

Breaking the cycle using Design Thinking

Unit Name:	Design your Thinking to change the world inspired by Dr Kate Leeming	Year Level:	YEAR 8 OR 9
Developed By:	Aditi Agrawal @ JUMP! Foundation	Time Frame:	8-10 WEEKS
Feedback:	Please send an email to aditi.agrawal@jumpfoundation.org by February 28th if you would like to share any feedback on this module.		

Context: *Why are we doing this?*

The Breaking the Cycle Education project will bring together students from across the world to utilize Kate's journey as a source of innovation and creativity. Our goal is that the project will support students to lead their schools, communities, countries and the world in making change. The unit hopes to inculcate a can-do attitude in students following from Kate's stories of resilience and grit. The unit will allow educators and students to pose real life questions, working together to generate scenarios and calls to actions that can change the world.

STAGE 1: DESIRED RESULTS

Transfer: *What are the long-term accomplishments that students should be able to do with knowledge and skill, on their own?*

To engage students in real-world projects, which gives them the opportunity to develop key skills such as critical thinking, self-directed learning, creativity, problem solving, communication and collaboration using Design Thinking frameworks and inspired from Kate Leeming's Journeys.

Key Understandings: <i>Students will understand that...</i>	Essential Questions:	Cross Curricular Bridges
U1. Grit, planning, and resilience can go a long way towards achieving our goals by feeling inspired from Kate's journeys. U2. Design thinking is a useful framework to create change for global issues and achieve our Global Goals	EQ1. Who is Kate Leeming? Why do we need to know about her? What can we learn from her journeys? EQ2. What is Design Thinking? How can we use the DT process to move the world forward? EQ3. What are the Global Goals? What can we do to help?	<ul style="list-style-type: none"> • Sustainability • Design Thinking • Exploration
Knowledge: <i>Students will know...</i>	Skills: <i>Students will be able to...</i>	Global Citizenship Lens:
K1. the different parts of the design thinking process K2. the components of Kate's journey	S1. work together in groups and develop projects that solve a problem in their life/communities S2. use design thinking tools S3. talk about Kate Leeming and her journeys	<ul style="list-style-type: none"> • Personal Growth & Identity • Inquiry & Action Mindset • Community Impact & Social Enterprise

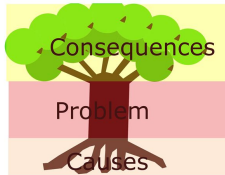
What sequence of teaching and learning experiences will equip students to engage with and develop their understanding of the unit?

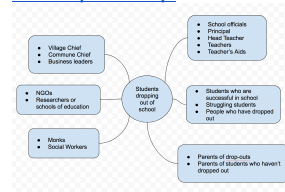
BLOCK 1: Introduction to unit & Kate Leeming			TIME: 70 Mins
<p>INTENTION: Students get introduced to Dr Kate Leeming and her exploration of the world. GUIDING QUESTIONS: Who is Kate Leeming? Why do we need to know about her? What can we learn from her?</p>			
ACTIVITY	TIME	PURPOSE/STRUCTURE	MATERIALS REQUIRED
Introduction	5	Students are introduced to the purpose of the unit	
KL Presentation - Overall story	45	Students watch Dr Kate Leeming introduce herself and her presentation <i>(Teachers can reach out to Dr Kate Leeming to request for a school presentation for their class using the Breaking the cycle: education website)</i>	Kate Leeming Introduction Video and Powerpoint
Debrief on KL	15	What surprised you? What are you curious about? Why do you think she wants to explore or go on these adventures? <i>(Students can share a list of these questions and answers on Breaking the cycle: education website)</i>	Sticky Notes
Closing	5	Next week we will be focusing on thinking of what are we passionate about and what inspires us!	

BLOCK 2: Global Goals and Issues exploration			TIME: 90 Mins
<p>INTENTION: Exploration of challenges and perspectives in the community. This exploration of the community challenges will set up students to learn about community needs.</p> <p>GUIDING QUESTIONS: What are the Global Goals? Why do they matter? What are some issues that I care about?</p>			
ACTIVITY	TIME	PURPOSE/STRUCTURE	MATERIALS REQUIRED
Global Issues Sticky Storm and Intro Video to Global Goals	15	<p>Pass out sticky notes and have each student jot down current world issues (one on each sticky note). After they've come up with some, have them place sticky notes on the whiteboard/flipchart.</p> <p>Debrief:</p> <ul style="list-style-type: none"> • How was that experience for you? • Easy or difficult? • What global issues did you come up with? <p>We are going to learn a bit more about the Global Goals through an introductory animation/video. Watch the World's Largest Lesson Global Goals intro video</p> <ul style="list-style-type: none"> • https://vimeo.com/138852758 <p>Debrief on the main goals of the Global Goals (protect the planet, fight inequality, and end extreme poverty)</p>	<p>Sticky Notes Markers Flipchart Intro Video to Global Goals (https://vimeo.com/138852758)</p>
Global Goals Priority Diamond	20	<p>Spread out print outs of global goals and split students into small groups. Tell each group that they must now prioritize and arrange the goals in a diamond shape ranking them on their importance. Participants should end up realizing how interconnected the goals are and that all goals are important.</p>	Print of Global Goals
Sticky Storm on Community Issues	15	<p>All participants spend some time reflecting on community issues that they feel passionate about, especially the ones around the school and/or the neighbourhood</p> <p>→</p> <ul style="list-style-type: none"> - Tell participants to write down these issues on post-its (they can write multiple per post it) - Allow for 3 mins - Put all the post its together on a flip chart and allow for 5 minutes for 	<p>Sticky Notes Markers Flipchart</p>

		<p>students to broadly read all the post its</p> <ul style="list-style-type: none"> - Now ask students to pick up “1” issue that they feel most passionately about 	
1-2-4 Share	35	<p>This will enable students to pick the top issues that they care about as a group →</p> <ul style="list-style-type: none"> - The number represents the number of people who are writing down and sharing the community issues. So, during sticky storm, we already did “1” - “2” - invite the participants to find a partner and share their community challenges. <ul style="list-style-type: none"> - Allow 3 minutes for discussion - Narrow down to a combined list to 1 issue per pair - “4” - invite all the pairs to find another pair to form a group of 4 people, share their community challenges <ul style="list-style-type: none"> - Allow 5 minutes for discussion - Again narrow down to 1 issue - Write -- have each group write down the the issues that they have decided on A4 paper. One issue per paper. Include descriptions so others know what the issue is about. Students should think about how this issue relates to a global goal - Share -- have each group go around and share their #1 issue <p><i>(All students can make a big map of issues to share them with other schools participating in the Breaking the cycle: Education)</i></p>	
Project Group Formation	10	<p>Now based on the key issues that have been discussed - ask students to go to the issues that they most care about. In any team allow for maximum 4 people, if there are 5 people ask to split into two groups of threes.</p>	

BLOCK 3: Exploring and Introduction to Design Thinking			TIME: 120 Mins
<p>INTENTION: To help the new teams adopt a designer’s mindset and practice the entire design process as they complete their first design challenge. This is also a good way to practice presenting and giving and receiving project feedback.</p> <p>GUIDING QUESTIONS: What is Design Thinking? Why and how is it human centred?</p>			
ACTIVITY	TIME	PURPOSE/STRUCTURE	MATERIALS REQUIRED
Intro to Human-Centered Design	10	<p>Purpose: Expose participants to the Human-Centered Design framework in order to prepare them for the Wallet Design activity</p> <ol style="list-style-type: none"> 1. Show introduction video 2. Explain the Human-Centered Design Framework 3. Tell participants we will now do an exercise that takes them through a process 	<p>https://www.youtube.com/watch?v=a7sEoEvT8l8</p> <p>Flipchart with the Design Thinking Process steps</p>
Wallet Design Project	80	<p>Purpose: Experience the design process quickly and recognize the importance for talking to the people who are affected by the problem and who we are designing for. collaborators. The Wallet Project is an immersive activity meant to give participants a full cycle through the design thinking process in as short a time as possible. The project itself gives teachers the opportunity to touch on the fundamental values of the design thinking – human-centered, a bias towards action, and a culture of iteration and rapid prototyping— without attempting to communicate all of the methods and activities that the term “design thinking” encompasses. Follow Facilitation Guide and print out copies of Participant Guide for each of the students</p>	<p>Facilitator Guide (1)</p> <p>Participant Guide (1 for each student)</p>
Reflect back to Kate Leeming’s adventures	30	<p>As an explorer, can you think about how Kate would be designing her adventure of cycling across Antarctica. In pairs of 2, can you brainstorm about the challenges that she’d need to solve for? Examples - food, bicycle design, funds for the project, etc. What questions do you still have?</p> <p>Make a list as a class and get them to Dr Kate for her inputs and ideas!</p> <p><i>(Students can share the list on Breaking the cycle: education website and ask for Dr Kate to respond to some of the big ones!)</i></p>	<p>Flipcharts</p> <p>Markers</p>

BLOCK 4: Design Thinking - Empathise			TIME: 150 Mins
<p>INTENTION: Participants will share challenges that they are working on and start to develop a deeper understanding of these problems with problem trees and stakeholder maps. In their projects groups around a problem, students will develop interview questions and work on strategies for their needs assessment.</p> <p>GUIDING QUESTIONS: How can we understand the roots of a problem? Who holds the power to affect a problem? How do we ask “good” questions? What can we learn from our community?</p>			
ACTIVITY	TIME	PURPOSE/STRUCTURE	MATERIALS REQUIRED
Problem Tree	60	<p>Purpose: Begin exploring one problem in the community deeper, explore potential causes and consequences, discover what we don’t know and assumptions that need to be tested.</p> <p>Step 1: Help students do this with a simple example. Begin at the center of the tree with the problem.</p> <ul style="list-style-type: none"> • Problem: The issue that is being examined. Because it is not as obvious as the effects, the core problem sometimes takes longer to identify. • Roots: Causes. Prompt exploration of causes by asking, “WHY does the problem exist?” Encourage participants to think about the “causes of causes” – the multiple layers of factors that contribute to a problem. • Leaves: Consequences. As with causes, encourage participants to explore “consequences of consequences.” At first, this part of the issue may seem easy to solve, but without addressing the root cause, only addressing the consequences is like trimming leaves and branches—they grow back quickly. Participants should always ask: “then what happens?” The more participants drill into the effects, the more they will deepen their critical thinking and analysis <p>Step 2: After you have led students in a sample, ask them to take the next 20 minutes to create their own problem trees.</p> <p>Step 3: Do a big group share at the end, with each group receiving 3 minutes to share their trees.</p>	<p>Flipcharts Markers</p>  <p>https://cdn.we.org/wp-content/uploads/2016/05/P-art-1-Activity_ProblemTree_May271.pdf</p>

		<i>(Students can take a photo with their problem trees and share them on Breaking the cycle: education website)</i>	
Stakeholder Map	30	<p>Purpose: Teams consider who might be affected by their future community impact projects so they can prioritize who they need to talk to during the needs assessment.</p> <ol style="list-style-type: none"> List stakeholders using these prompts: <ol style="list-style-type: none"> Who is affected by this issue? Who is already working on this issue? Who has the ability to make decisions that could affect this issue? Who could help with this issue? Who is making it difficult to address this issue? Create a map of these people by writing the challenge or issue in a circle in the center and draw lines out to each stakeholder to show how they are connected to the issue. Use a tool to prioritize which stakeholders are most important to contact - example an influence versus interest matrix This can this be used to decide who to talk during the design process <p>Step 1: Help students do this with a simple example. Begin at the center of the problem.</p> <p>Step 2: After you have led students in a sample, ask them to take the next 15 minutes to create their own stakeholder maps.</p> <p>Step 3: Do a big group share at the end, with each group receiving 3 minutes to share their maps.</p> <p><i>(Students can take a photo with their stakeholder maps and share them on Breaking the cycle: education website)</i></p>	<p>Flipcharts Markers</p> <p>Example Map</p>  <p>The diagram shows a central circle labeled 'Students dropping out of school'. Lines connect this central circle to six surrounding boxes, each containing a list of stakeholders:</p> <ul style="list-style-type: none"> Top Left: Village Chief, Community Chief, Business leaders Top Right: School Offices, Principal, Head Teacher, Teachers, Teacher's Aide Bottom Left: NGOs, Researchers or schools of education, Menus, Social Workers Bottom Right: Students who are successful in school, Struggling students, People who have dropped out, Parents of drop-outs, Parents of students who haven't dropped out
Interview Questions	30	<p>Now that you know who to talk to, in the groups design questions that you can ask you stakeholders. This is the Empathy step in Design Thinking - "The whole project is based on the challenges the school/community faces, the needs assessment is a chance to explore the root causes of the challenges. If you find what you're really</p>	

		<p>interested in is changing as you conduct interviews and connect with community members, that is OK. This means gaining insights and new information. This is design thinking.”</p> <p>Step 1: Create a List of People (following from the Stakeholder Mapping - Choose two important stakeholders)</p> <p>Step 2: Make questions for each people identified - Think about these interview tips -</p> <ul style="list-style-type: none"> • Ask why and encourage stories • Be specific- “Tell me about the last time you...” • Look for inconsistencies in their stories • Pay attention to nonverbal cues • Allow for silence • Don’t suggest answers to your questions • Ask open and neutral questions • Make questions short • Ask one question at a time • Be prepared to record answers (ask for permission) • Manage sensitive information 	
Interview Practice	30	<ul style="list-style-type: none"> - Teachers can introduce open and closed questions <p>Ask students to do some role play activities in their groups so as to practice their interview skills</p> <ul style="list-style-type: none"> - Bad/Good Interview role play - Ask open ended questions - Ask closed questions 	

BLOCK 5: Design Thinking - Empathise and Define			TIME: Interview+ 90 Mins
<p>INTENTION: Student groups will go out into their community to gather information about needs that affect the school community or their neighbourhood. The information gathered will be used to design problem statements and proposals for their impact projects.</p> <p>GUIDING QUESTIONS: What can we learn from our community? What is the problem that we need to solve? What is the difference between insights and observations?</p>			
ACTIVITY	TIME	PURPOSE/STRUCTURE	MATERIALS REQUIRED
Conduct Needs Assessment	As much time as groups need	Students go out in the school and interview key stakeholders - Remember to ask them to take notes, record conversations, and bring back their ideas and suggestions You can also ask students to do some of the interviews as homework if possible/required	Recorder <i>(if needed)</i> A4 paper Pens
Debrief in teams	10	Students organise their notes and get on the same page in their teams about the feedback they have received on the problem from all their different interviews	Flipcharts Markers
Introduction to Revising Problem Statement	20	Step 1: Moving from Observations to Insights (https://www.coursera.org/learn/leadership-design-innovation/lecture/Yjlos/observations-to-insights) Step 2: Generating How Might We (HMW) Questions from Insights (https://www.coursera.org/learn/leadership-design-innovation/lecture/JMRYd/generating-how-might-we-hmw-questions-from-insights) Use Dr Kate Leeming as an example for how she might have redefined the problem based on her different expeditions. What would change?	Videos and Projector
Organize Learning from Needs Assessment	60	Students organize learnings from their needs assessment day on a flip chart -- insights and HMW Questions <i>(Teachers can share the big “How Might We” Questions on Breaking the cycle: education website)</i>	Flipcharts, Markers Resource for students - http://crowdresearch.stanford.edu/w/img_auth.php/f/ff/How_might_we.pdf

BLOCK 6: Design Thinking - Ideation			TIME: 60 Mins
<p>INTENTION: Teams begin to think about crazy ideas that might help solve their big, hairy problems. Encourage students to be create, innovative, and challenge the norms.</p> <p>GUIDING QUESTIONS: How might we solve these big, hairy challenges? What gets our creativity flowing?</p>			
ACTIVITY	TIME	PURPOSE/STRUCTURE	MATERIALS REQUIRED
Yes, BUT... vs. Yes, AND	15	<p>Enable students to start brainstorming without any boundaries!</p> <ul style="list-style-type: none"> • Have students form pairs or small groups (3-4) and tell them they are going to plan a trip to Antarctica (a trip, a party). The first round, every time someone proposes an idea, someone else should answer with "Yes, BUT...(reason why that is not going to work)". • On the second round, the response should be "Yes, AND... (add something that builds on the first idea)". • Debrief about the group energy and what kind of ideas came out in each round. 	
Forced Connections	15	<p>This exercise involves bringing together ideas that serve very different needs or interests to form a new concept.</p> <ul style="list-style-type: none"> • Each person writes down 2 objects on 2 sticky notes, and put it in a bag. (Example - banana, pen, bottle, chair, etc.) • In 5 minutes, ask team members to pick two items (Example: pen and bottle) and explore different ways they can be connected. (Example: A bottle should always come with a pen so that you can write your name on the bottle and declare that it's yours! This will prevent thefts.) • This technique can produce some silly results, but it's ultimately a helpful way of getting your team out of a creative rut. <p><i>(Teachers and students can share some funny forced connections on Breaking the cycle: education website)</i></p>	Sticky Notes Pens
Distribute 7	30	<p>Help students think of creative and best ideas in their project teams. Give all students the prompt - How can we solve the big problems that we are working on in</p>	Sticky Notes Pens

		<p>our groups?</p> <p>Step 1: Write down your 3+ best ideas on your own</p> <p>Reflection Questions: How will your ideas involve the whole school or community? How will it address the needs of the users? How will you use your insights?</p> <p>Step 2: In your groups</p> <ul style="list-style-type: none">• First round: After reflecting, put all your ideas in the box and pick up someone else's idea• Share that idea with a partner and together allot 7 points to the idea. Do another round. Add the points and arrange them in descending order on the ground• Pick up another idea from the box and repeat Round 1• After three rounds, take the top two points cards and discuss them in your group and finally, pick one idea that will solve the problem!	
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BLOCK 7: Design Thinking - Rapid Prototyping and Testing			TIME: 270 Mins
<p>INTENTION: Teams begin to refine their ideas into prototype solutions in a process of designing, presenting, getting feedback and redesigning</p> <p>GUIDING QUESTIONS: What do we need to change in our idea so as to make it better suited to the needs of our community? What feedback can our peers provide us?</p>			
ACTIVITY	TIME	PURPOSE/STRUCTURE	MATERIALS REQUIRED
Design Time	90	<p>Purpose: To think through the idea through their idea using SMART.</p> <p>Specific:</p> <ul style="list-style-type: none"> • What do I want to accomplish? • Why is this goal important? • Who is involved? • Where is it located? • Which resources or limits are involved? <p>Measurable:</p> <ul style="list-style-type: none"> • How much? • How many? • How will I know when it is accomplished? <p>Achievable:</p> <ul style="list-style-type: none"> • How can I accomplish this goal? • How realistic is the goal, based on other constraints, such as financial factors? <p>Relevant:</p> <ul style="list-style-type: none"> • Does this seem worthwhile? • Is this the right time? • Does this match our other efforts/needs? • Am I the right person to reach this goal? <p>Timely:</p> <ul style="list-style-type: none"> • When? • What can I do six months from now? • What can I do six weeks from now? • What can I do today? <p>Students then fill out -</p>	<p>Markers</p> <p>Flipcharts</p> <p>Pens</p>

		<ul style="list-style-type: none"> • Project Name: • Team Members: • Short summary of project: • Needs: • Project Objectives: • Project Plan and Timeline: • Budget: 	
Solicit Community Feedback	60	Each team contact their stakeholders again regarding their rough solution and revise their project based on feedback	
Re-Design Time	60	<p>Students revise projects and consider possible solutions after the community has given input - Where do we need to focus our energy now? What needs to be done for a successful project?</p> <p>Encourage students to actually BUILD something that will help them showcase their idea to the community</p> <p><i>(Teachers can share student prototypes on Breaking the cycle: education website)</i></p>	
Marketplace	60	<p>Purpose: To provide participants with another opportunity to practice pitching their ideas to the community to improve their solution and presentation</p> <p>Groups set up “stalls” in the “marketplace.” Each group has 2 people who stay at their station and tell others about their project. Everyone else walks around, visits different projects, ask questions, and give feedback.</p> <p>Halfway through, have 2 other people from each group to stay so that the 2 people who were staying in the group can now go around and look at different projects.</p>	<p>Flipcharts Sticky Notes Markers</p>

BLOCK 8: Design Thinking - Final Prototyping and Testing			TIME: 240 Mins
<p>INTENTION: Teams finalise their solutions and present it to the class GUIDING QUESTIONS: What have we learnt from the process? What feedback can our peers provide us?</p>			
ACTIVITY	TIME	PURPOSE/STRUCTURE	MATERIALS REQUIRED
Design Time	90	Final revisions to project plans and prototypes	
Presentations	120	<p>Purpose: To share the prototype solutions with the community and pitch their projects to the panel.</p> <p>Each group will have 10 minutes to present their proposed solutions and there will be 10 minutes of questions from the audience</p> <p><i>(Teachers can video the presentations and share them on Breaking the cycle: education website)</i></p>	
Reflect on the Project	30	<p>What skills have we learnt from the design process and from Dr Kate Leeming? What are we still curious about? What else can we do to learn more about Global Issues? What actions can we take?</p> <p><i>(Teachers can share student reflections on Breaking the cycle: education website)</i></p>	