

G L O B A L  
G O A L S  
B O O K

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For all.  
By all.  
Everywhere.  
Begin.





# The Global Goals Book

**For all. By all. Everywhere. Begin.**

Innovation Lab Schools

BELGIUM • BRAZIL • IRELAND • NEW ZEALAND • UNITED STATES

## *Editors*

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# CHAPTER 1

## INTRODUCTION

Today, our planet and people are facing extreme challenges globally: climate change, poverty and hunger, lack of quality education, gender inequalities, homelessness, and the list continues. Though media gives a view in allowing us to witness and confront the existence of these issues, we still know very little about the extent, and even less on how to solve them.

Offering promise and hope, we are evolving to be a world in which creative problem-solving is increasingly valued. With a roadmap to the year 2030 provided in the United Nations' **Sustainable Development Goals**, people are working to clearly identify areas of need to ensure a healthier, safer, and better life for all. Many are beginning to more clearly understand the challenges, and viewing us as one world, are beginning to ask the important questions that can lead to change.

How to address these challenges? For us as a group of global educators, we believe the solution lies in education.

In 2018, in association with the *Jane Goodall Institute*, our small group of committed global educators organized with a purpose to make a make a positive difference in the lives of students around the world. We sought to create a new way -- a better way -- for children of the world to engage in learning through hands-on, minds-on experiences.

The **Innovation Lab Schools** bring together the best of pedagogy, technology, and learning spaces to support students to think critically about the impact they have on the world at both local and global levels. With a goal to have every participating student see that his or her ideas are valued and needed, students are supported by an educator-facilitator who guides classes through a 10-month learning experience to examine the Sustainable Development Goals through a lens of inquiry, innovation, design thinking, and entrepreneurship.

*The Global Goals Book*, this curriculum authored by a global team of instructional designers with rich backgrounds in classroom instruction, educational leadership, educational research, and committed work in the areas of social good, science, arts, technology, and literacy, was extended as a resource for the programs in the Innovation Lab Schools to be available for all, by all, everywhere around the world.

With the Innovation Lab Schools, the Global Goals Book, and with teachers and students around the world coming together to take action, we can achieve a more peaceful and sustainable future.

Let's begin.



*To learn more about the Innovation Lab Schools, please visit [www.innovationsdglab.com](http://www.innovationsdglab.com) and follow on Twitter at [@SDGLabSchools](https://twitter.com/SDGLabSchools).*

# CHAPTER 2

## THE GLOBAL GOALS

### SUSTAINABLE DEVELOPMENT GOALS



In 2015, within a document titled *Transforming Our World: The 2030 Agenda for Sustainable Development*, a plan was set forth to bring solution to the most complex and urgent problems that we, as global citizens, are facing.

*This Agenda is a plan of action for people, planet, and prosperity. This, the first line of the preamble of the agenda (<http://bit.ly/2I9ExII>), boldly framed not only a comprehensive road map for success, but also an offering of hope to bring the world together in common purpose to preserve and protect our futures.*

With this plan set forth by the United Nations, 17 initiatives, known as the Sustainable Development Goals (SDGs or Global Goals) were identified. Each goal, ranging from areas such as eliminating poverty (Goal 1) to reducing inequalities (Goal 10) to climate action (Goal 13), offers clear and measurable targets for countries and citizens to respond to the call to action to meet the goals by the year 2030.

The 17 goals provide 169 targets across the three dimensions of sustainable development: economic, social, and environmental. The targets, according to the agenda, are interconnected and indivisible. A total of 230 corresponding indicators are offered to allow for monitoring of the goals and served as a starting point for the world to take action.

All goals are the responsibility of all global citizens. And though in education we have our very own goal in *SDG 4: Quality Education*, all schools and classrooms and all teachers and students are integral for us to successfully realize the 17 goals by 2030. The 17 sustainable development goals with descriptions and targets are listed in the following section. To access the goal indicators, please visit <https://sustainabledevelopment.un.org/sdgs>.

## The Goals and Targets



### **Sustainable Development Goal 1: No Poverty**

SDG 1 aims to end poverty in all its forms everywhere. Targets are as follows:

1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day.

1.2 By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.

1.3 Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable.

1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.

1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.

1.a Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions.

1.b Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions.

## 2 ZERO HUNGER



### **Sustainable Development Goal 2: Zero Hunger**

SDG 2 aims to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture. Targets include:

2.1 By 2030, end hunger and ensure access by all people, in particular the poor and people in vulnerable situations, including infants, to safe, nutritious and sufficient food all year round.

2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women and older persons.

2.3 By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.

2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.

2.5 By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed.

2.a Increase investment, including through enhanced international cooperation, in rural infrastructure, agricultural research and extension services, technology development and plant and livestock gene banks in order to enhance agricultural productive capacity in developing countries, in particular least developed countries.

2.b Correct and prevent trade restrictions and distortions in world agricultural markets, including through the parallel elimination of all forms of agricultural export subsidies and all export measures with equivalent effect, in accordance with the mandate of the Doha Development Round.

2.c Adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information, including on food reserves, in order to help limit extreme food price volatility.



### **Sustainable Development Goal 3: Good Health and Well-Being**

SDG 3 aims to ensure healthy lives and promote well-being for all at all ages. Targets include:

3.1 By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births.

3.2 By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births.

3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.

3.4 By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.

3.5 Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.

3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents.

3.7 By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes.

3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all.

3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.

3.a Strengthen the implementation of the World Health Organization Framework Convention on Tobacco Control in all countries, as appropriate.

3.b Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all.



3.c Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States.

3.d Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks.



#### **Sustainable Development Goal 4: Quality Education**

SDG 4 aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. Targets include:

4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes.

4.2 By 2030, ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education.

4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.

4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations.

4.6 By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy.

4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.

4.a Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all.

4.b By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment



in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries.

4.c By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing States.



### **Sustainable Development Goal 5: Gender Equality**

SDG 5 aims to achieve gender equality and empower all women and girls. The targets include:

5.1 End all forms of discrimination against all women and girls everywhere.

5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation.

5.3 Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation.

5.4 Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.

5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.

5.6 Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences.

5.a Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws.

5.b Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women.

5.c Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels.

## 6 CLEAN WATER AND SANITATION



### **Sustainable Development Goal 6: Clean Water and Sanitation**

SDG 6 focuses on ensuring availability and sustainable management of water and sanitation for all. Targets are as follows:

6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all.

6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.

6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.

6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.

6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.

6.a By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies.

6.b Support and strengthen the participation of local communities in improving water and sanitation management.

## 7 AFFORDABLE AND CLEAN ENERGY



### **Sustainable Development Goal 7: Affordable and Clean Energy**

SDG 7 aims to ensure access to affordable, reliable, sustainable, and modern energy for all.

7.1 By 2030, ensure universal access to affordable, reliable and modern energy services.

7.2 By 2030, increase substantially the share of renewable energy in the global energy mix.

7.3 By 2030, double the global rate of improvement in energy efficiency.

7.a By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology.

7.b By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States, and land-locked developing countries, in accordance with their respective programmes of support.

## 8 DECENT WORK AND ECONOMIC GROWTH



### **Sustainable Development Goal 8: Decent Work and Economic Growth**

SDG 8 aims to promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all. Targets include:

8.1 Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries.

8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors.

8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services.

8.4 Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year

framework of programmes on sustainable consumption and production, with developed countries taking the lead.

8.5 By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value.

8.6 By 2020, substantially reduce the proportion of youth not in employment, education or training.

8.7 Take immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking and secure the prohibition and elimination of the worst forms of child labour, including recruitment and use of child soldiers, and by 2025 end child labour in all its forms.

8.8 Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.

8.9 By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products.

8.10 Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all.

8.a Increase Aid for Trade support for developing countries, in particular least developed countries, including through the Enhanced Integrated Framework for Trade-Related Technical Assistance to Least Developed Countries.

8.b By 2020, develop and operationalize a global strategy for youth employment and implement the Global Jobs Pact of the International Labour Organization.



### **Sustainable Development Goal 9: Industry, Innovation, and Infrastructure**

SDG 9 aims to build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation. Our targets for SDG 9 include:

9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.

9.2 Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries.

9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets.

9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending.

9.a Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States.

9.b Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities.

9.c Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020.



### **Sustainable Development Goal 10: Reduced Inequalities**

SDG 10 seeks to reduce inequality within and among countries.

Targets include:

10.1 By 2030, progressively achieve and sustain income growth of the bottom 40% of the population at a rate higher than the national average.

10.2 By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status.

10.3 Ensure equal opportunity and reduce inequalities of outcome, including by eliminating discriminatory laws, policies and practices and promoting appropriate legislation, policies and action in this regard.

10.4 Adopt policies, especially fiscal, wage and social protection policies, and progressively achieve greater equality.

10.5 Improve the regulation and monitoring of global financial markets and institutions and strengthen the implementation of such regulations.

10.6 Ensure enhanced representation and voice for developing countries in decision-making in global international economic and financial institutions in order to deliver more effective, credible, accountable and legitimate institutions.

10.7 Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies.

10.a Implement the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with World Trade Organization agreements.

10.b Encourage official development assistance and financial flows, including foreign direct investment, to States where the need is greatest, in particular least developed countries, African countries, small island developing States and landlocked developing countries, in accordance with their national plans and programmes.

10.c By 2030, reduce to less than 3 per cent the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5%.



### **Sustainable Development Goal 11: Sustainable Cities and Communities**

SDG 11 aims to make cities and human settlements inclusive, safe, resilient, and sustainable. Targets presented as:

11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums.

11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with

disabilities and older persons.

11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.

11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage.

11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by

disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.

11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.

11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities.

11.a Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning.

11.b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels.

11.c Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials.



### **Sustainable Development Goal 12: Responsible Consumption and Production**

SDG 12 aims to ensure sustainable consumption and production patterns. Targets include:

12.1 Implement the 10-year framework of programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries.

12.2 By 2030, achieve the sustainable management and efficient use of natural resources.

12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.

12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.

12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.

12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities.

12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.

12.a Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production.

12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products.

12.c Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities.



### **Sustainable Development Goal 13: Climate Action**

SDG 13 is set for people to take action to combat climate change and its impacts. This goal is presented with the acknowledgement that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change. Targets are as follows:

13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.

13.2 Integrate climate change measures into national policies, strategies and planning.

13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

13.a Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible.



13.b Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.



### **Sustainable Development Goal 14: Life Below Water**

SDG 14 invites people of the world to conserve and sustainably use our oceans, seas, and marine resources for sustainable development. Targets are offered as:

14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.

14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive

oceans.

14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels.

14.4 By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics.

14.5 By 2020, conserve at least 10% of coastal and marine areas, consistent with national and international law and based on the best available scientific information.

14.6 By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation.

14.7 By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism.

14.a Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine

biodiversity to the development of developing countries, in particular small island developing States and least developed countries.

14.b Provide access for small-scale artisanal fishers to marine resources and markets.

14.c Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in UNCLOS, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of The Future We Want.



### **Sustainable Development Goal 15: Life on Land**

SDG 15 aims to protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss. Targets for SDG 15 include:

15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.

15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.

15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world.

15.4 By 2030, ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development.

15.5 Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, by 2020, protect and prevent the extinction of threatened species.

15.6 Promote fair and equitable sharing of the benefits arising from the utilization of genetic resources and promote appropriate access to such resources, as internationally agreed.

15.7 Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products.

15.8 By 2020, introduce measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species.

15.9 By 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts.

15.a Mobilize and significantly increase financial resources from all sources to conserve and sustainably use biodiversity and ecosystems.

15.b Mobilize significant resources from all sources and at all levels to finance sustainable forest management and provide adequate incentives to developing countries to advance such management, including for conservation and reforestation.

15.c Enhance global support for efforts to combat poaching and trafficking of protected species, including by increasing the capacity of local communities to pursue sustainable livelihood opportunities.



**Sustainable Development Goal 16: Peace, Justice, and Strong Institutions**

SDG 16 aims to promote peaceful and inclusive societies development, provide access to justice for all, and build effective, accountable, and build inclusive institutions at all levels. Targets include:

16.1 Significantly reduce all forms of violence and related death rates everywhere.

16.2 End abuse, exploitation, trafficking and all forms of violence against and torture of children.

16.3 Promote the rule of law at the national and international levels and ensure equal access to justice for all.

16.4 By 2030, significantly reduce illicit financial and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime.

16.5 Substantially reduce corruption and bribery in all their forms.

16.6 Develop effective, accountable and transparent institutions at all levels.

16.7 Ensure responsive, inclusive, participatory and representative decision-making at all levels.

16.8 Broaden and strengthen the participation of developing countries in the institutions of global governance.

16.9 By 2030, provide legal identity for all, including birth registration.

16.10 Ensure public access to information and protect fundamental freedoms, in accordance with national legislation and international agreements.

16.a Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime.

16.b Promote and enforce non-discriminatory laws and policies for sustainable development.



### **Sustainable Development Goal 17: Partnerships for the Goals**

SDG 17 aims to strengthen the means of implementation and revitalize the global partnership for sustainable development. Targets are offered in the areas of finance, technology, capacity-building, trade, and systemic issues:

#### Finance

17.1 Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection.

17.2 Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7% of ODA/GNI to developing countries and 0.15 to 0.20% of ODA/GNI to least developed countries; ODA providers are encouraged to consider setting a target to provide at least 0.20% of ODA/GNI to least developed countries.

17.3 Mobilize additional financial resources for developing countries from multiple sources.

17.4 Assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries to reduce debt distress.

17.5 Adopt and implement investment promotion regimes for least developed countries  
Technology.

17.6 Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism.

17.7 Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed.

17.8 Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology  
Capacity-Building.

17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation  
Trade.

17.10 Promote a universal, rules-based, open, non-discriminatory and equitable multilateral trading system under the World Trade Organization, including through the conclusion of negotiations under its Doha Development Agenda.

17.11 Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020.

17.12 Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries, consistent with World Trade Organization decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple, and contribute to facilitating market access.

#### Systemic Issues

##### Policy and Institutional coherence

17.13 Enhance global macroeconomic stability, including through policy coordination and policy coherence.

17.14 Enhance policy coherence for sustainable development.

17.15 Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development.

##### Multi-stakeholder partnerships

17.16 Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries.

17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.

##### Data, monitoring and accountability

17.18 By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality,

timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts.

17.19 By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries.

### **Global Educators Teach the Global Goals**

Teachers, realizing their role in raising awareness and prompting action for the SDGs, are joining together each day to teach the Global Goals. They are linking the goals to curricula, creating classroom projects, and joining with other global educators in collective action through advocacy and activism. As you prepare to journey with your students into the lessons of *The Global Goals Book*, we invite you to prepare yourself, your classroom, and your practice. Here are four entry points to teach the SDGs:

1. The WHAT and the WHY: Watch [this three-minute video](http://bit.ly/2Wvnka3) to get to know the SDGs. (<http://bit.ly/2Wvnka3>)
2. The HOW: Take the [pledge to #TeachSDGs](http://www.teachsdgs.org) and follow along with the #TeachSDGs hashtag and handle [on Twitter](http://www.teachsdgs.org). (<http://www.teachsdgs.org>)
3. The NOW: Print out the Global Goals [poster and all 17 of the goals](https://www.un.org/sustainabledevelopment/news/communications-material). Post in your classroom. Add the image to your email signature and share with your friends, family, colleagues, and community members today. (<https://www.un.org/sustainabledevelopment/news/communications-material>)

# CHAPTER 3

## CROSS-CUTTING CONCEPTS: EQUITY, ACCESS, ENVIRONMENT, “FREEDOM”

Kofi Annan, Ghanaian Nobel Peace Prize winner and former United Nations’ Secretary General, said, “Education is a human right with immense power to transform. On its foundation rest the cornerstones of freedom, democracy, and sustainable human development.” The [team](http://innovationsdglab.com) (innovationsdglab.com) agrees with Annan’s sentiment; quality, inclusive, and equitable education is the right of every learner without regard to geographical borders. In the absence of education, sustainable development is hindered, as are our freedom and democracy.

Quality education is listed as Sustainable Development Goal 4 (SDG 4). However, prior to these goals being set forth by the United Nations, quality education was already a staple outlined in the Universal Declaration of Human Rights (UDHR, Human Rights Commission, 1948). According to article 26 of the UDHR document:

*(1) Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit.*

*(2) Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial or religious groups, and shall further the activities of the United Nations for the maintenance of peace.*

*(3) Parents have a prior right to choose the kind of education that shall be given to their children.*

## Inspiration, Empathy, Action: The Heart of the Innovation Lab Schools

Along the continuum towards sustainable and human rights development, the Innovation Lab Schools aim to provide access to free quality and inclusive education to millions of learners across many countries and multiple continents. The experiences shared among teachers and students will promote lifelong learning and build community via empathy and shared space.

As our youth grow, academically and socially, they will eventually confront situations in which action is necessary. It is our belief that young people will choose the correct path in each instance -- the correct path being that of love, compassion, tolerance, and the greater-good. The extent to which the human race is able to sustain itself will depend on the extent to which young people are able to empathize with others.

Empathy, therefore, is an imperative element in both creating a functional learning space and in molding young people; empathy must be taught explicitly.

In the case of the Innovation Lab School, empathy is embedded within the learning process. Traditional modes of learning are relegated to rote skills which prohibit character development. When instruction models cultivate space that allows for the practice of empathy and encourage social-emotional development, learners are likely to grow connected to peers, their environment, and community. This connection motivates youth to take action on causes of concern, whether local or global -- issues such as poverty, climate change, and sustainable communities. For examples of student-led action, refer to these projects: [Climate Action Project, Innovation Project, or Human Differences Project](https://innovationsdglab.com/sdg-projects.html) (<https://innovationsdglab.com/sdg-projects.html>).

The Innovation Lab Schools are equipped with laptops, internet connection, LEGO products, and other resources. Learners will engage in customized Global Goals curricula with an emphasis on STEAM, design thinking, and sustainability. The curricula for the labs are the product of global collaboration among educators of various content areas, specialties, grade levels, and countries. While science and technology are a large part of a learner's experience in the lab, facilitators should ensure this does not hinder ways in which learning remains flexible, relevant, and responsive to participants. Each lab will be guided by a local educator with supplemental interactions from teachers and students around the world. The ability to connect with peers across the expanse of our global communities ensure empathy is central to the learning process by providing youth with valuable intercultural exchanges that deepen tolerance toward one another.

Moreover, through technology and the arts, students are connecting with the Sustainable Development Goals in ways that are authentic, have value, and demonstrate utility -- three imperative ingredients to increasing a learners' intrinsic motivation. The project-based learning (PBL) model further enables students to learn by doing as well as provide opportunity to explore cross-cutting concepts. For example, in a lesson on climate change, learners might follow a line of inquiry across several data sets and communicate their findings through film, theatre, or music. Both PBL and the "[Roots & Shoots](http://rootsandshoots.org)" (rootsandshoots.org) model create ample room for learners to engage, observe, take action, and celebrate their growth.

Access.  
Equity.  
Inclusion.  
Freedom.

These are not mere buzzwords to be tossed about haphazardly.



Consider each term a framework, a guideline, or a lens through which to view the learners in the lab -- models by which to serve. It is through the Innovation Lab Schools that scholars around the globe will gain access to quality, equitable, and inclusive education. It is through their development here that youth will learn to transform their communities for the better.

### **Learner Portraits: Art in STEAM**

Nature is a manifestation of STEAM -- a physical and daily reminder of all the beautiful ways in which science, technology, engineering, art, and mathematics are functions of one another. Take for example, a beehive.

A beehive is comprised of perfectly symmetrical tiled hexagons. Lying within these polygons and triangles are lessons of geometry and the wisdom of Pythagoras. Bees work together as a community for the greater good and within their movements are lessons in sociology, physiology, and humanities. Their finished products glistens gold and provide both beauty and sweet nourishment offering lessons in design, architecture, health, dance, and painting. Symbolically, these bees and their homes are present in literature and history as symbols of abundance, harmony, Venus, and Aphrodite.

The Innovation Lab Schools provide the freedom, via STEAM, to deeply explore such concepts through several modes of thinking through the Sustainable Development Goals and the Roots and Shoots lessons. This also ensures a more holistic approach to learning that involves a scholar's entire skill set, talents, as well as their growth areas. Because a learner is able to explore in a way that helps to boost feelings of success, self-esteem is enhanced, as are their academic self-concepts. Moreover, this approach helps keep the environment learner-centered by elevating student-voice.

Learners who have experienced PBL and some of the aforementioned projects were asked to sketch their learning space. Below are visual representations of student-centered learning environments from three different scholar-artists. Consider each portrait as a piece of qualitative data in support of models mentioned thus far.



Image 1. *Left Brain, Right Brain*

According to the scholar-artist, this piece was inspired by the idea of duality and the whole-child. There is the left side of the brain and a right -- the artistic and the analytical. Sure, math, and the wonders of the mind are important, but so are matters of the heart. Empathy should be at the center of everything we do. This is a reminder for us as educators to ensure all students are kept at the center -- never forgotten or are underrepresented in the work.

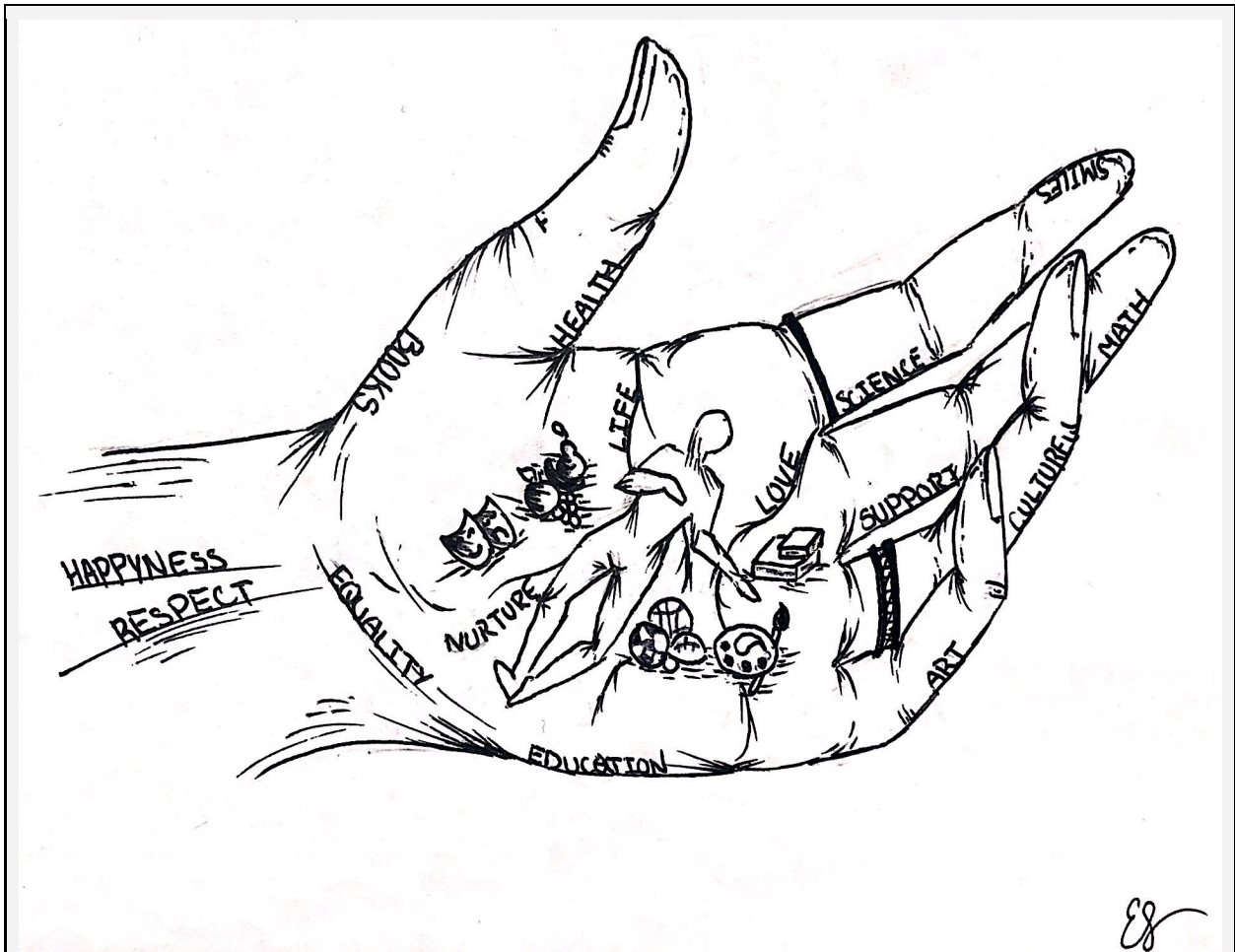


Image 2. *Support and Inclusion*

According to the scholar-artist, this sketch is about support and creating inclusive spaces. While academics are important to a learning environment, academics are not the only thing necessary in providing a quality education for children. At the center of the support structure lies the learner and the other things that peak interest and helps to make the child whole -- extra curricular activities, art, passions, social-emotional outlets, and identity.



Image 3. *Wonder*

According to the scholar-artists, this sketch is about wonder, exploration, imagination, creativity, and innovation. In other words, the “fun” side of education or the fun that happens when a student is engaged in a learning space. This could be a representation of what happens when curiosity is peaked. The child will continue to engage even when no one is watching.

Arguably, the most important article of the UDHR is the last one on the document. Article 30 states: “Nothing in this Declaration may be interpreted as implying for any State, group or person any right to engage in any activity or to perform any act aimed at the destruction of any of the rights and freedoms set forth herein.”

Furthermore, it is implied that all stakeholders have a responsibility to uphold our collective human rights as outlined in this declaration. Essentially, we are in this together. In the case of quality education (SDG 4), we are each in part, responsible for ushering in a world of sustainability.

Eleanor Roosevelt, a contributor to the UDHR, once said, “The giving of love is an education in itself.” The Innovation Lab Schools are spaces to explore science and art, but are ultimately community centers where our youth will come to practice love and empathy.

# CHAPTER 4

## TEACHING PRACTICES

Each learner visiting an Innovation Lab School is a unique individual with wondrous capabilities. It is through education that we as educators provide the environment to release what is already inside each child. We are able to help guide them to contribute in powerful ways to a world in need. The curriculum of the Innovation Lab Schools is an exciting entry point into designing learning environments and spaces that release each learner's unique potential. This chapter will provide you as the facilitator of learning with information, strategies, and tips to advance your work and design powerful learning for the learners in your care.

### Overview of Curriculum

The curriculum of the Innovation Lab Schools offers a year long, inquiry-based learning experience designed to keep students at the center of learning. Created to be an entry point into the Global Goals and into student action, the curriculum is intended to be a start to a conversation. As such, educators are invited to take the provided lessons, pedagogical recommendations, and resources and customize them in a way that best meets the learning needs of the students in their classrooms. There are essentially three components to the curricula:

1. Teaching Practices: The teaching practices offered in this chapter that will assist in guiding design of pedagogy and the role of the educator.
2. SDG Project Lessons: The 10 SDG Project lessons of the curriculum are intended to be experienced in sequence over a period of time. In the case of the Innovation Lab Schools, one lesson will be covered each month over a 10-month period. For school programs that are operating outside the Innovation Lab School programs, the time between lessons can be reduced to allow for a 10-week series.

The lessons will guide students (recommended ages 12-18) through an inquiry-based project that incorporated the Sustainable Development Goals, design thinking, research, the arts, literacy, science, and entrepreneurship. Innovation and technology are also infused throughout each of the lessons. The project will conclude with a celebration, sharing of learning artifacts, reflective exercises, and direction for the future.

3. SDG Extension Lessons: A selection of extension lessons that allow for exploration of the Sustainable Development Goals through use of LEGO and Minecraft are offered to compliment the SDG Project lessons. Extension lessons are presented as printable cards with sets for educators/facilitators and sets for students. Cards (lessons) are designed to allow for choice, and therefore, they can be experienced in any order at any time. In addition to extensions with LEGO and Minecraft lessons, classrooms are also encouraged to participate in synchronous

videoconference calls with classrooms from other parts of the world. Asynchronous video components are incorporated into lessons in the form of collaborative Flipgrid videos.

*Sample Learning Experience (2-4 hours)*

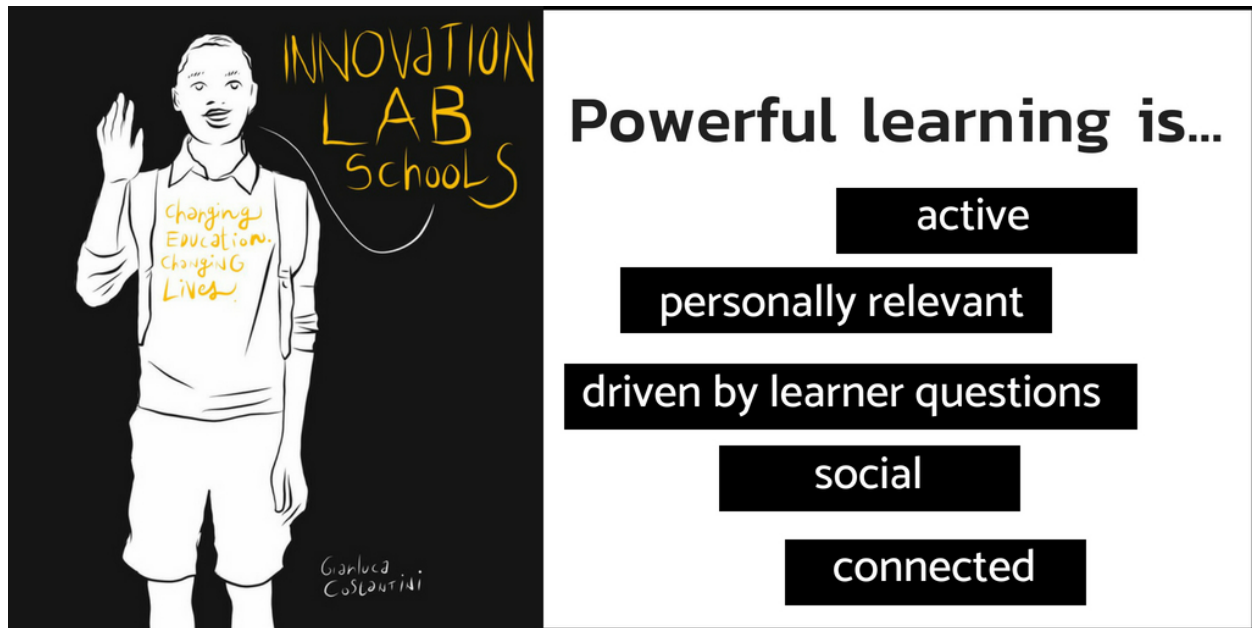
- *Preparation of environment and lesson: 1 hour*
- *SDGs Project Lesson: 1-2 hours*
- *Extension Lesson: 1-2 hours*

## Elements of Powerful Learning

Prior to thinking on our roles as educators in the learning process and in sharing of the lessons, it is important to first consider our students. The SDGs offer an incredible opportunity for taking action for our world. This opportunity positions classrooms to come alive through questioning, dialogue, inquiry, and exploration of ideas and the world. The learning in an Innovation Lab School classroom is dynamic, it is meaningful, it is relevant, and it is powerful. We have identified five elements of powerful learning:

- **Powerful learning is active.** Minds and bodies are engaged. Students are not passive in the experience, but add their opinions and ideas and their hopes and concerns. It may be noisy, messy, and in motion at certain times, and quiet, precise, and measured at other points.
- **Powerful learning is personally relevant.** There are lines of connection at almost every point. Through choice and menus of options, students in an Innovation Lab school can all find relevancy and meaning. With an offering of 17 Global Goals, there are countless options for making connections at personal, local, and global levels.
- **Powerful learning is driven by learner questions.** The SDGs invite inquiry and exploration of thoughts and actions. Instruction should look to provide space for questions and offer more questions than answers. A “teacher-as-helpdesk” mindset will help ensure that student-centered practices are central to teachings.
- **Powerful learning is social.** Students in Innovation Lab School classrooms are encouraged to talk together, think together, and have fun in learning. Interactivity both in physical spaces and virtual spaces should be encouraged and nurtured.
- **Powerful learning is connected.** Learning in Innovation Lab Schools does not occur in isolation. As a point along a journey, learning in one session is connected to learning in previous sessions and learning in future sessions. Learning is connected to life experiences and to future aspirations. Connections are made within the classroom from student-to-student, out of the classroom from student-to-world, and interpersonally from student-to-experience. Digital and analog resources support the primary resource which is human connection.





## Your Role as a Facilitator of Learning

We often view our role as teacher to be experts in our content and to transmit knowledge to the young learners in front of us. With the Global Goals Book curriculum, we are going to ask you to push yourself to think differently about your role in the classroom. It may feel like you are giving up control and challenging your expertise with the content, and that may seem a bit scary. Stay with us! We *want* our learners to have more control. After all, they are the ones who are entering a world of major challenges. We as educators need to partner with them and they with us to design the most effective solutions to the world's challenges.

How might you give your learners more control? Listen to their questions and use what you hear to help design a learning experience connected to their unique interests and curiosities on the topic at hand. Here are some ideas to consider as you feel your role shifting in the classroom.

- You are a **connector**.  
Use the learner profile to better understand what drives your curious learners. How do they learn outside of school? What inspires them? **Connect** with them on what you learn through conversation to get to know them even better. Build a strong relationship with each one.
- You are a **learning experience designer**.  
Once you've built a strong relationship with your students and understand what gets them excited to learn, **connect** those passions to the content, skills, and dispositions within each of the Innovations Lab School lessons. What are their questions about the lesson topics and how can you **design a learning experience** that connects the lesson to student passions?

- You are a **questioner**.

Throughout the learning experience, always be attentive to the ever evolving questions and curiosities of your learners. Let those questions guide and control the learning. Be a **questioner** and ask questions of the young learners to better understand what is being learned. Be a learner and engage in collaborative inquiry with your learners through questions. You are a practitioner and questions are a big part of your practice.

### Place of Pedagogy

One of the most effective ways of engaging learners in inquiry is to scaffold their thinking with thinking routines - simple protocols for exploring ideas. These protocols structure how learners go about the process of learning. As you explore these thinking routines as pedagogy, ask yourself the following questions: *Is thinking visible here? Are students explaining things to one another? Are students offering creative ideas? Are they (and me as their teacher) using the language of thinking?*

**See, think, wonder** - Works well with artifacts of all kinds!

- What do you **see** in the artifact? What do you observe?
- Based on what you see, what does it make you **think**? What is your interpretation of what you see? Why do you say that?
- Based on what you have seen and what you are thinking, what are you **wondering** about? What questions have been prompted by what you see and think?

**Think, puzzle, explore** - Want to dig deeper into what learners are thinking? Use this routine!

- What is the lesson getting you to **think** about?
- What questions, or **puzzles**, does that thinking lead to?
- How might you **explore** those questions or puzzles?

**What makes you say that?** - Help learners back their thinking up with evidence.

- What do you see or know?
- What makes you say that? How can you support what you are saying with evidence?

**I use to think.... But now I think....** - Great routine to scaffold learners in sharing how their thinking has changed over the course of the lesson - how they have learned!

- What were your initial ideas on the topic before the lesson? *I use to think....*
- Now that the lesson is complete, what is your thinking? *But now I think...*

### Learner Outcomes

Finally, it will be important for you in your role as the facilitator of learning to understand that the outcome of the lesson will not and should not be the same for each student. Your goal as the instructor will be to identify areas for growth for each individual student. Goals for learning can involve the students and should offer agency connecting to individual student passions, interests, and personal objectives.



# CHAPTER 5

## UNFOLDING OF THE LESSONS

The SDG Project lessons presented in this chapter and SDG Extension lessons presented in Chapter 6 and Chapter 7 are aligned to the Sustainable Development Goals and to design thinking principles, project-based learning methodologies, innovation, and gamification.

The curriculum is also structured according to the [Roots and Shoots four-step formula](http://rootsandshoots.org) (rootsandshoots.org) for positive change:

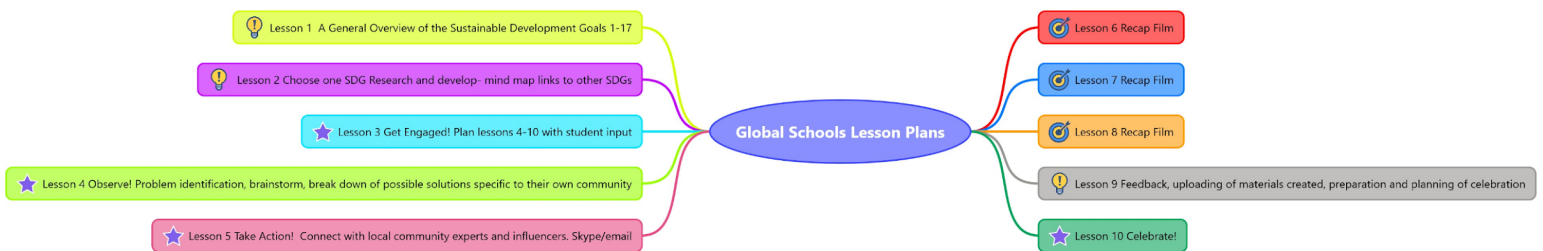
- Step 1: Get engaged
- Step 2: Observe
- Step 3: Take action
- Step 4: Celebrate

The starred lessons ★ (3, 4, 5, 10) are those relating to Roots and Shoots formula, lightbulb lessons 💡 are general planning, and bullseye lessons 🎯 will be on how to set up filmmaking/presentation creation in class. In Lesson 10, the class will organize a celebration inviting local luminaries (virtually or physically) to be a part of the showcase.

**Lesson 1:** Overview of SDGs

**Lesson 2-9:** Guided Design Thinking Experience (lessons on connections of goals to community/self, identification of local problem, research, prototyping, design thinking activities, pitch, peer review, possible go-to-market strategies)

**Lesson 10:** Celebration (For People and Planet)



# SDG Project Lessons

Lesson 1: Overview of SDGs

Lesson 2: SDG Mindmap

Lesson 3: Engage with the SDGs

Lesson 4: Solutioning

Lesson 5: Expert Interview

Lesson 6: Preparation of a Film or Presentation

Lesson 7: Storyboarding and Film Shooting OR Presentation Preparation

Lesson 8: Film Editing and Preparation for Celebration

Lesson 9: Feedback and Preparation for Celebration

Lesson 10: Celebration of Learning

## Classroom Setup

The environment of learning will be key in establishing a mindset of inquiry, exploration, and play. Here are tips to optimize the space for learning and thinking:

- **Wall spaces** should be used not as decoration but instead as spaces for learning and to document the learning process. The Global Goals can be printed in color on cardstock and displayed on classroom walls. Click [HERE](#) to access files (Go to <https://bit.ly/2Hi2p6K> Download non-UN entities → Print files). Sticky notes or notecards can be used on walls spaces for ideation and group work.
- **Natural lighting** is optimal with windows free of curtains or covering. Aim to keep lights off during daytime hours if possible.
- **Large work tables** allow for group work and are preferred over traditional desks.
- **Clipboards and small floor rugs** allow students to sit and work on the floor or outdoors.
- Provide space for group work, partner work, and independent work.
- Soft background music can support thinking and learning.

As students enter the learning space of the classroom for the first time, offer a group tour showing students all areas of learning and storage spaces and provide detailed explanations of expectations (e.g. care of devices, respect for people and nature, appropriate use policies). The best policy as the instructor is to assume nothing -- if you have not directly provided the expectation, presume the student is not aware of the guideline or practice.

## Group Types

Throughout the sessions in the Innovation Lab School, students will be working together within different group types. Group types are designated based on purpose and noted in the lessons.

- **Whole Group:** all students together with the teacher facilitating or providing instructions or direct instruction

- Small Group: students are broken into groups of 3-5 to work together collaboratively; refrain from breaking groups according to “likeness” (e.g. don’t put all girls in a group, don’t group by age, etc).
- Independent Work: students select to work alone; this is often useful for research or completion of a section of a project

## Innovation Lab School Instrumentarium

- Whiteboard/projector
- 1 or more computers (preferably laptop)
- WiFi connection

### Nice to have:

- Lego WeDo
- Minecraft: [www.minetest.net](http://www.minetest.net)

## Technology Tools

Throughout the SDG Project lessons, students will use several technology tools for creation and expression of ideas. Here is a listing of the main tools recommended for use:

- **Flipgrid** ([flipgrid.com](http://flipgrid.com)): Flipgrid allows teachers to video record a prompt and then provides a shareable code. Students access the Flipgrid and share responses via short videos. Responses are curated in collaborative space and students are then able to comment, respond, or provide feedback to individual responses.
  - How to set up Flipgrid <https://bit.ly/215EdLm>
  - The Educator’s Guide to Flipgrid by Sean Fahey and Karly Moura: <https://bit.ly/2ETPK7Q>
  - Student Instructions on how to use Flipgrid: <https://bit.ly/2KuiCHu>
- **PowerPoint/Google Slides** (Microsoft suite/Google Classroom): Options for students to use to create slide presentations.
- **MindMap Touch** (<https://bit.ly/2Mwleao>): Free Microsoft tool for creation of mindmaps.
- Videoconferencing Tools: **Skype**, Zoom, Google Hangout, appear.in
- **LEGO WeDo Kits** <http://lego.build/2WnW6ao>
- **Minecraft** <https://www.minecraft.net/en-us/>
- Useful Design Thinking Links
  - <https://www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process>
  - <https://eodysseyblog.wordpress.com/2016/02/16/what-is-design-thinking/>

# CHAPTER 6

## SDG PROJECT LESSONS

### Lesson 1: Overview of SDGs

<b>Learning Objectives</b>
<b>Learners will:</b> <ul style="list-style-type: none"><li>● Understand the background, history, and rationale of the SDGs</li><li>● Learn about each SDG</li><li>● Be placed in selected groups (3 - 5 students) by their teacher</li><li>● Understand and use active discussion and group teamwork methods</li><li>● Relate each SDG to their community</li><li>● Verbally and graphically present SDG(s) to the Student Groups</li><li>● Create Flipgrid reflection videos to record work completed</li></ul>
<b>Materials</b>
<ul style="list-style-type: none"><li>● Computers</li><li>● Screen</li><li>● Projector</li><li>● Paper (poster size if possible)</li><li>● Pens, pencils, markers</li></ul> <b>Resources for teachers:</b> <ul style="list-style-type: none"><li>● SDGs Teaching/Learning objectives <a href="https://unesdoc.unesco.org/ark:/48223/pf0000247444">https://unesdoc.unesco.org/ark:/48223/pf0000247444</a></li><li>● Teacher to set up Flipgrid Grid prior to session</li></ul>

## Warm Up (15 minutes)

### Watch videos as a Whole Class/Group:

- [The World's Largest Lesson](https://bit.ly/2WMzcsw) (<https://bit.ly/2WMzcsw>)
- [We The People](https://bit.ly/2WcKKRy) (<https://bit.ly/2WcKKRy>)
- [Do you know all 17 SDGs?](https://bit.ly/2roKtO7) (<https://bit.ly/2roKtO7>)

## Explore (1 hour)

### Teacher:

Teaches/delivers overview of the SDGs collectively and individually. This [website provides a SLIDEDECK](http://17goals.org/17goals-basic-slide-set/) for presentation (<http://17goals.org/17goals-basic-slide-set/>).

Explains group work methods and dynamics.

### Student Group work:

1. Comes up with 1-2 words that describe each SDG
2. Each group shares their words and why they chose those words.
3. Teacher assigns each 1-2 SDGs to research, read, and discuss.

## Create (30 minutes)

### Student Group work:

Each group creates a 1 page PowerPoint/Google Slides digital page (or poster page) that summarizes 1-2 SDGs.

Each SDG page must have a statement or list that relates it to their community.

### Share (15 minutes)

Each group presents and reports on their assigned SDG using Flipgrid. *Teacher to set up prior to session.* One person from each group to respond to camera.

**Teacher posed question:** What are the key lessons to be learned from the Sustainable Development Goals?

### Next Session

**Teacher:**

Share with students that they will be selecting one SDG to be explored during the nine subsequent weeks of the Innovation Lab School program.

Encourage students to discuss the SDGs that they might want to explore deeply between Session 1 and 2.

### Extension (1 hour)

- Virtual exchange call (Skype with global classroom, expert, or community member)
- LEGO SDGs Extensions
- Minecraft SDGs Extensions

## Lesson 2: SDG Mindmap

### Learning Objectives

#### Learners will:

- Be organised into groups by teacher for this SDG Project
- Explore the mind mapping process to understand the SDGs
- Mind map SDGs as a process for selecting a SDG to research during the lessons
- Learn about the SDGs more deeply
- Relate the SDG(s) to their community
- Select one SDG that will be explored deeply during the lessons

### Materials

- Computers
- Screen
- Projector
- Paper (poster size if possible)
- Pens, pencils, markers
- Mind Mapping Software such as Mind Map Touch (or use of pen and paper)

#### For Teacher:

- [Mapping the SDGs \(https://uni.cf/2joFrz2\)](https://uni.cf/2joFrz2)

### Warm Up (15 minutes)

Teacher directs student groups to name as many SDGs as they recall from Lesson 1.

Teacher directs student groups to sort and classify related SDGs into categories of under People and Planet.

### Explore (30 minutes)

Share their findings from Warm Up with the Whole Class Group.

Teacher highlights that each SDG is connected to the others and does not stand alone.

Research, review the SDGs using online resources.

### Create (30 Minutes)

Break students into Small Groups.

Use Research Template for SDGs (Appendix A).

Complete SDG mind maps as a way to select the SDG that will be explored during the SDG Project.

Students may use Mind Mapping Software or traditional pen and paper

Identify the values or importance of the SDG selected; what are the reasons for picking it? (consider empathy, economics, community problem specific to the group's own community, etc.)

### Share (45 minutes)

Each group to present their mind maps to the Whole Class Group.

Share why their chosen SDG should be chosen for further research.

Discuss, vote, and form consensus on the SDG that will be explored in the lessons. Each class should select ONE Global Goal that will be explored together. [Dot voting](https://dotmocracy.org) can be used to aide with decision making (<https://dotmocracy.org>).



### Next Session

Teacher reviews path of the upcoming lessons.

Students guided to plan the upcoming lessons.

- **Lesson 2-9:** Guided Design Thinking Experience (lessons on connections of goals to community/self, identification of local problem, research, prototyping, design thinking activities, pitch, peer review, possible go-to-market strategies)
- **Lesson 10:** Celebration (For People and Planet)

### Extension (1 hour)

- Virtual exchange call (Skype with global classroom, expert, or community member)
- LEGO SDGs Extensions
- Minecraft SDGs Extensions

## Lesson: 3: Engage with the SDGs

### Learning Objectives

Learners will:

- Brainstorm and identify a problem relevant to them and related to the selected SDG.
- Work through a lean canvas to break down the problem.
- Investigate what is already being done to tackle the problem and reasons why this may or may not be working.
- Brainstorm for possible solutions.

### Materials required

- Computers
- Screen
- Projector
- Paper (poster size if possible)
- Pens, pencils, markers

### Warm Up (15 minutes)

Return to the mind maps and the discussion from the previous session. Discuss the selected goal. Ensure all students are able to find and express personal connection to the selected goal.

### Explore (30 minutes)

*Teacher: Please reference Design Thinking resources in Chapter 5.*

Prompts to all students:

1. Let's take 5 minutes to each write down/type as many 'problems' relating to our SDG and YOU/your family/your community as you can. The goal is just to write down as many ideas as possible--don't worry if they are not perfect or complete. (sticky notes are ideal for this exercise if they are available)
2. Now take 1-2 minutes and choose 3 problems that seem the most important to you.
3. Now let's break into small groups.
4. As a small group, choose 3 that are the most important to the group (considering how some problems might be similar, can you re-word/rework them to be more inclusive).
5. Now let's come back together as a Whole Group.
6. Let's share our final ideas and select 3 problems to move forward with together.

Link back to the class SDG - what is the goal for this? What are other groups already doing to combat this problem (this could either be in small groups, or as a whole class)?

### Create and Share (30 minutes)

Use a lean canvas ([example here](#), but can be adapted) to explore the possible outcomes and solutions to your problem - how will your idea be different? For simplified lean canvas, include PROBLEM, SOLUTION, KEY METRICS, and UNIQUE VALUE PROPOSITION (<https://bit.ly/2Zcgpo5>).

Brainstorm possible solutions inline with lean canvas.

Lean canvas with problems and starting on solutions.

### Next Session

With problems and ideas on potential solutions, next session we will start to move into thinking more deeply on our solutions.

### Extension (1 hour)

- Virtual exchange call (Skype with global classroom, expert, or community member)
- LEGO SDGs Extensions
- Minecraft SDGs Extensions

## Lesson 4: Solutioning

### Learning Objectives

Learners will:

- Review possible solutions and determine which three offer the most promise
- Sketch 3 possible solutions and select one based on
  - How sustainable is the solution?
  - How can you ‘fund’ the solution?
  - Who could help with the solution?
- Based on this, choose one possible solution and prepare a more in-depth plan to implement.
- Select and contact possible leaders/supporter for a videocall interview in Lesson 5.

### Materials

- Computers
- Screen
- Projector
- Paper (poster size if possible)
- Pens, pencils, markers

### Warm Up (15 minutes)

Welcome back! Let’s think back to our last session.

- What were the problems we identified?
- What ideas did we come up with to solve them?

### Explore (30 minutes)

Consider as a Whole Group any new ideas for solutions.

Explore possible solutions and ‘rank’ based on a rubric of:

- Which solutions fit most closely with the SDGs?
- Which solutions are unique?
- Which solutions are sustainable - can they reuse or repurpose existing materials?
- How might you fund your project?
- What help is available?

Narrow on one idea for a solution.

### Create and Share (45 minutes)

Share with the students that for the next session (Lesson 5), the class will be having a special guest join via a videocall (Skype). Today, they will need to:

1. Research to determine a list of experts that could be invited to join for a Skype session.
2. Prepare your “elevator pitch” to share with the expert guest next time.

Based on the selected solution and your selected SDG, take time to research individuals to invite to join. Have Small Groups identify 1-2 “experts” and note the contact information (email, Twitter, etc).

As a Whole Group, work on a message to invite “experts” to join for call. Consider what you would want to include in the message (introduction, request, details of process/Skype, etc).

Next, you will want to come up with an elevator pitch-- a short (2-4 minute) description of your problem, determined solution, and plan for taking action.

How do you make a convincing presentation? What language needs to be used? What data needs to be included? How will you include everyone in your group into the pitch?

Be sure to write down/type the final elevator pitch to use next session.

### Next Session

Next session, we will meet with the expert via Skype. Please practice the elevator pitch during our time apart.

***NOTE: Teacher should now reach out to the noted experts to secure one person for the Skype call. This can be done via email or messages on Twitter. If you need help identifying an expert, please message the authors of this book.***

### Extension (1 hour)

- Virtual exchange call (Skype with global classroom, expert, or community member)
- LEGO SDGs Extensions
- Minecraft SDGs Extensions

## Lesson 5: Expert Interview

### Learning Objectives

Learners will:

- Skype in an expert.
- Use feedback and ideas to further their solutions plan and begin preparations for Lesson 6 and film making.

### Materials

- Computers (with wifi/skype connection)
- Screen
- Projector
- Paper (poster size if possible)
- Pens, pencils, markers

### Warm Up (15 minutes)

- Remind students of their possible solution and of the selected SDG.
- Review the elevator pitch together.



### Explore (30 minutes)

Prepare for the Skype call. Consider roles for the students:

1. Technicians: set up the Skype and monitor the technology
2. Greeter: welcomes the invited guest
3. Solution Sharer: shares the elevator pitch
4. Questioners: asks questions (3-5) of the expert
5. Closer: concludes conversation and thanks expert
6. Notetakers: takes notes and records session via writing
7. Videographer: records session via a video camera
8. Photographer: records session via camera
9. Room Designers: sets up classroom, arranges chairs, adjusts camera, returns chairs following call
10. Problem Solver: anticipates any issues that may come and has a plan for how to address if need be

As a class, brainstorm and determine 3-5 questions for the expert. Write the questions on notecards and distribute to the Questioners.

Rehearse.

### Create and Share (30 minutes)

Skype call with expert.

Following call, debrief as a group. Review video recording, photos, and notes. What did you learn? What questions do you have now that you would like to answer? How might you change your previous plan?

Write a group thank you letter to the expert.

### Next Session

In the next session, we will begin work on creating a film or a presentation. While we are apart, consider the advice of our expert. Share on the experience with community members and family members and gather more feedback.

### Extension (1 hour)

- LEGO SDGs Extensions
- Minecraft SDGs Extensions

## Lesson 6: Preparation of a Film or Presentation

### Learning Objectives

#### Learners will:

- Work collaboratively to develop a film/presentation to showcase work on chosen Sustainable Development Goal
- Develop a plan of work
- Understand how to structure a film/presentation
- Choose the narrative to be communicated through film/presentation
- Decide who the target audience is
- Elicit the key messages to be communicated to the target audience
- Create Flipgrid reflection videos to record work completed

### Materials

#### Film:

- Get Flipgrid set and prepared.

#### Presentation

- PowerPoint/ Sway/ Google Slides Presentation software
- Poster making materials

### Warm Up (30 minutes)

#### Recap of previous lessons

**Split students into groups. These groups will be used throughout Lessons 6-8. Be sure to NOTE GROUPS AND MEMBERS.** (group size of 4-6 students is ideal)

Each group to brainstorm the following questions.

- What problem has been identified by the group?
- What solution has been found to this problem?
- How will the group communicate this to the wider world?

Class sharing of the ideas generated by these discussions.

Curation of ideas by teacher.

### Explore (30 minutes)

- Each group will have the choice to create a film OR presentation creation.
- When undertaking this task students need to focus on whether each element contributes to the narrative they wish to convey.
- Students should aim to create a film lasting 3-5 minutes maximum, with their work being communicated in a succinct and entertaining manner OR should create a 5-10 minute presentation. Directions for both options will follow.

Film	Presentation
<p>Use of questions to create the film :</p> <ul style="list-style-type: none"><li>● Who is the audience?</li><li>● What are the three key messages to be communicated?</li><li>● How best can these messages be communicated?</li><li>● What type of film will be created? <i>Documentary style speaking to camera / voiceover using Creative Commons photos / footage created by students / Animation / Stop Go Animation</i></li><li>● Will film have musical score? <i>Will this be created by students or sourced online under Creative Commons on sites such as Free Music Archive</i></li></ul>	<p>Use of questions to create the presentation:</p> <ul style="list-style-type: none"><li>● Who is the audience?</li><li>● What are the three key messages to be communicated?</li><li>● How best can these messages be communicated? <i>Use of presentation software / song / rap / posters</i></li></ul>

### Create (45 minutes)

Each group to take a scene/element and develop these.

Film	Presentation
<p><b>Script writing</b></p> <ul style="list-style-type: none"><li>● Use the results of the work in the <i>Explore session</i> to plan the script.</li><li>● A good documentary script is compelling and thought provoking. The audience should be engaged by the material.</li><li>● The writers should focus on how to make each element relevant to the message to be delivered.</li><li>● Decide on how many scenes will be needed for the documentary.</li><li>● Use the research and data collated in Lessons 1-5.</li></ul> <p>Use the <a href="#">attached template</a> to create documentary script (<a href="http://bit.ly/2KaIitk">http://bit.ly/2KaIitk</a>)</p>	<p><b>Presentation writing</b></p> <ul style="list-style-type: none"><li>● Use the results of the work in the <i>Explore Session</i> to plan the presentation. (Music / Presentation / Posters etc.)</li><li>● A good presentation is compelling and thought provoking. The audience should be engaged by the material.</li><li>● The writers should focus on how to make each element relevant to the message to be delivered.</li><li>● Decide on what presentation tool will be used for the presentation. (eg. PowerPoint, Sway, Slides, Keynote)</li><li>● Use the research and data collated in Lessons 1-5.</li></ul>

### Share (15 minutes)

Each group to use Flipgrid to record the work that has been completed during this session. One person from each group to respond to camera.

**Teacher posed question:** What are the three key lessons your group took from today's session. How will you apply these lessons in your film or presentation?

## Next Session

In the next session the students will learn how to storyboard if creating a film or how to present their work if creating a presentation.

The students should work on ideas for their film/presentation before the next session.

Film	Presentation
<a href="#">How to Storyboard</a>	<a href="#">PowerPoint</a> <a href="#">Sway</a> <a href="#">Slides</a> <a href="#">KeyNote</a>

## Extension (1 hour)

- Virtual exchange call (Skype with global classroom, expert, or community member)
- LEGO SDGs Extensions
- Minecraft SDGs Extensions

## Lesson 7: Storyboarding and Film Shooting OR Presentation Preparation

### Learning Objectives

#### Learners will:

- Work collaboratively to develop a film/presentation to showcase work on chosen Sustainable Development Goal
- Develop a storyboard or plan of work
- Understand how to structure a film/presentation
- Develop the narrative to be communicated through film/presentation
- Decide who the target audience is
- Elicit the key messages to be communicated to the target audience

### Materials

#### Film:

- App such as OneNote for StoryBoard creation and recording of lesson progress
- Camera (stand alone with tripod or camera on laptop/device as available)
- Film editing software such as Microsoft Photos

#### Presentation

- [PowerPoint](#), [Sway](#), [Slides](#), [KeyNote](#) Presentation software  
(<http://bit.ly/31nUhcd>, <http://bit.ly/2Kfk0He>, <http://bit.ly/2WBGXIY>,  
<https://apple.co/2Iyz4DX>)
- Poster making material

## Warm Up (30 minutes)

### Recap of previous lessons

Using the script /presentation plan created in Lesson 6, students should devise a work plan to be created by each group.

Film	Presentation
<ol style="list-style-type: none"><li>1. Split groups into smaller groups. Allocate the following jobs to be completed during the filmmaking process.<ul style="list-style-type: none"><li>• Director</li><li>• Continuity</li><li>• Camera Operators</li><li>• Storyboarding Group</li><li>• Editing Group</li></ul></li><li>2. Students to research what each job entails</li></ol>	<ol style="list-style-type: none"><li>1. Split groups into smaller groups as below. Allocate the following jobs to be completed during the Presentation process.<ol style="list-style-type: none"><li>1. Scripting Group</li><li>2. Presentation Development Group</li><li>3. Poster creation group</li></ol></li></ol>

## Explore (30 minutes)

Film Shooting	Presentation
<ol style="list-style-type: none"><li>1. <b>Storyboarding Group</b> <a href="#">How to Storyboard</a> Create a Storyboard for each shot to be used in the film using script from Lesson 6 as a guide. (<a href="http://bit.ly/2K8lvOH">http://bit.ly/2K8lvOH</a>)</li><li>2. <b>Film Shooting Group</b> <a href="#">Learn about shots that can be used in filmmaking.</a> (<a href="http://bit.ly/2R6aLRK">http://bit.ly/2R6aLRK</a>)</li><li>3. <b>Editing Group</b> Learn how to edit film in Microsoft Photos or other available Film Editing Software</li></ol>	<ol style="list-style-type: none"><li>1. <b>Scripting Group</b> Plan a script of what will be showcased during the presentation. Refer to the plan created in the last session</li><li>2. <b>Presentation Development Group</b> Plan a Presentation using one of the tools identified in the last session <a href="#">PowerPoint</a>, <a href="#">Sway</a>, <a href="#">Slides</a>, <a href="#">KeyNote</a> (<a href="http://bit.ly/31nUhcd">http://bit.ly/31nUhcd</a>, <a href="http://bit.ly/2Kfk0He">http://bit.ly/2Kfk0He</a>, <a href="http://bit.ly/2WBGXIY">http://bit.ly/2WBGXIY</a>, <a href="https://apple.co/2Iyz4DX">https://apple.co/2Iyz4DX</a>)</li><li>3. <b>Poster creation group</b></li></ol>



<p><a href="http://bit.ly/2F1ABkY">How to edit in Microsoft Photos</a> (<a href="http://bit.ly/2F1ABkY">http://bit.ly/2F1ABkY</a>)</p> <p><a href="http://bit.ly/2XAOYDP">Adding Titles and Text in Microsoft Photos</a> (<a href="http://bit.ly/2XAOYDP">http://bit.ly/2XAOYDP</a>)</p> <p><a href="http://bit.ly/2R5GLVY">Adding Narration and Music in Microsoft Photos</a> (<a href="http://bit.ly/2R5GLVY">http://bit.ly/2R5GLVY</a>)</p> <p><a href="http://bit.ly/2Kaw3wI">Adding 3D Effects and Objects in Microsoft Photos</a> (<a href="http://bit.ly/2Kaw3wI">http://bit.ly/2Kaw3wI</a>)</p>	<p>Using the themes developed in the script, plan the posters that will showcase the main messages to be communicated.</p>
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<p><b>Create (45 minutes)</b></p>	
<p><b>Film</b></p>	<p><b>Presentation</b></p>
<ol style="list-style-type: none"> <li>1. <b>Storyboarding Group</b> Use Storyboard to guide film shooting group during the filming.</li> <li>2. <b>Film Shooting Group</b> Shoot film using script created in Lesson 6 and storyboard from this Lesson.</li> <li>3. <b>Editing Group</b> Continue to explore and practise how to edit film in Microsoft Photos or other available Film Editing Software</li> </ol>	<ol style="list-style-type: none"> <li>1. <b>Scripting Group</b> Create a script of what will be showcased during the presentation. Refer to the plan created in the last session</li> <li>2. <b>Presentation Development Group</b> Create a Presentation using one of the tools identified in the last session.</li> <li>3. <b>Poster Creation Group</b> Using the themes developed in the script, create posters to showcase the main messages to be communicated.</li> </ol>

<p><b>Share (15 minutes)</b></p>
<p>Each group to feedback on their progress to the whole class group.</p>

## Next Session

Film	Presentation
<p>Lesson 8 will be used to edit the film created and prepare a presentation outlining the filmmaking process and progression for the Project Celebration in Lesson 10.</p> <p>Students to prepare ideas and practice for Lesson 8.</p>	<p>Lesson 8 will be used to hone the presentation outlining the process and progression of the Innovation Lab for the Project Celebration in Lesson 10.</p> <p>Students to prepare ideas and practice for Lesson 8.</p>

## Extension (1 hour)

- Virtual exchange call (Skype with global classroom, expert, or community member)
- LEGO SDGs Extensions
- Minecraft SDGs Extensions

## Lesson 8: Film Editing and Preparation for Celebration (Lesson 10)

### Learning Objectives

#### Learners will:

- Work collaboratively to edit a film/presentation to showcase work on chosen Sustainable Development Goal
- Develop a presentation that will be used during the Celebration in Lesson 10
- Understand how to structure a presentation
- Hone the narrative to be communicated through presentation
- Practice the presentation within the group
- Create Flipgrid reflection videos to record work completed

### Materials

#### Film:

- Use of Film Editing Software such as the Photos App in Windows 10
- [How to edit in Microsoft Photos](#)  
(<http://bit.ly/2F1ABkY>)
- [Adding Titles and Text in Microsoft Photos](#)  
(<http://bit.ly/2XAOYDP>)
- [Adding Narration and Music in Microsoft Photos](#)  
(<http://bit.ly/2R5GLVY>)
- [Adding 3D Effects and Objects in Microsoft Photos](#)  
(<http://bit.ly/2Kaw3w1>)
- Use of Sounds Effects. [Free Sounds Effects from BBC](#)  
(<http://bit.ly/2XD56oD>)

#### Presentation

- [PowerPoint](#), [Sway](#), [Slides](#), [KeyNote](#) Presentation software
- Poster making materials

#### Flipgrid

### Warm Up (10 Minutes)

Students to reflect on their work over the past seven weeks.

- What work has been completed?
- What work needs to be finished and finalized today before the Celebration in Session 10?
- How will this be achieved?

### Explore & Create (1 hour 20 minutes)

**Reminder:** Students should aim to create a film lasting **3-5 minutes maximum**, with their work being communicated in a succinct and entertaining manner. **Presentation should be 5-10 minutes.**

Film	Presentation
<ol style="list-style-type: none"><li><b>Editing Group</b> Using the footage gathered in Session 7, edit film in Microsoft Photos or other available Film Editing Software</li><li>All other groups to prepare a presentation of the work they completed during the filming process.</li></ol>	<ol style="list-style-type: none"><li>Finalizing and practicing of the Presentation for Session 10.</li></ol>

### Share (20 minutes)

Each group to use Flipgrid to record the work that has been completed during this session. One person from each group to respond to camera.

**Teacher posed question:** What are the 3 key lessons your group took from today's session? What do you hope to achieve in Sessions 9 and 10?

### Next Session (10 minutes)

Discuss prospective guests students would like to invite to the Celebration in Session 10. (Virtually or Physically)

Ideas to be worked on before next Session.

### Extension (1 hour)

- Virtual exchange call (Skype with global classroom, expert, or community member)
- LEGO SDGs Extensions
- Minecraft SDGs Extensions

## Lesson 9: Feedback and Preparation for Celebration (Session 10)

### Learning Objectives

#### Learners will:

- Finalize and perfect film/presentation for Celebration in Session 10
- Plan and develop ideas for Celebration in Session 10
- Explore and then reflect on the learning outcomes of Sessions 1-8

### Materials

#### Film:

- Related links from previous sessions

#### Presentation

- PowerPoint, Sway, Slides, KeyNote\_Presentation software
- Poster making materials

### Warm Up (10 minutes)

As a group decide on priorities for this Session.

- What are the work targets for today?
- How will these targets be achieved?

Split students into groups with responsibility for each target.

### Explore (50 minutes)

#### Finalize and perfect film/presentation for Celebration in Session 10

Using the targets created in Warm Up Session students will complete work on film presentation and then practice their presentation around both.

### Create (45 minutes)

#### Plan and develop ideas for Celebration in Session 10

- What guests will be invited to the Celebration?
- How will they be invited?
- Create an email/letter to invite guests outlining the goals of the project, work completed, why the guests have been invited and what they can expect from the Celebration.
- Who will have responsibility for greeting them etc. on the day?
- Create a timetable of events for Session 10 and create a program that can be printed.
- Discuss ideas regarding the launch of the film/presentation.
- Write thank you letters or make/determine small gifts/tokens of appreciation to present to guests.

### Share (15 minutes)

#### Explore, assess, and reflect on the learning outcomes of Sessions 1-8 within the whole group.

Teachers can use the following questions to create a [Form](#) for Assessment:

- What were the personal learning outcomes for each student participating in the Innovation Lab?
- Was the Innovation Lab worthwhile?
- Were there areas that could be adapted/developed for future groups?
- What advice should be given to future groups participating in the Innovation Labs?
- Would you recommend participation in the Innovation Labs? Why? Why not?
- Can you identify skills that you have improved as a direct result of participation in the Innovation Labs.

### Next Session

Practice presentation for the Celebration in Session 10.

Bring a physical artifact from your home or community that is representative of the SDG or solution.

### Extension (1 hour)

- Virtual exchange call (Skype with global classroom, expert, or community member)
- LEGO SDGs Extensions
- Minecraft SDGs Extensions



## Lesson 10: Celebration of Learning

### Learning Objectives

Learners will:

- Use planned program to guide the Celebration.
- Present and communicate their films and presentations to the other groups.
- Present and communicate their films and presentations to invited community guests.
- Acknowledge others work.

### Materials

- Programs
- Presentations files
- Laptops
- Interactive Whiteboard projection
- Small gifts or thank you notes to guests
- Refreshments

### Warm Up

Introduction to project by teacher or selected student leader.

Pass out Programs.

Set up live feed simultaneous casting to Twitter or other platforms during presentations. Consider creating and using a hashtag,

### Explore

Presentations.

Include artifacts, objects to help illustrate student's local SDG presentations.

## Create and Share

Debrief process of solving a Global Goal.

Take a group photo!

Consider direction for the future and determine a way to keep taking action for all the goals.

# CHAPTER 7

## LEGO SDG LESSON EXTENSIONS

[LEGO Extensions](http://bit.ly/31rZjUW) (<http://bit.ly/31rZjUW>)

Lesson 1: Building a Proactive Water Solution (SDG 6, 11, 9)

Lesson 2: Role Play Game: Craft a Persuasion Story for Action (SDG 17, 16, 3, 4)

Lesson 3: The Power of Coral Reefs (SDG 13, 14, 15)

Lesson 4: The World is Not Equal: Is that Fair? (SDG 10, 2, 1, 5)

Lesson 5: Helping Others to Enhance the Community (SDG 11, 17, 16, 7)

Lesson 6: Robots for Better Living (SDG 7, 9, 12)

Lesson 7: Plants Are Amazing! (SDG 15, 2, 14)

## LEGO Lesson 1: Building a proactive water solution

### Main Global Goal



### Secondary Global Goal



### Challenge:

Can you create a solution to an existing water issue in your local community?

### Focus on one of these targets

- **Target 6.1:** By 2030, achieve universal and equitable access to safe and affordable drinking water for all
- **Target 6.2:** By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
- **Target 6.3:** By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

### Suggestions for the student:

- Make a list of issues that you observe in your area when it comes to water
- Consider one of the pathways in the lesson if you are not sure where to start
- Continue to build and add new thinking to your LEGO WeDo 2.0 prototype
- Consider using Scratch 3.0 with your LEGO build to tell the story of your solution

## LEGO Lesson 2: Role Play Game - Craft a Persuasive Story for Action

### Main Global Goal



### Secondary Global Goals



### Challenge:

Create an interactive story showcasing the power of partnerships by combining on-screen and off-screen, using LEGO WeDo and Scratch.

### Suggestions

- You can use other materials to go with your LEGO builds. Think cardboard, paper, etc.
- Scratch program can allow you to create a Choose Your Own Adventure style of story.
- Have fun designing your own characters and models in both Scratch and LEGO WeDo

### Tips

- Students could build LEGO versions of the characters
- Students could create a device with LEGO or other materials to give reader options to make changes in story
- LEGO may not be necessary.
- Story could be a pro and con to our daily decisions as well.

## LEGO Lesson 3: The Power of Coral Reefs

### Main Global Goal



### Secondary Global Goals



Challenge: How do your local actions affect the coral reefs and as a result affect your daily life?

### Suggestions

- Think about where on a fish or shark or coral reef that movement occurs? What parts will you need to create movement at these joints?
- Can you create a massive classroom scene using all your models into one big Coral Reef display.

### Tips

- Virtual Field Trip of Coral Reefs via Skype - <https://education.microsoft.com/CoralReefs>

## LEGO Lesson 4: The World Is Not Equal. Is That Fair?

### Main Global Goal



### Secondary Global Goals



Challenge: The world is not equal. Is that Fair?

### Suggestions:

- Follow the lesson provided here <https://bit.ly/2c1PYhC> to discuss and explore inequality
- Use LEGO WeDo kits to build a model that symbolizes inequality in your community with a solution built into the design.

### Tips

- Create a montage of videos and art display to bring awareness to the community to create conversation and movement forward.

## LEGO Lesson 5: Helping others to enhance the community

### Main Global Goal



### Secondary Global Goals



Challenge: Build a robot that proves helpful to your local community.

### Suggestions

- Give each group a separate topic
- Create stations in the learning lab
- Give one at a time

### Tips

- LEGO Education WeDo 2.0 Curriculum Pack you can use any of the following projects:
  - Robust Structures
  - Prevent Flooding
  - Sort to Recycle
  - Hazard Alarm projects
- For each project, have students consider their local community and then build a model that would help their local area.
- Do research to find out what already exists and what has been tried before.

## LEGO Lesson 6 Robots for better living

### Main Global Goal



### Secondary Global Goals



Challenge: Build a robot that can help make your region more sustainable in affordable and clean energy

### Suggestions

- Each project should tell a story around their solution. They can use stop motion animation video, Scratch 3.0, or any other tool of their choice.

### Tips

- Ask students the following questions
  - How does the robot work?
  - How does the robot contribute to SDG 7?
  - How would your model work in the real world? What other considerations would you have to consider to make it work in the real world?
  - What would be the next steps to turn your idea into a real working project?
- Simpler project
  - LEGO Education WeDo 2.0 Curriculum Pack you can use the Sort to Recycle project that is in the software.

## LEGO Lesson 7: Plants are Amazing!

### Main Global Goal



### Secondary Global Goals



Challenge: Build a robot that can help make your region more sustainable in affordable and clean energy

### Suggestions

- Each project should tell a story around their solution. They can use stop motion animation video, Scratch 3.0, or any other tool of their choice.

### Tips

- LEGO Education WeDo 2.0 Curriculum Pack you can use
  - Plants and Pollinators
  - Wildlife Crossing projects



## CHAPTER 8

### MINECRAFT SDG LESSON EXTENSIONS

[Minecraft Extensions](http://bit.ly/2F3ACox) (<http://bit.ly/2F3ACox>)

Lesson 1: Building a Water Treatment Plant (SDG 6, 11, 9)

Lesson 2: Role Play Game: Simulation of Situations and Characters (17, 16, 3, 4)

Lesson 3: Landscapes! (SDG 13, 14, 15)

Lesson 4: The World is Not Equal. Is that Fair? (SDG 10, 2, 1, 5)

Lesson 5: Generate Clean Energy (7, 8, 12)

### Lesson 1: Building a Water Treatment Plant.

Main Global Goal



Secondary Global Goal



Description:

Students will use Minecraft to build a water treatment plant.

Suggestions for the teacher:

- Study local heating needs.
- Build a station that connected to the local area
- Search on the topic, search for treatment stations around the world. Primarily those that present intelligent and sustainable solutions.

Tips for helping students build on Minecraft:

- Use graph paper
- LEGOs
- Any other way to do the construction of an analog mode
- Study the proportions of the construction

## Lesson 2: Role Play Game - Simulation of situations and characters

### Main Global Goal



Description: In this activity, Minecraft will be used for students to simulate dialogues, trying to overcome situations of conflict through reason and empathy.

Suggestions for conducting the activity:

- Search the Global Goals to create character creation repertoire.
- Build a meeting room in Minecraft.

Tips to teacher develop the activity:

- Each student or group of students can be a character.
- The characters / avatar must be characteristic to be interpreted, in addition they must have objectives (the objectives must be based on SDGs)

How activity happens:

- Each student or student group will receive a file with the description of your character / avatar
- Avatars should interact with each other through the text terminal, using writing skills and text comprehension.
- Students should solve the problems presented by mediating empathy and dialogue.

### Secondary Global Goal



## Lesson 3: Landscapes!

### Main Global Goal



Description:

Students will do the same landscape twice representing one before and one after climate change. What conditions are a result of climate change and what will the results be in the vegetation and the fauna?

Tips to teacher develop the activity:

The teacher should choose a real landscape, it can be where the students live, it can be one through research or even invented.

- 1) This landscape should have geographical features such as hydrography, relief and climate, in addition to a fauna and flora present.
- 2) Create the landscape in Minecraft (think of a feasible dimension with respect to size, for example 10x10 blocks, 20x20 or 30x30)
- 3) Create the other landscape after the effects of climate change, ask what has changed?

The idea is that we can draw parallels between the before and after, the consequences on the environment about environmental issues.

### Secondary Global Goal





## Lesson 4: The World Is Not Equal. Is That Fair?

### Main Global Goal



### Secondary Global Goal



### Descriptive:

Build a social equality scenario. A place that represents the conditions of equality according to the Global Goals.

It can be a square, it can be a classroom, a city, but it has to represent an equal space in all conditions.

### Tips to teacher develop the activity:

Develop with the students a conversation about what is equality.

As we must take action to achieve these conditions, what would an ideal world look like?

After this conversation, begin this construction.

It should be clear in spatial representations that the place created is inclusive, where everyone has the same accesses and conditions including the architectural standard.

## Lesson 5: Generate Clean Energy

### Main Global Goal



### Secondary Global Goal



### Description:

Invent and build a way to generate clean energy.

### Tips to teacher develop the activity:

Present to students different ways to generate clean and sustainable energy (solar, wind, tide, rivers, including through energy harvesting by body movements).

Explain clean energy and the processes to which they transform power into energy.

The teacher can encourage students to use redstone to show the energy being generated.

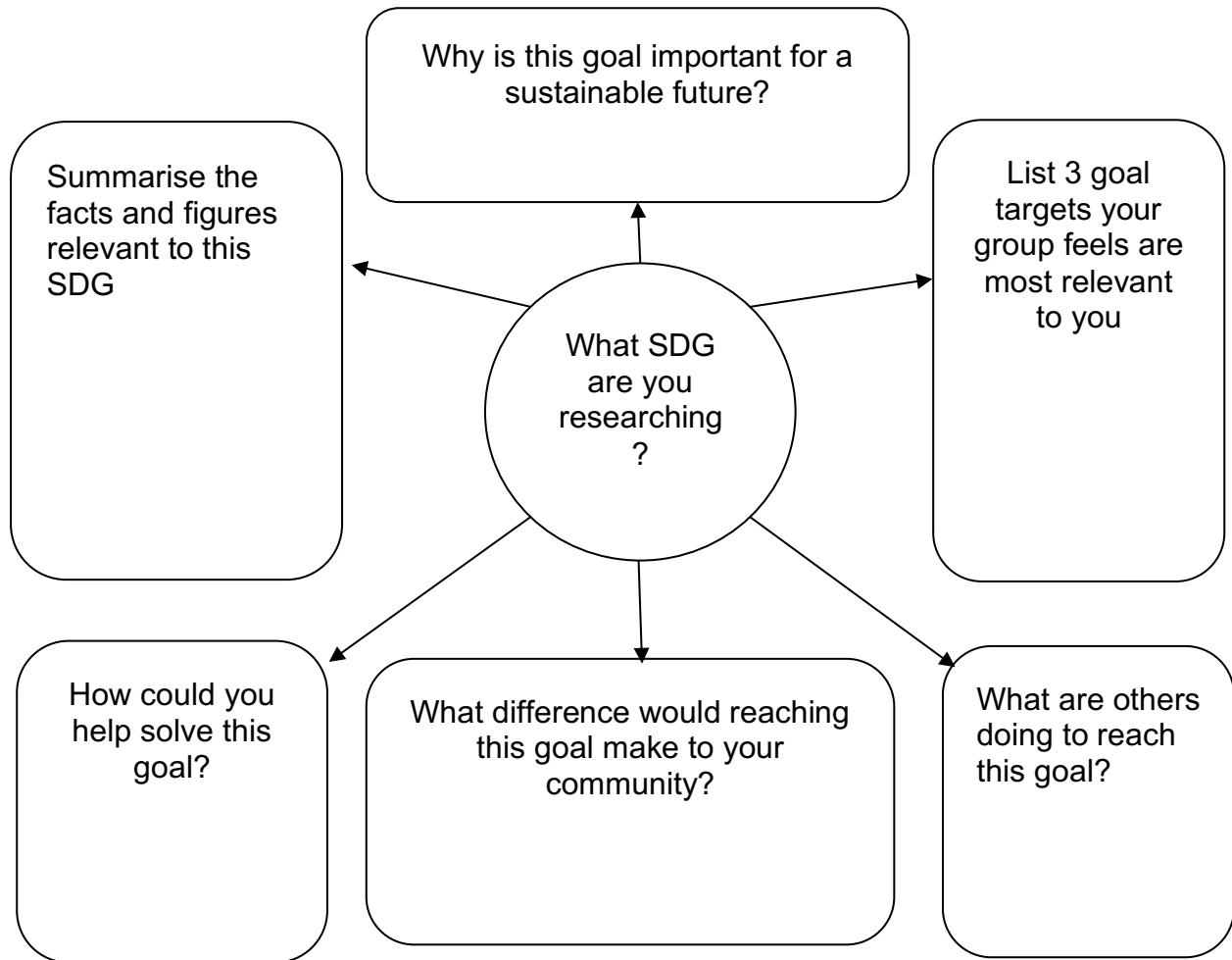
Think of forms of energy that meet the demands of the place where you live, for example: attending to hospitals and economic production of the reality in which you live.

# LOOKING AHEAD

For us at the Innovation Lab Schools, we are looking ahead and seeking out ways to engage more students in sharing their ideas for changing our world. Access to quality education, empowering the voices of all students, and innovative actions for people and planet -- we are on a mission to accomplishing this.

Now is also the moment where we turn it over to you. Completion of the lessons in *The Global Goals Book* is not an end, but a beginning. We invite you and your students to now begin the work. Take the passion and purpose that has surfaced from the lessons and begin to channel it into advocacy and action for your community -- your people and your planet. Time for your next move!

Appendix A  
Research Template



## Appendix B

### Foundational Readings

Below are suggested texts and foundational readings from educators around the globe. These are pieces that have inspired practice and helped to transform learning spaces. We share these titles as supplemental support.

Boss, S., & Krauss, J. (2018). *Reinventing project-based learning* (3rd ed.). Washington, D.C.: ISTE.

Doucet, A., Evers, J., Guerra, E., Lopez, N., Soskil, M., & Timmers, K. (2018). *Teaching in the fourth industrial revolution: Standing at the precipice*. New York, NY: Routledge.

Freire, P. (1972). *Pedagogy of the oppressed*. London, England: Penguin Education.

Hooks, B. (1996). *Teaching to transgress: Education as the practice of freedom*. New York, NY: Routledge.

Human Rights Commission (1948). *Universal declaration of human rights: Final authorized text*.

United Nations. Retrieved from: <https://www.un.org/en/universal-declaration-human-rights/>

Jane Goodall Institute (2019). Roots and shoots program. Retrieved from:

<https://www.rootsandshoots.org>

Lewman, G. (2016). *Lessons for lifepactice learning*. Hutchinson, KS: Essdack.

Meyer, A., Rose, D., & Gordon, D. (2016). *Universal design for learning*. Wakefield, MA: CAST Professional Publishing.

Robinson, K. (2017). *Out of our minds: Learning to be creative*. West Sussex, United Kingdom, Capstone.

Smith, S. (2000). *Greenhouse gardener's companion: Growing food and flowers in your greenhouse or sunspace*. Golden, CO: Fulcrum Publishing.

Tomlinson, C. A., & McTighe, J. (2006). *Integrating differentiated instruction and understanding by design: Connecting content and kids*. Alexandria, VA: ASCD.

Williams, J (2019) *Teach boldly: Using edtech for social good*. Washington, D. C; ISTE.

Wong, H. K., & Wong, R. T. (2018). *The first days of school: How to be an effective teacher*. Mountainview, CA: Wong Publications.

## For all. By all. Everywhere. Begin.

As our youth grow, academically and socially, they will eventually confront situations in which action is necessary. It is our belief that young people will choose the correct path in each instance; the correct path being that of love, compassion, tolerance, and the greater-good. The extent to which the human race is able to sustain itself will depend on the extent to which young people are able to empathize for others. Empathy, therefore, is an imperative element in both creating a functional learning space and in molding young people; empathy must be taught explicitly.

In the case of the Innovation Lab Schools, empathy is embedded within the learning process. Traditional modes of learning are relegated to rote skills which prohibit character development. When instruction models cultivate space that allows for the practice of empathy and encourage social-emotional development, learners are likely to grow connected to peers, their environment, and community. This connection motivates youth to take action on causes of concern, whether local or global; issues such as poverty, climate change, and sustainable communities.

The Global Goals Book offers teachers of the world a guide into this process. Written by global teachers, for global teachers everywhere, this book is the start of a conversation. Through the lens of the United Nations' Sustainable Development Goals, classrooms can use this guide to take action at local, global, and personal levels on matter of significance that are relevant and needed in our world today. This book offers both an overview and a framework with practical ideas -- incorporating design thinking, inquiry, innovation, and technology -- ready for instruction and learning. We invite you to join with us on this journey to making a difference in our world through education!

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