

AI

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Design Challenge

IDEATE - PROTOTYPE - ACTIVATE

Teacher Guide

Help bring your students from idea to reality!



3 GOOD HEALTH AND WELL-BEING



15 LIFE ON LAND



13 CLIMATE ACTION



Solve Real-World Problems with AI

Choose one of three United Nations Sustainable Development Goals (SDGs): Life on Land (SDG 15), Good Health and Well-Being (SDG 3), Climate Action (SDG 13)

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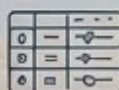
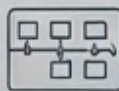
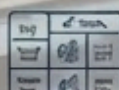
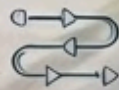
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Introduction

The AI for Good Design Challenge is a guided educational initiative that empowers students to address pressing global issues by leveraging artificial intelligence as a creative, collaborative, and ethical tool. By shifting the focus from passive consumption to active, informed engagement, the challenge equips students with essential skills in critical thinking, research, persuasive communication, and AI fluency. Through this structured exploration of AI-powered problem-solving, students not only develop innovative solutions for real-world challenges but also gain the ethical framework and technological literacy necessary to navigate and lead in an increasingly AI-driven future.

SDG Focus

This challenge focuses on leveraging AI to contribute to the following Sustainable Development Goals (SDGs):

- SDG 3: Good Health and Well-being: Develop AI solutions that promote healthy lifestyles, improve healthcare access, or address health-related challenges.
- SDG 13: Climate Action: Design AI applications that help mitigate climate change, promote sustainable practices, or monitor environmental impact.
- SDG 15: Life on Land: Create AI solutions that protect and restore terrestrial ecosystems, combat deforestation, or conserve biodiversity.





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The Design Process

Students will leverage the Design Process to help problem solve and develop their solutions.

1. **Empathize:** Consider humans and the context at the centre of your problem solving efforts.
2. **Define:** What is at the centre of your problem and problem and proposed solution?
3. **Ideate:** Brainstorm potential AI applications to address specific SDGs.
4. **Prototype:** Develop a working model or simulation of the AI application.
5. **Test:** Evaluate the performance and effectiveness of the prototype.
6. **Iterate:** Refine the prototype based on testing results.
7. **Communicate:** Present the final solution and its potential impact.

Lean Canvas Steps

Students are encouraged to leverage the AI for Good Lean Canvas template provided in their student journals to structure their project thinking. This includes steps for:

1. **Problem:** What is the specific problem you are trying to solve?
2. **Solution:** What is your proposed AI solution?
3. **Validate:** Research the feasibility and impact of proposed solutions.
4. **Key Metrics:** How will you measure the success of your solution?
5. **Unique Value Proposition:** What makes your solution different than what is out there?
6. **Unfair Advantage:** What is an advantage that you have that others cannot easily copy?
7. **Accessibility:** Who is your target audience and how will you reach your audience?
8. **Sustainability and Resource Flow:** What are the costs associated with your solution, how will you generate revenue (if applicable) and is it financially sustainable?

Keep in Mind!

AI for Good also means Responsible and Ethical AI...

Fairness: Ensure that AI your solutions are unbiased and equitable.

Transparency: Make AI decision-making processes understandable.

Accountability: Assign responsibility for AI outcomes.

Privacy: Protect user data and respect privacy rights.



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AI Tool Types

1. Computer Vision (The "Eyes")

Use Case: Students could use AI to analyze satellite or drone imagery to track deforestation in real-time. **Project Idea:** An AI that identifies invasive species or monitors reef health through underwater photography.

2. Predictive Analytics (The "Forecaster")

Use Case: Processing large datasets to predict environmental disasters or disease outbreaks before they happen. **Project Idea:** A tool that analyzes local weather patterns to optimize the output of micro-turbines.

3. Natural Language Processing (The "Communicator")

Use Case: Breaking down language barriers or simplifying complex systems. **Project Idea:** A multilingual AI assistant that helps navigate specific systems to reduce anxiety.

4. Generative AI & Creative Orchestration (The "Builder")

Use Case: Using agentic AI to orchestrate and generate code, design assets, or simulate solution outcomes with generative AI tools.

Project Idea: Using Generative AI to create educational content, such as nautical-themed children's books that teach reef conservation.



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Prototyping Platforms

1. No-Code / Vibe-Coding / Agentic Engineering for Software Prototyping (The “Interface”)

Use Case: These platforms allow students to build "front-ends" and/or “back-ends” where users interact with their AI solution. (VS Code, Antigravity, Claude Code, Cursor, Lovable, Base 44, Replit, etc.)

2. AI Model Training & Agentic Frameworks (The "Logic")

Use Case: These tools help students build the actual "brain" of their solution, including multi-step workflows, data gathering and processing. (Teachable Machine, TensorFlow, PyTorch, OpenCV, LangChain, Autogen, etc...)

3. Hardware Prototyping (The "Physical Impact")

Use Case: For students working on projects where hardware allows their AI to interact with the physical world. (micro:bit, b.Board, Arduino, ESP32, Jetson, Rasberry PIs, Robotics platforms, etc..)

4. Synthesis & Documentation Tools (The “Research Assistant”)

- **Use Case:** Synthesizing research, organizing project logic into cohesive study guides and briefs, leveraging or designing tools that can automatically turn structured project briefs into visually themed decks for presentation. (Notebook LM, Various AI models, etc...)



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Suggested 4 Week Timeline:

Suggested timeline for the challenge (can be compressed as required) :

- **Week 1:** Introduction to AI and SDGs, brainstorming ideas.
- **Week 2:** Research and validation of potential solutions.
- **Week 3:** Prototype development and testing.
- **Week 4:** Finalization of prototypes, pitch preparation and submission.

Templates

Students have access to three (3) templates in their student journals. Including the Design Process, a Lean Canvas to help validate their idea, and a pitch template.

A summary of the Design Process steps:

Empathize - Define - Ideate - Prototype - Test - Iterate - Communicate

A summary of the Lean Canvas components:

Problem - Solution - Validate - Key Metrics - Unique Value Proposition - Unfair Advantage - Accessibility - Sustainability and Resource Flow

A summary of the pitch template steps:

- **Team:** Introduce the team members and their roles.
- **Problem:** Clearly define the problem being addressed.
- **Solution:** Explain the AI-powered solution.
- **Impact:** Describe the potential positive impact.
- **Next Steps:** Outline the future development plans.



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Curricular Connection Ideas

Subject Matter Area	Competencies and Skills
Language Arts	Form hypotheses, analyze, synthesize, and compose or create texts Develop communication skills to decode, understand, evaluate, write, and make meaningful connections
Sciences	Find problems and make decisions by critical evaluation of evidence and applying scientific methodology Hypothesize; inquire, pursue, acquire, and apply knowledge about the physical and natural world
Mathematics	Use mathematics confidently to solve problems and make connections between mathematics and its real-world applications Apply an understanding of change, constancy, number sense, patterns, relationships, and uncertainty
Career Connected Learning	Skilled Trades: Construct a physical or digital product to satisfy a need or solve a problem Digital and Information Technology: Use diverse digital technologies (hardware, software, apps) to create, store, share, or exchange information
Humanities	Examine issues involving individuals, societies, their environments, and the interrelationships between human and natural systems Respond to contemporary issues critically and creatively while engaging with principles of equality, human dignity, and human rights
Wellness and Physical Education	Develop positive relationships and an understanding of mental fitness and healthy lifestyles Make informed decisions, recognize personal health and growth, and be an advocate for inclusivity
Creative Arts	Connect: Understand the power of creativity to effect social change (such as tackling the UN SDGs) Communicate: Build the ability to look and listen critically, analyze, evaluate, and present concepts



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Sample Evaluation Rubric

Criteria	Visionary	Impactful	Developing	Conceptual
Problem Definition	Clearly defined and significant	Well-defined	Adequately defined	Requires additional validation or evidence.
AI Solution	Innovative and very effective	Effective and useful	Adequate	An idea still being mapped out or understood.
Impact	High potential impact	Significant impact	Moderate impact	A general idea without a clear path forward
Prototype	Sophisticated and highly functional.	Functional	Partially functional	Initial thought and requires a plan.
Presentation	A compelling narrative that inspires action and demonstrates the immense potential of the proposed solution.	A clear and professional delivery that effectively connects the problem, the AI solution, and the target audience.	Structured presentation that requires more connection, or persuasive energy.	Walkthrough of project which requires more practice or structure.

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Teacher Facilitation Tips

- Encourage creativity and collaboration and leveraging AI tools.
- Don't shy away from challenging your students and questioning the validity of their idea.
- Provide constructive feedback and guidance.
- Remind your students to fact check everything AI suggests and check the sources of info.
- Promote ethical considerations and responsible AI development.
- You don't need to be an expert! Connect with Brilliant Labs to match your students with AI experts and mentors throughout the process

Submission Details

- **Deadline for Initial Project Submission:** April 17, 2026
- **Promising projects notified:** April 30th, 2026
- **Final projects will have 4 weeks to improve their projects with mentor support.**
- **Atlantic AI Summit:** June 3, 2026, UNB Fredericton

Contact Information

For questions, support, or to set up a meeting for your students, please contact :



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