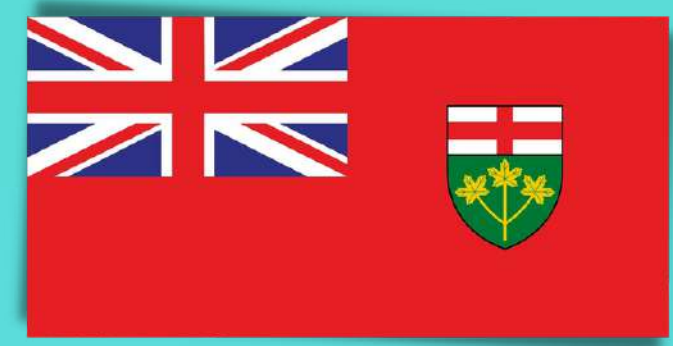


# International School Challenge!



Little Inventors  
Ingenuous Ideas

SUSTAINABLE DEVELOPMENT GOALS



ONTARIO, CA VERSION

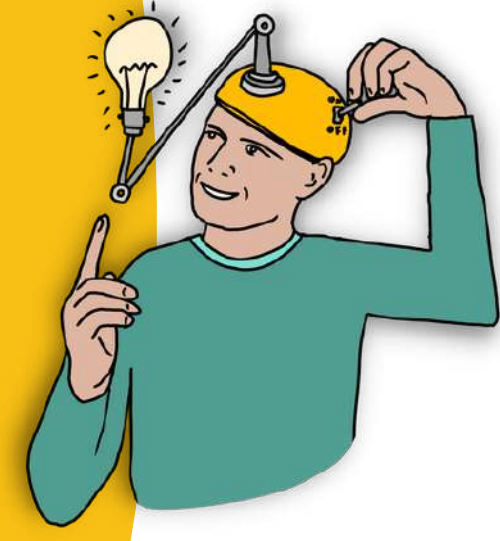
11 SUSTAINABLE CITIES AND COMMUNITIES

GUIDE

# We are Little Inventors

Part of the Tomorrow Projects international creative education organisation - Little Inventors inspires imagination by taking children's amazing ideas seriously.

Our mission is to give children across the world the opportunity to develop and showcase their creativity and problem-solving skills, build their confidence, curiosity and resilience to become caring citizens of our planet; all invaluable attributes that will support them as adults in their everyday life and chosen career paths.



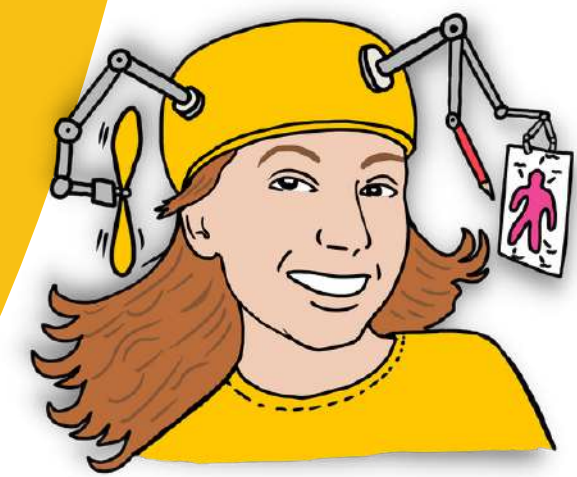
**Dominic Wilcox**  
Chief Inventor



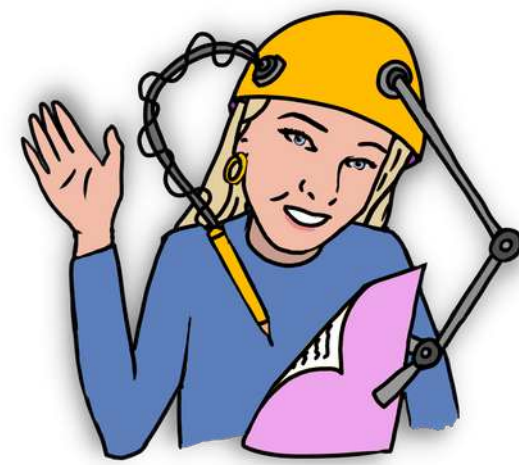
**Craig Bright**  
General Manager



**Ellie Birkhead**  
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Project & Event Co-ordinator



**Bethany O'Neill**  
Content Creator



**Lottie Smith**  
Workshop Facilitator

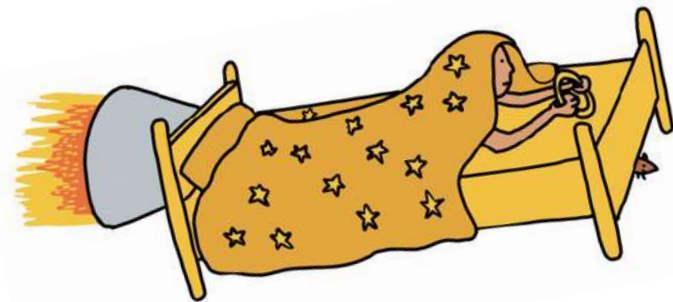
# What do we want this challenge to achieve?



To support and increase the understanding of STEM and other creative skills in young people.



To encourage young people to start considering their own careers from an early age through creativity, exploration and innovation.



To support young people to develop their creativity and problem-solving skills, ability to work in teams, build their confidence, curiosity and resilience.



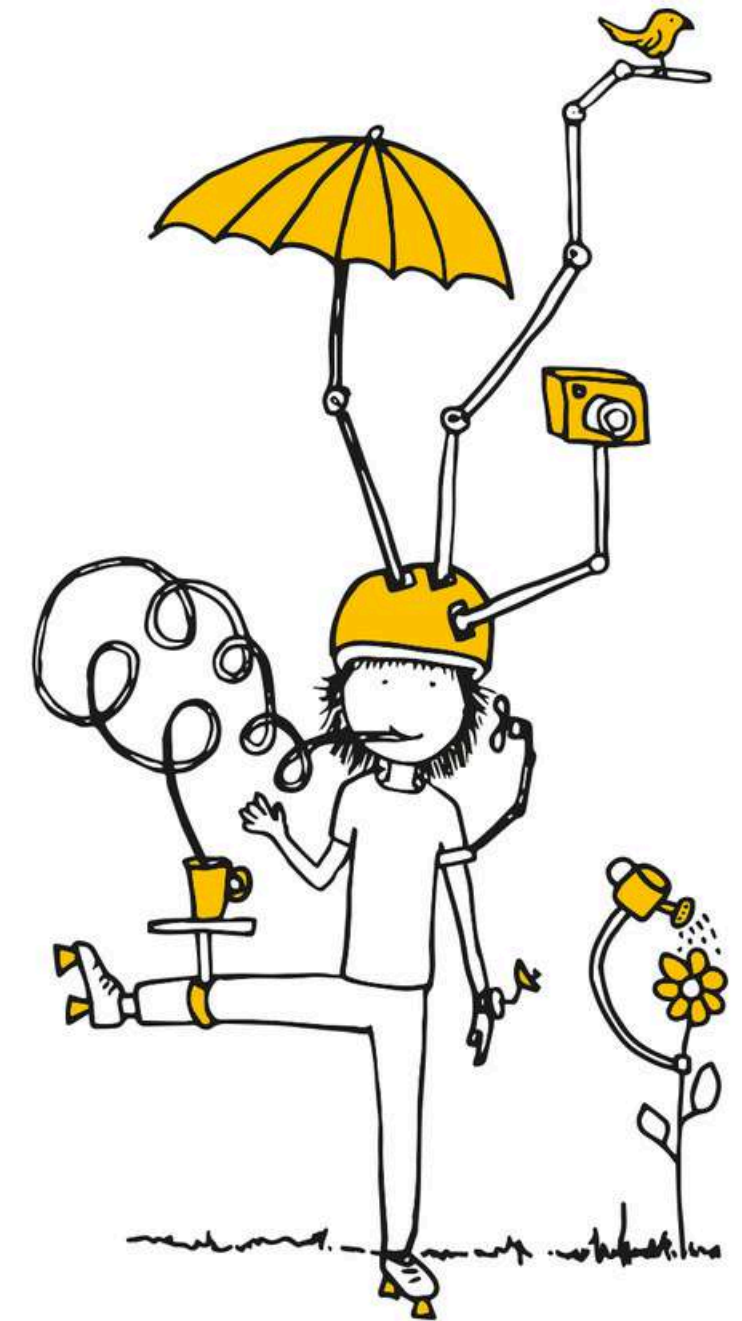
To increase awareness of the need for sustainable development and the goals set by the United Nations, and the power young people have to make a difference.

# Challenge Background

The aim of Little Inventors challenges is to allow students to express the far reaches of their imagination through creativity. We want to inspire young people to think up and draw original, ingenious, funny, fantastical or perfectly practical invention ideas. There are no limits!

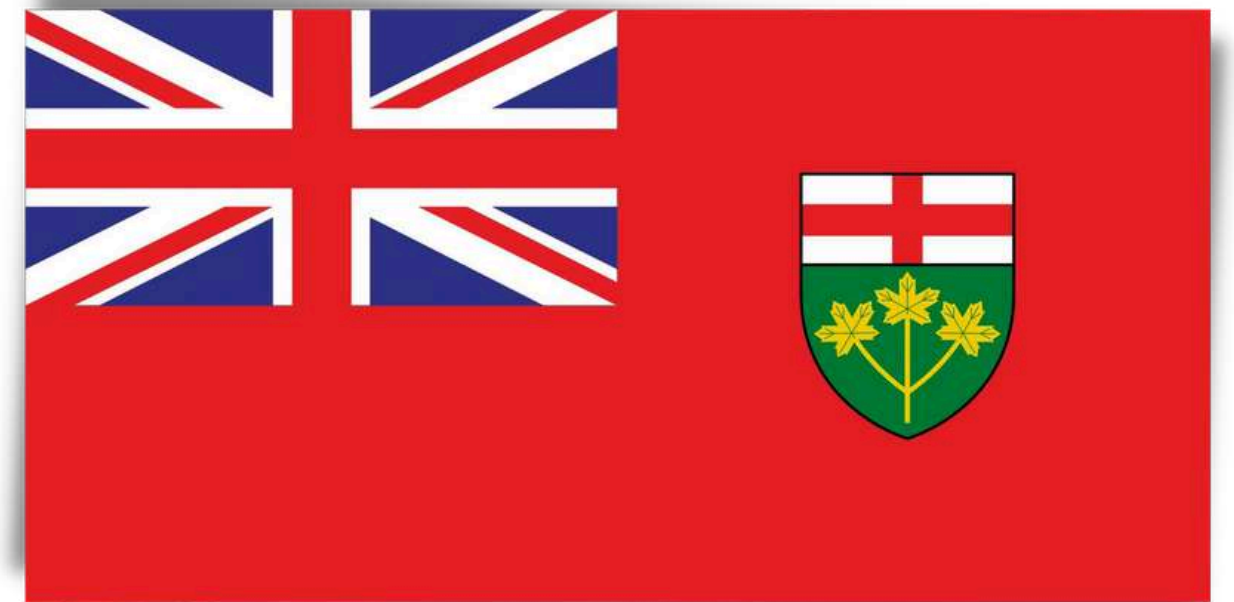
We want to encourage children to think about where they live and the local environment that is around them. They will be able to draw and submit their own inventions to appear on [sustainable-development-goals.littleinventors.org](https://sustainable-development-goals.littleinventors.org) where they will be reviewed by the Little Inventors team.

Their idea might be chosen as a Little Inventors team favorite, or even brought to life by one of our Magnificent Makers.



## Ontario Curriculum Connections

This challenge is designed to align with the following curriculum expectations outlined in the latest Ontario Curriculum documents.



## Grade 4

### SCIENCE

A3.2 investigate how science and technology can be used with other subject areas to address real-world problems

B1.1 assess positive and negative impacts of human activities on habitats and communities, while taking different perspectives into account

B1.2 analyse the impact of the depletion or extinction of a species on its habitat and community, and describe possible actions to prevent such depletions or extinctions

C1.2 assess the impacts on the environment of light energy and sound energy produced by various technologies, while taking different perspectives into account

E1.2 assess social and environmental impacts of extracting and refining rocks and minerals and of manufacturing, recycling, and disposing of products derived from rocks and minerals, while taking various perspectives into account

### SOCIAL STUDIES

B1.2 assess aspects of the environmental impact of different industries in two or more physical and/or political regions of Canada

B1.3 describe some key actions taken by both industries and citizens to address the need for more sustainable use of land and resources

B2.1 formulate questions to guide investigations into some of the issues and challenges associated with balancing human needs/wants and activities with environmental stewardship in one or more of the political and/or physical regions of Canada

B2.2 gather and organize information and data from various sources to investigate issues and challenges associated with balancing human needs/wants and activities with environmental stewardship in one or more of the political and/or physical regions of Canada

## Grade 5

### SCIENCE

A3.2 investigate how science and technology can be used with other subject areas to address real-world problems

B1.1 assess effects of a variety of social and environmental factors on human health, and describe ways in which individuals can reduce the harmful effects of these factors and take advantage of those that are beneficial

C1.1 assess the impacts on society and the environment of various processes used in the manufacture of common products

C1.2 assess how the use of specific materials in the manufacture of common products affects the environment, and identify actions that society and individuals can take to mitigate negative impacts

E1.1 analyse long-term impacts of human uses of energy and natural resources, on society and the environment, including climate change, and suggest ways to mitigate these impacts

E1.2 evaluate effects of various technologies on energy consumption, and describe ways in which individuals can use technology to reduce energy consumption

### SOCIAL STUDIES

B1.3 create a plan of action to address an environmental issue of local, provincial/territorial, and/or national significance, specifying the actions to be taken by the appropriate government or governments, including Indigenous governments, as well as by citizens

B2.1 formulate questions to guide investigations into social and/or environmental issues in Canada from various perspectives, including the perspective of Indigenous peoples and of the level (or levels) of government responsible for addressing the issues

B3.9 describe some different ways in which citizens can take action to address social and environmental issues

## Grade 6

### SCIENCE

A3.2 investigate how science and technology can be used with other subject areas to address real-world problems

B1.2 analyse a local issue related to biodiversity while considering different perspectives; plan a course of action in response to the issue; and act on their plan

C1.2 assess choices that reduce personal use of electrical energy from both renewable and non-renewable sources, and advocate for the responsible use of electrical energy by the school community

E1.2 assess the role of space exploration technology in observing and understanding environmental changes on Earth, including climate change

### SOCIAL STUDIES

B1.3 explain why some environmental issues are of international importance and require the participation of other regions of the world, along with that of Canada, if they are to be effectively addressed

B2.1 formulate questions to guide investigations into global issues of political, social, economic, and/or environmental importance



## Grade 7

### SCIENCE

A3.2 investigate how science and technology can be used with other subject areas to address real-world problems

B1.1 assess the impact of various technologies on the environment

B1.2 assess the effectiveness of various ways of mitigating the negative and enhancing the positive impact of human activities on the environment

B2.5 describe how matter is cycled within the environment, and explain how the cycling of matter promotes sustainability

D1.1 evaluate environmental, social, and economic factors that should be considered when designing and building structures to meet specific needs for individuals and communities

E1.2 analyse various social, economic, and environmental impacts, including impacts related to climate change, of using non-renewable and renewable sources of energy

### GEOGRAPHY

B1.2 analyse natural resource extraction/harvesting and use in some specific regions of the world including the sustainability of these practices

B1.4 create a personal plan of action outlining how they can contribute to more sustainable natural resource extraction/harvesting and/or use

B3.2 describe ways in which people use the natural environment, including specific elements within it, to meet their needs and wants

## Grade 8

### SCIENCE

A3.2 investigate how science and technology can be used with other subject areas to address real-world problems

C1.1 assess the environmental, social, and economic impacts of various innovations and technologies that are based on the properties of fluids

E1.1 assess the social and environmental impact of the scarcity of fresh water, and propose a plan of action to help address fresh water sustainability issues

E1.3 assess the impact of scientific discoveries and technological innovations on local and global water systems

### GEOGRAPHY

A1.2 analyse how processes related to the physical environment may affect human settlements in the future

A1.3 describe possible features of a sustainable community in the future

## Grade 9

### SCIENCE (DE-STREAMED SNC1W)

B1.1 assess impacts of climate change on the sustainability of local and global ecosystems, describe local or global initiatives for combatting climate change, and identify solutions to address some of the impacts

B1.2 assess impacts of climate change on communities in Canada, including First Nations, Métis, and Inuit communities

B2.6 identify and use various indicators of climate change to describe the impacts of climate change on local and global ecosystems, and analyse how human activities contribute to climate change

D1.3 develop a plan of action to address a local or global electrical energy production or consumption issue, including strategies for energy conservation

E1.2 evaluate how space observation and exploration technologies contribute to our understanding of climate change, natural disasters, and other phenomena

## Grade 9 continued

### GEOGRAPHY (ACADEMIC CGC1D)

B1.4 explain how human activities can alter physical processes and contribute to occurrences of natural events and phenomena

C2.3 assess the renewability and non-renewability of various natural resources in Canada

E1.5 propose courses of action that would make a community more sustainable

### GEOGRAPHY (APPLIED CGC1P)

B1.4 explain how human activities in their local region can have an impact on natural processes

C1.3 analyse their personal use of natural resources

C1.4 develop a personal plan of action that supports the idea of stewardship of resources

E1.3 describe ways in which communities can improve their environmental sustainability

E1.4 identify actions that individuals can take to live more sustainably, and explain the benefits for their local community

## Grade 10

### SCIENCE (ACADEMIC SNC2D) - D: EARTH AND SPACE SCIENCE:- CLIMATE CHANGE

D1. analyse some of the effects of climate change around the world, and assess the effectiveness of initiatives that attempt to address the issue of climate change;

D2. investigate various natural and human factors that influence Earth's climate and climate change;

D3. demonstrate an understanding of natural and human factors, including the greenhouse effect, that influence Earth's climate and contribute to climate change.

### SCIENCE (APPLIED SNC2P) - D: EARTH AND SPACE SCIENCE:- EARTH'S DYNAMIC CLIMATE

D1. analyse effects of human activity on climate change, and effects of climate change on living things and natural systems;

D2. investigate various natural and human factors that have an impact on climate change and global warming;

D3. demonstrate an understanding of various natural and human factors that contribute to climate change and global warming.

## Uploading your invention ideas

Visit the challenge website, click the yellow 'Upload' button and upload the idea drawing sheets one by one.



Make sure to take photographs or scans of the invention sheets that are clear and bright.

[Go to the website >](#)