?

SUSTAINABLE DESIGN

Research, draw and label a technological invention that could increase your own personal sustainability in some way. It could be about recycling, conserving water, reducing fast fashion, or anything else. Think big. There are no limits. Sometimes the craziest ideas are the ones that change the world!

When you've finished your design, share it with your class and explain your ideas in detail. Allow people to ask questions. At the end, vote on whose design is the most ludicrous!



Steve Mushin



KEY CURRICULUM AREAS

Learning areas: Science, design and technologies, digital technologies

Capabilities: Critical and creative thinking, ethical understanding

Cross-curriculum priorities: Sustainability

RELEVANT BOOKS

Ultrawild

About the Author

Steve Mushin is an industrial designer, model maker, illustrator and artist. He designs challenging and thought-provoking exhibitions and adventure spaces to ignite imaginations and explore design, physics and biology. Steve collaborates with scientists and engineers to illustrate complex and intriguing ideas. His first book *Ultrawild* was published in October 2023. Steve runs design workshops and creates exhibitions with schools, science museums, galleries and festivals to help kids and adults imagine transforming cities into ecosystems.

Curriculum Links

Scientific understanding, including models and theories, are contestable and are refined over time through a process of review by the scientific community ([VCSU114](#))

Advances in scientific understanding often rely on developments in technology and technological advances are often linked to scientific discoveries ([VCSU115](#))

The values and needs of contemporary society can influence the focus of scientific research ([VCSU116](#))

Use knowledge of scientific concepts to evaluate investigation conclusions, including assessing the approaches used to solve problems, critically analysing the validity of information obtained from primary and secondary sources, suggesting possible alternative explanations and describing specific ways to improve the quality of data ([VCSIS139](#))

Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate scientific language, conventions and representations ([VCSIS140](#))

Scientific knowledge and understanding of the world changes as new evidence becomes available; science knowledge can develop through collaboration and connecting ideas across the disciplines and practice of science ([VCSU089](#))

Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations ([VCSU090](#))

Identify questions, problems and claims that can be investigated scientifically and make predictions based on scientific knowledge ([VCSIS107](#))

Communicate ideas, findings and solutions to problems including identifying impacts and limitations of conclusions and using appropriate scientific language and representations ([VCSIS113](#))

Critically analyse factors, including social, ethical and sustainability considerations, that impact on designed solutions for global preferred futures and the complex design and production processes involved ([VCDSTS054](#))

Explain how designed solutions evolve with consideration of preferred futures and the impact of emerging technologies on design decisions ([VCDSTS055](#))

Investigate and make judgements on the ethical and sustainable production and marketing of food and fibre ([VCDSTC057](#))

Critique needs or opportunities to develop design briefs and investigate and select an increasingly sophisticated range of materials, systems, components, tools and equipment to develop design ideas ([VCDSCD060](#))

Apply design thinking, creativity, innovation and enterprise skills to develop, modify and communicate design ideas of increasing sophistication ([VCDSCD061](#))

Evaluate design ideas, processes and solutions against comprehensive criteria for success recognising the need for sustainability ([VCDSCD063](#))

Examine and prioritise competing factors including social, ethical, economic and sustainability considerations in the development of technologies and designed solutions to meet community needs for preferred futures ([VCDSTS043](#))

Investigate the ways in which designed solutions evolve locally, nationally, regionally and globally through the creativity, innovation and enterprise of individuals and groups ([VCDSTS044](#))

Critique needs or opportunities for designing and investigate, analyse and select from a range of materials, components, tools, equipment and processes to develop design ideas ([VCDSCD049](#))

Independently develop criteria for success to evaluate design ideas, processes and solutions and their sustainability ([VCDSCD052](#))

Define and decompose real-world problems precisely, taking into account functional and non-functional requirements and including interviewing stakeholders to identify needs ([VCDTCD050](#))

Evaluate critically how well student-developed solutions and existing information systems and policies take account of future risks and sustainability and provide opportunities for innovation ([VCDTCD054](#))

Acquire data from a range of sources and evaluate their authenticity, accuracy and timeliness ([VCDTDI037](#))

Define and decompose real-world problems taking into account functional requirements and sustainability (economic, environmental, social), technical and usability constraints ([VCDTCD040](#))

Investigate the characteristics of effective questions in different contexts to examine information and test possibilities ([VCCCTQ043](#))

Suspend judgements to allow new possibilities to emerge and investigate how this can broaden ideas and solutions ([VCCCTQ044](#))

Challenge previously held assumptions and create new links, proposals and artefacts by investigating ideas that provoke shifts in perspectives and cross boundaries to generate ideas and solutions ([VCCCTQ045](#))

Critically examine their own and others thinking processes and discuss factors that influence thinking, including cognitive biases ([VCCCTM051](#))

Investigate the kind of criteria that can be used to rationally evaluate the quality of ideas and proposals, including the qualities of viability and workability ([VCCCTM053](#))

Examine a range of rhetorical devices and reasoning errors, including false dichotomies and begging the question ([VCCCTR046](#))

Suspend judgements temporarily and consider how preconceptions may limit ideas and alternatives ([VCCCTQ033](#))

Consider a range of strategies to represent ideas and explain and justify thinking processes to others ([VCCCTM040](#))

Discuss issues raised by thinking about consequences and duties, in approaches to decision-making and action, and arguments for and against these approaches ([VCECD022](#))

Investigate how different factors involved in ethical decision-making can be managed by people and groups ([VCECD023](#))

Explore the extent of ethical obligation and the implications for thinking about consequences and duties in decision-making and action ([VCECD017](#))