Teacher's Handbook

UPSHIFT

powered by UNISOLVE

Transforming Schools Into Places Of Creativity And Innovation

A practical guide to implementing the unisolve curriculum in schools.

What is UPSHIFT?

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We are living in a fast changing world. Rapid technological advancements may have made our lives relatively easier, yet a multitude of problems persist around us, in our communities.

Every century has a story to tell. And every century brings with it some challenges that demand our collective attention. For hundreds of years, basic education had been a privilege. Today, even as many nations around the world are still busy grappling to provide basic access to education to its citizens, it has become increasingly clear that our children are not supported enough to take on the world of tomorrow.

Our focus can no longer be limited to achieving literacy and numeracy milestones. Roughly, seven years ago in the year 2015, the United Nations set up the Sustainable Development Goals [SDGs] that are intended to be achieved by the year 2030. Of them, SDG 4: Quality Education, focusses on imparting skills that are relevant to the demands of the contemporary world.

The aim of UNISOLVE, a digital learning platform, is to help children grow in to self-sufficient and highly employable individuals with knowledge and skills that are practical and relevant.

How does UPSHIFT work?

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UNISOLVE is an online digital platform where students can enrol as a team and learn the critical skills required to take on the social challenges of tomorrow.
As a part of this program, students between the age groups of 10-15 years have an opportunity to learn, through a self-paced interactive online curriculum, skills such as ***critical thinking, creative problem-solving and design thinking***. They are also encouraged to put this newly acquired knowledge into practice to benefit the surrounding community around them

Students, while being supported by a teacher, will identify problems in their immediate surroundings/ larger communities and apply different problem-solving techniques such as ***research, idea brainstorming, prototyping*** and other ***design thinking*** methodologies to identify and solve problems in their communities. The best of the ideas submitted will have an opportunity for further mentorship and financial support to implement it on a larger scale.

The **PROBLEM-SOLVING JOURNEY** that the students partake in as a part of the course, in addition to self-confidence, will instil in them the skills that enable them to be the **change-makers of tomorrow**.

What problems will students solve?

The United Nations, in the year 2015, have set up 17 ambitious goals that strive for sustainable development. All of these goals, called the ***Sustainable Development Goals or SDGs*** aim for a greener, healthier, equal and more peaceful development of our planet.

Achieving these goals calls for a greater awareness about them and participation of a wide rage of audience, from students in schools to politicians and people in power at all levels.

Through the course modules in *UNISOLVE*, students will be sensitized to the 17 SDGs (goals). Then, they will be encouraged to work towards a goal of their choice in their communities.

Let us once look at what the 17 SDGs are

Sustainable Development goals

Objective: End Poverty in all forms everywhere.

Brief Description: Many people around us are poor and do not have enough money for education, health care, house or even food.

Objective: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture

Brief Description: Along with poverty, events such as floods, extreme heat that are becoming more often which is leading to lesser availability of food for people all over.

Sustainable Development goals

Objective: Ensure healthy lives and promote well-being for all at all ages

Brief Description: Lack of awareness of diseases, availability of timely treatment, medicines, and good hygiene practices is increasing the risk of death.

Objective: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Brief Description: Many children are out-of school and there is a lack of facilities in the schools for children to get the best quality education. This is leading to many educated people to end up without jobs.

Objective: Achieve gender equality and empower all women and girls

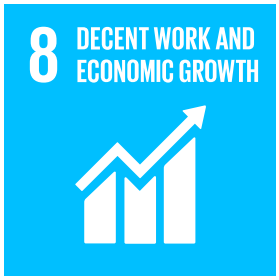
Brief Description: Boys and girls are still not treated equally in many parts of the world and the opportunities available for girls and women are far lesser than those available for men

Objective: Ensure availability and sustainable management of water and sanitation for all

Brief Description: A large percentage of people in the world do not have clean water to drink, and many water sources are contaminated with chemicals being dumped into them. This is spreading diseases at an alarming rate.

Objective: Ensure access to affordable, reliable, sustainable and modern energy for all

Brief Description: Electricity is still not available in many parts of the world, and production of electricity produces a lot of environmental waste. The world needs to use electricity carefully to avoid wastage and become aware of methods that can produce clean energy (electricity) without polluting the environment.



Objective: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Brief Description: If too many people are employed in a single industry like the wood or fishing, it causes these natural resources to be depleted faster and leave millions jobless. Hence, decent and varied job opportunities should be constantly created for the growth of both people and planet.

Sustainable Development goals

Objective: Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation

Brief Description: Countries should work towards improving access to technology for all the people and businesses. Children should be able to benefit from improved access to internet and learn new technologies to develop themselves and their communities.

Objective: Reduce income inequality within and among countries

Brief Description: There are so many differences between the rich and the poor. This gap must be reduced, and the poor and disadvantaged communities should be given the same access that the rich have to everything.

Objective: Make cities and human settlements inclusive, safe, resilient, and sustainable

Brief Description: Increasing population and unplanned development in the cities is making them unhygienic and unlivable in many ways. All these cities must be made safe, hygienic and liveable for all people.

Objective: Ensure sustainable consumption and production patterns

Brief Description: Every natural resource like wood, oil/petrol, air, soil, and water are limited on the planet. Overusing them will leave the future generations with very little or nothing of these, putting their lives in danger. People must reduce, reuse and recycle these resources whenever possible and prevent their depletion.

Objective: Take urgent action to combat climate change and its impacts by regulating emissions and promoting developments in renewable energy

Brief Description: Overuse of resources like wood, electricity, petrol, plastic is heating the planet and creating many disasters like the floods, and extreme heat and cold waves. Action must be taken to save the planet from disasters caused by the climate change.

Objective: Conserve and sustainably use the oceans, seas, and marine resources for sustainable development

Brief Description: Aquatic life below water is in danger due to human activities like over fishing and releasing of harmful chemicals and wastes like plastics in to the rivers and oceans. This could not just destroy the aquatic animals, but all those people who like by these water bodies.

Sustainable Development goals

Objective: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

Brief Description: Land belongs not just to humans but to all the animals, birds, and plants that live on it. Cutting of trees, polluting air, hunting of animals are some of the activities that are destroying the life on land. All these activities must be prevented.

Objective: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Brief Description: Violence can happen due to differences between peoples religion, culture, gender, or even age. Many people do not have access to justice in their communities. All such violence must end by strengthening the justice system in the countries and actively promoting peace in the communities.

Objective: Strengthen the means of implementation and revitalize the global partnership for sustainable development

Brief Description: People should learn more about each of the SDGs, what they can do to achieve them, spread awareness about them in their communities and collaborate by working together to achieve all the above 16 goals.

Getting closer to the **Sustainable Development Goals** involves identifying and taking small actionable steps in our communities within our capacity. Each one of us have the capacity to contribute towards these goals, including children.

All that our children need is the **awareness** of this need, **tools** that inculcate in them the **skills** to meaningfully engage with the goals, and **mentorship** to motivate them to work towards the goals.

As children participate in this problem-solving journey, it will open for them a unique view of the world around. And as they engage with the world around, that will build in them more awareness of the self and inform them of the things they might want to do or contribute towards to, in the future. That will make them both **employable** and **responsible** citizens.

Together, make it a better world

Program Schedule

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11
1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6

Teacher preparation
7 days

Module 3
10 days

Module 6
11 days

Module 1
5 days

Module 4
9 Days

Final Submission
2 Days

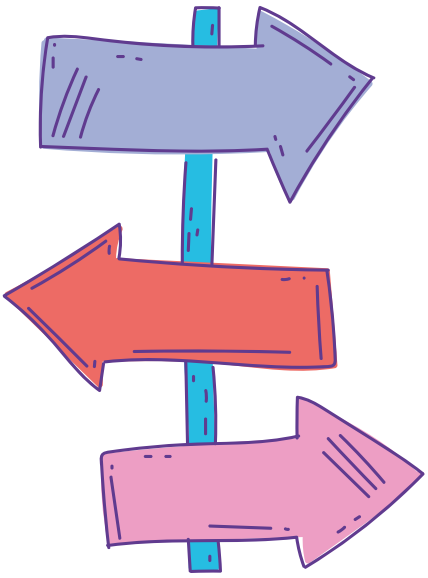
Module 2
5 days

Module 5
9 Days

Buffer Days
8 Days

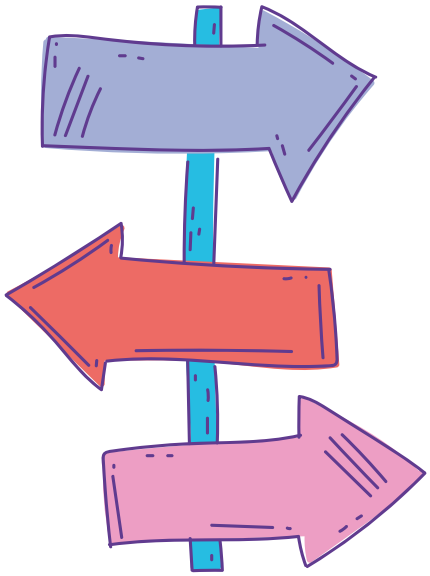
Role of a Teacher

For your students, you will be playing a dual role of:



1. A guide

2. A Mentor



As a Guide, you can help your students with the following:

- Register student teams on the portal.
- Give them an overview of the course journey on the portal.
- Track individual and team progress by following the prescribed schedules and time checks.
- Download the Additional Reading material and Worksheets to distribute them among the students/ student teams.
- Help students navigate through Additional Reading material in between the videos.
- Guide students in conducting the end of module activities by scheduling work-time within school premises.
- Help students upload all the mandatory worksheets on the portal and submit their final idea.

As a Mentor, you can help your students with the following:

- Execute Mentor Sessions given in this handbook at specified intervals.
- Conduct timely 'Check For Understanding of important concepts' at the end of every module and clear their doubts, if any.
- Accompany students in their community visits and help them get the necessary permissions from parents, school or any other authorities.
- Ensure better outcomes by reflecting on the student performance at the end of every Module

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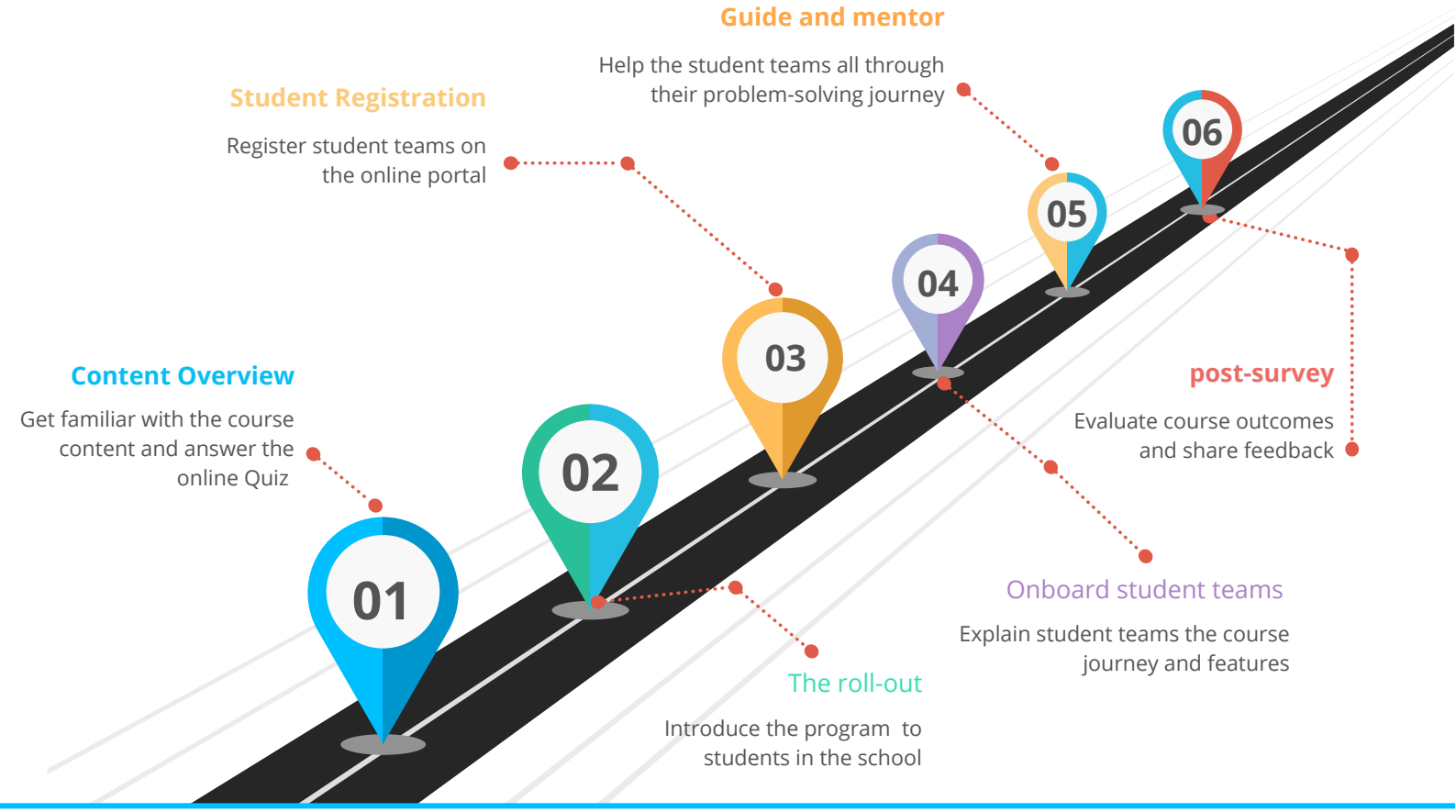
INDEX

Teacher Journey Road-map



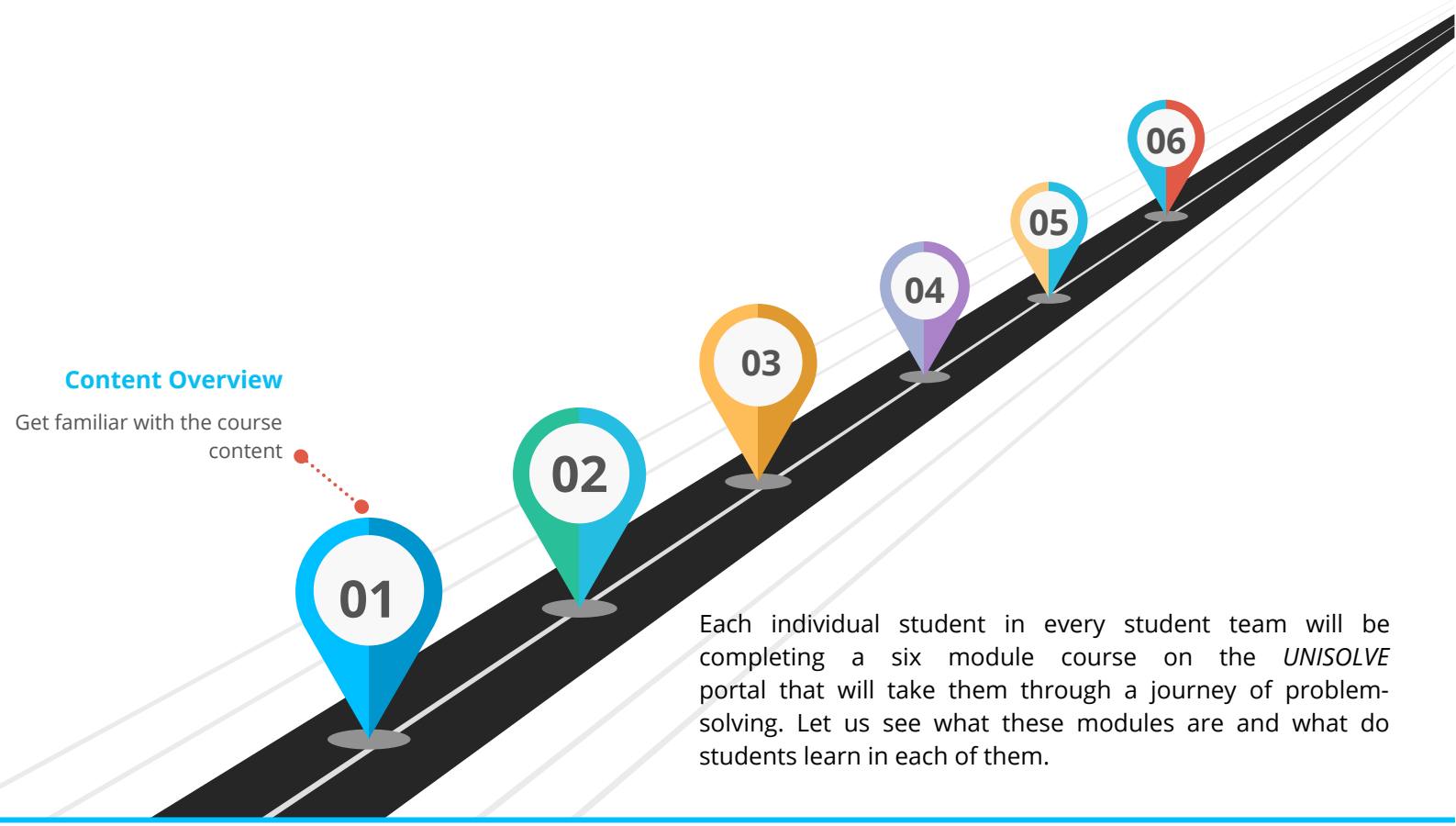
Week 1,2: Teacher Preparation

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11
1	1									
2										
3										
4										
5										
6										

Teacher Preparation includes the first 4 milestones in the Teacher-Journey:

Milestones	Days required
1. Content Overview including online quiz	- Week 1 : Day 1,2,3
2. The Roll-Out	- Week 1 : Day 4
3. Student Registration	- Week 1 : Day 5,6
4. Onboarding Student Teams	- Week 2: Day 1

Content Overview



Each individual student in every student team will be completing a six module course on the *UNISOLVE* portal that will take them through a journey of problem-solving. Let us see what these modules are and what do students learn in each of them.

Content powered by UPSHIFT

The course modules are based on UNICEF's UNISOLVE Program. UNISOLVE is a highly adaptable social innovation and social entrepreneurship programme. It combines in-person and online learning journeys, mentorship and, in some cases, seed funding, to equip adolescents and young people with the skills and resources to identify problems in their communities and opportunities to build solutions addressing them.

Young People Agency
Motivates young people by asking them to work on issues they care about the most

Human centered design curriculum
Teaches them a process and a way of thinking that seeks to solve complex problems in a user-centric way

4 Pillars

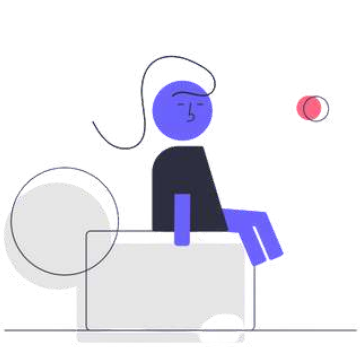
Experimental learning
PEDAGOGY & MENTORING
Not lecture-based. Students put the knowledge they gain into practice to solve a real-world problem and generate useful ideas

ENTREPRENEURIAL CHALLENGE
Apart from learning, All students have the opportunity to compete and receive seed funding and futher mentoring support to put turn their project into a reality.

The 4 pillars lead to high learning outcomes for participants, including the development of problem solving, critical thinking, creativity, collaboration, and leadership skills.

Course-modules

for students



GIVE IDEAS
Brainstorm ideas using multiple techniques to find the solution to your problem

FEEL & FIND
Apply problem finding techniques and identify problems around you

INSPIRATION
Everyone can be problem-solvers. You just have to wake up the solver in you!

ME & US
Together, we can achieve much. Solving any problem gets better when you collaborate.

EXPLORE
Learn how to get to the roots of a problem by exploring them deeper

MAKE & TEST
Prototype the final selected idea and test it with the users to gather feedback and make changes

Course components

A **team** may consist of anywhere between **2-5 students**.
While some components in the module are completed individually by each team member, others would require them to be done either both individually and/or as a team.

			Individual	Team
	VIDEOS	Every Module consists of between **2-5 videos** that trace the journey of four fictional characters who set out to solve a problem they observed in their community. Through their journey, **students learn various problem-solving techniques** that they can apply to solve a problem identified by them in their respective community/surroundings.	✓	
	REFLECTIVE QUESTIONS	Every video in all the modules end with 1-3 questions that make the viewer **reflect** on their learnings and set goals for themselves and their team. These **reflective questions** have been designed in such a way that there are no wrong answers to any of them.	✓	
	QUIZZ	Eight crucial concepts per module are picked, and the students are **quizzed** in these areas at the end of every module. In case students get an answer wrong in their first attempt, they are given an additional 2 chances per concept, after nudging them to re-cap the concept either by watching a respective video or reading an additional resource material.	✓	
	ADDITIONAL RESOURCES	A**dditional reading materials** complement the concepts taught in the videos/modules. Students can use these either at the end of watching a video, during the quiz, or while they complete the worksheets in a team. These will be provided digitally, and the teacher is expected to provide printed versions to the students.	✓	✓
	WORKSHEET	After all the students in a team, individually finish watching the videos, answering the reflective questions and the quiz in a respective module, **worksheets** are unlocked. The worksheets guide the team to apply the concepts learnt in the respective module for their community project.		✓

Note: To unlock the next module, project progress is to be reported on the portal by uploading the completed worksheets of the respective module.

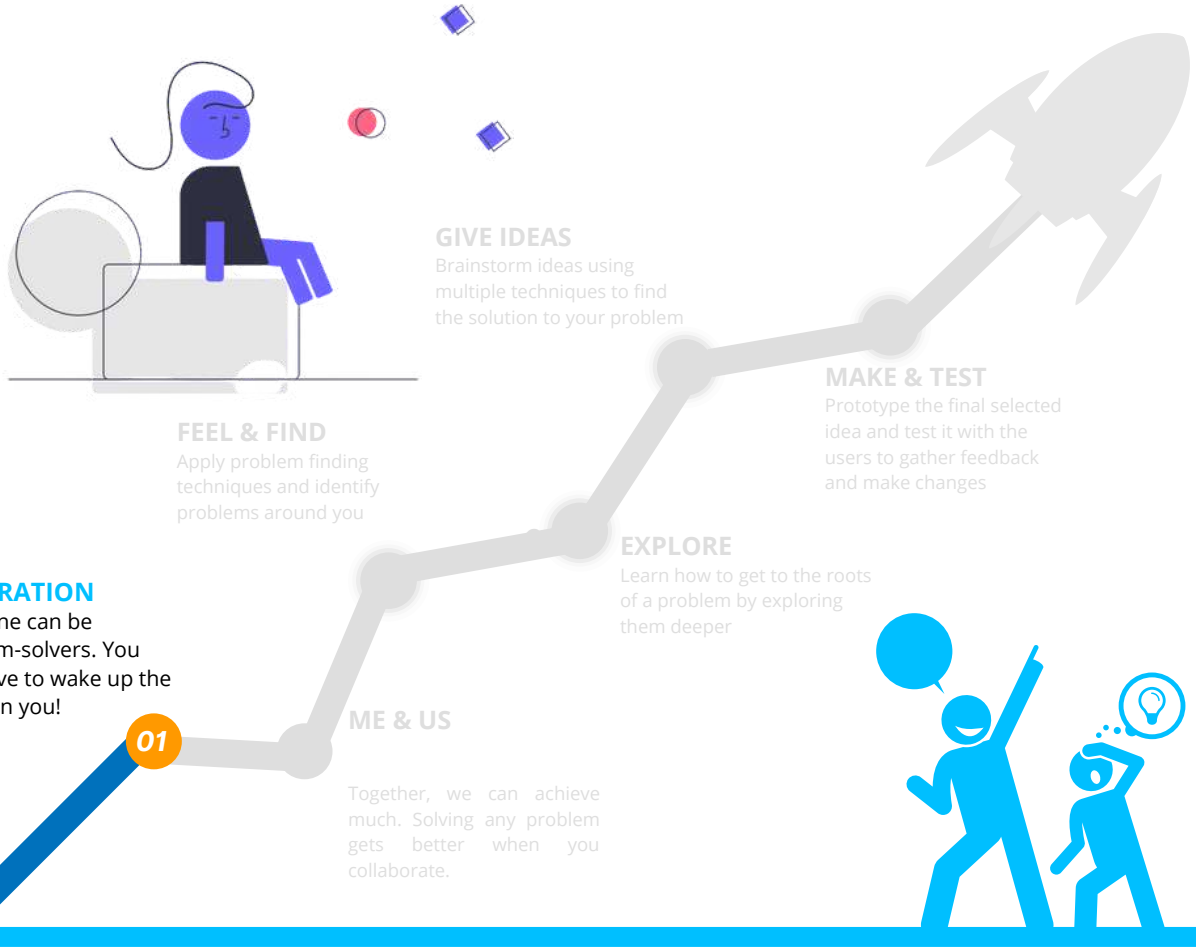
Course brief

Concepts in this course are taught through the story of four students, Sonam Dorji, Dil Maya, Dorji Tashi and Pelden Lham, who set out on a mission to solve a problem they identified in their community. They seek the help of their teacher and a mentor who is herself a social entrepreneur. The teacher and the mentor together teach them the required skills that help them solve the problem.

But what inspired them to take up this problem-solving journey?

Let us find out!

Module 1: Inspiration



STORY

It was a rainy day. The teacher steps in to his classroom full of students, but seems lost in thought for sometime before he shares with his students about how concerned he sometimes gets whenever it starts to rain heavily. He further goes on to tell his students the destruction he witnessed in the country as a result of disasters such as floods.

A group of four friends, on learning that these disasters are a result of human actions, get concerned if such things will happen more often. They visit their teacher in the staffroom later, to ask him if anything can be done about this. The teacher gets inspired by their motivation to do something and gives them examples of how small actions can make a difference and encourages them to take up such small **innovative** actions to solve problems that exist around them.

To help them understand what problems exist around, he introduces the concept of **Sustainable Development Goals (SDGs)** and asks them to identify the problems they think need attention in their community.

key-concepts

- **Innovation**
- **Sustainable development goals (SDGs)**

Module 1: Inspiration

Key-concepts

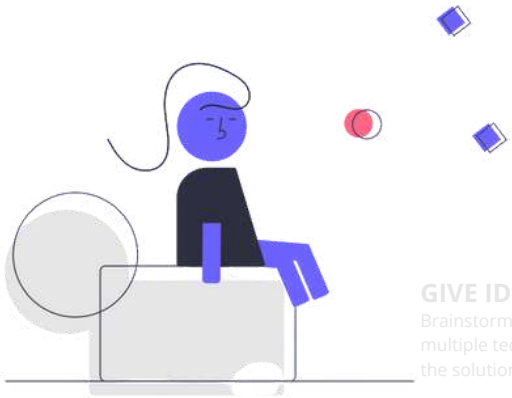
Innovation :

Any idea or solution that tries to solve the problems faced by people or planet is an innovation. When an innovation is also helpful to many people or helps the disadvantaged to lead a better life, it is called social innovation.
In this Module, social innovation is explained through the story of Basheera, who innovates a wheelchair that can rise up and rotate, thus helping to better the lives of all such differently abled people.

Sustainable Development Goals:

Our leaders around the world have identified few problems to be solved for a better society for everyone, for all individuals, communities, and societies. These Goals are called Sustainable Development Goals.
They aim to solve problems relating to hunger and poverty, lack of water, food, education, health care, and inequality in various forms and other such goals for a better world for everyone, including nature and animals

Module 2: Me & us



GIVE IDEAS
Brainstorm ideas using multiple techniques to find the solution to your problem

06
MAKE & TEST
Prototype the final selected idea and test it with the users to gather feedback and make changes

05
FEEL & FIND
Apply problem finding techniques and identify problems around you

04
EXPLORE
Learn how to get to the roots of a problem by exploring them deeper

03
INSPIRATION
Everyone can be problem-solvers. You just have to wake up the solver in you!

02
ME & US
Together, we can achieve much. Solving any problem gets better when you collaborate.

Module 2: Me & Us

STORY

The four friends study and understand the Sustainable Development Goals and realize that there are many problems in their community that need attention. They go back to their teacher, seeking his help in understanding more about what they can do about it.

The teacher gets delighted to see his four students think about problem-solving in their community and agrees to help them.

He starts off by explaining to them the importance of working together as a team to be able to solve any problem effectively. He does this by engaging them in an activity called **'The Classroom Budget'** that teaches them the advantage of thinking as a team.

The teacher then helps the students explore and understand each other's strengths that they can take advantage of together as a team, in their quest for problem-solving.

key-concepts

- **Team work**
- **Team strengths**

Module 2: Me & us

Key-concepts

Team Work:

Working together is essential for problem-solving. Everyone is good at different things, and that makes teamwork important for a stronger and better tema. When people, resources, and thoughts come together, greater things can be achieved and getting to know each other is important to work in a team.

Team Strengths:

The best qualities of team members forms the team strength. By knowing about oneself and others in the team, it is possible to bring out the best qualities while working in a team. In a team, everyone will have skills that can be focused on - while some might be good at being a leader, some might be better at coming up with ideas or listening to others or getting additional information. It is important to learn from each other while working together as a team to bring out the best strengths.

Module 3: Feel & Find

STORY

Pelden, introduces the team to her elder sister, Deki Yangzom, who is an entrepreneur working on solving the issue of plastic waste in the oceans, by collecting and repurposing the waste to make shoes out of them.The team of four students are inspired by Pelden's sister and seek her help in trying to identify problems that they can work on solving. Deki Yangzom, teaches them how to observe for problems by challenging them to think about change they would like to see around them. She calls this challenge the **'I SEE- I WISH'**.

On the request of the teacher, Deki Yangzom, who is also an alumnus of the same school that the team of four students are studying in, accepts to mentor the team in their problem-solving journey. Later, the students identify a few problems in their community with the help of other techniques taught to them by their teacher.

The students then mark the problems on a **community-map** and decide which problem to work on using a problem selection criterion known as **PEAK**.

key-concepts

- **Problem Finding Techniques**
- **Problem Selection Criterion–'PEAK'**

Module 3: Feel & Find

Key-concepts

Activity: I SEE -I WISH

I see - I wish is an activity used to find problems in our surrounding. Use 'I-See' statement to identity the problems that can be seen around us - 'What I see' and the 'I-Wish' statement to think how it would be better if the problem was not there - 'What I wish to see'. Ask the following questions alongside to identify a problem -

1. Is it wasting or polluting any resource on the planet?
2. Is it causing harm to any living being?
3. Is it creating difficulty or topping any members of the community from leading a better life?

Problem Finding Techniques:

These are techniques used to identify problems.

1. Observation - Seeing and watching for problems around you.
2. Experience - Thinking of problems experienced by self.
3. Interviewing - Talking to people to find problems faced by others.
4. Research - Reading, watching articles or other resources to find problems.
   Ex - News

Community-Map :

It is a sketch of the community, marking the various places where different problems are identified. A map of the community is made by marking all the important places such as schools, markets, roads etc and on it, the different places where different problems are identified, are marked. This also helps to understand where else a problem is faced and to visit these places to get additional information about the particular problem.

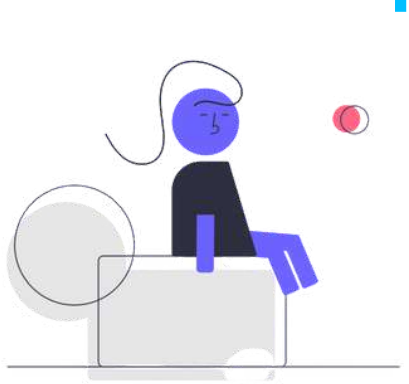
Problem Selection Criterion: peak

Peak Criteria is used to select a problem to solve from the many problems identified by rating each problem on 5 based on the following criteria. Peak stands for:

- Preference - Are all members excited about the problem?
- Effect - How badly is it affecting the people/ planet?
- Achievable - Do you feel confident about achieving a solution to the problem?
- Knowledge -How well do you know the problem?

Any of the higher scoring problems can be chosen to solve.

Module 4: Explore



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04 **EXPLORE**
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INSPIRATION
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ME & US
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STORY

The team decides to work on solving the problem of **"Textile Waste"** in their community. They visit their mentor, Deki Yangzom, at her home for guidance on what their next step can be. Deki Yangzom suggests them to identify **stakeholders** that are either contributing to the problem of textile waste or know something about it. The team takes the help of their classmates to identify the stakeholders to their problem, and their teacher helps them identify the role of each of these stakeholders by putting them on a **Stakeholder-map**.

Next, the students learn to identify how these different stakeholders interact with each other by drawing connections between them in a **Mind-map**. This helps them in applying these learnings to the **Problem-tree** and **Why's-technique** to investigate and explore the deeper causes of the problem. Once the key-causes to the problem are identified, Deki Yangzom teaches them to write a clear **problem-statement** that can guide them in generating ideas for the solution.

key-concepts

- **Stakeholder-map**
- **Mind-map**
- **Problem-tree**
- **Why's- Technique**
- **Problem-statement**

Module 4: Explore

key-concepts

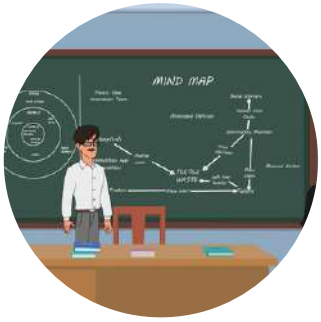
Stakeholder-Map:

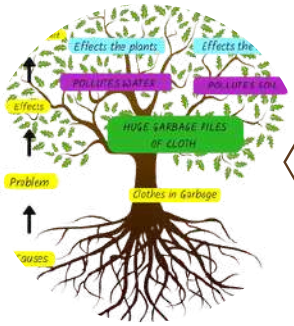
Anyone who is connected to this problem in any way is called a stakeholder. They can help us understand the problem more deeply.

- Direct Stakeholders -These are the people who directly experience the problem you have identified. They are the target group for whom we are creating the solution.
- Indirect stakeholders - They might not be the people who are directly affected by the problems, but are still connected to it.
- Other Stakeholders - These can be the other people who are either solving or are trying to solve a similar problem. They will be able to connect us to experts or people who can help us solve the problem or provide resources to support our solution.

Mind-Map:

The mind map is used to find out how the different stakeholders identified are interacting with each other in the community in relation to the problem. This can give us more in-depth understanding of the problem. A mind-map will include people, places causing the problems, affected by it or contributing to it and how they are related to each other. Understanding how stakeholders contributing to the problem and interact with each other can be useful to understand the problem.



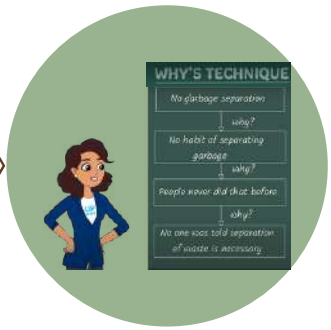


Problem-Tree:

Problem Tree helps you arrange information easily so that you can understand the information about a problem. The problem identified is the visible trunk of the tree. The leaves and fruits of the tree that are easily visible to us are the effects and long-term effect of the problem. The roots are the reason a tree survives and grows. The causes of a problem are the reason a problem grows and are represented at the roots.

Why's-technique:

Every cause identified in the Problem Tree will have more causes. You can only solve a problem by solving the Final root cause for a problem. The 'Why's technique' is used to find this Final root cause. This is done by picking any cause from the problem tree and repeatedly asking 'Why' and answering it until you reach the final cause. This can be repeated as many times as needed.

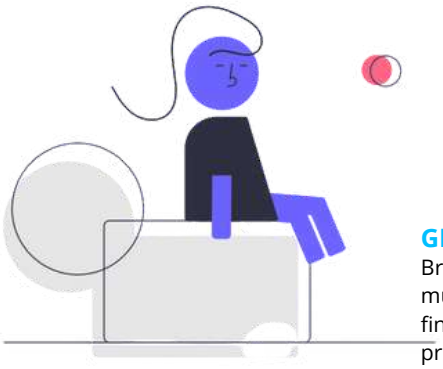


Problem-Statement :

A Problem Statement is a statement that clearly explains the problem including the current state of a problem, its root causes and effects, and what desired state you are trying to achieve with your solution. It reminds us of our goal while we are creating solutions. It can be of the following format -

"(CURRENT STATE) is a problem caused by (ROOT CAUSES). This can lead to (EFFECT), (DESIRED STATE) will help us address the problem".

Module 5: Give Ideas



GIVE IDEAS
Brainstorm ideas using multiple techniques to find the solution to your problem

05

MAKE & TEST
Prototype the final selected idea and test it with the users to gather feedback and make changes

FEEL & FIND
Apply problem finding techniques and identify problems around you

EXPLORE
Learn how to get to the roots of a problem by exploring them deeper

INSPIRATION
Everyone can be problem-solvers. You just have to wake up the solver in you!

ME & US
Together, we can achieve much. Solving any problem gets better when you collaborate.

STORY

The team is now clear about the goal their solution should be able to achieve. As always, the team sits with their mentor, Deki Yangzom, to discuss how to come up with a good solution that can achieve their goal. Deki Yangzom, ignites the **creativity** in the team by engaging them in an activity that teaches them not to be afraid of thinking different. This builds confidence in the team, who further learn about different approaches to solve a problem by judging the **type of solution** that better addresses the causes.

The students then come up with a slew of solutions after applying various **Ideation techniques** taught to them by their mentor by engaging them in different fun activities.
The team then uses a **solution selection criterion-FUSE** to pick the best ideas and shares them with their classmates and a few stakeholders to get their feedback. Finally, they improve their solution by modifying their idea based on the feedback they gather.

key-concepts

- **Creativity**
- **Types of solutions**
- **Idea generating techniques**
- **Solution selection criterion- FUSE**

Module 5: Give Ideas

key-concepts

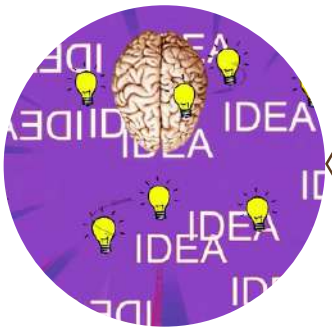
Creativity:

Best solutions come when we think differently. To be creative means thinking in new ways like never before. Ideas are the most creative when one is joyful and can think really differently and come up with many ideas. Enjoying is important because creativity happens when you are not afraid to think. So, any thinking techniques we use to solve a problem will be successful only if we can think without the fear of failure.

Types of Solutions:

Product-based solutions - Solution where you make something like a product that people can see, touch and used to solve a problem. Ex- spectacles to correct bad eyesight.

Process-based solutions - A set of clear instructions/steps for people to follow that can solve problems. Ex- boiling water to prevent typhoid, awareness drive.



Idea Generating Techniques:
These are different ways to think of different ideas.

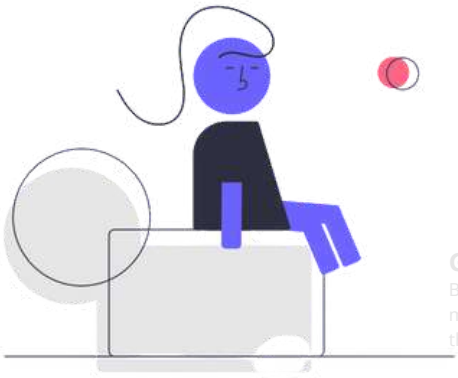
- **First Idea-Crazy Idea - Note down ideas that come first to your mind without thinking too much.**
- **Open Brainstorming - Discuss with others and improve and generate more ideas.**
- **What-If - Give a direction to think using 'What if' condition, you can get different ideas. Ex- What if the solution is a person?**
- **Role storming - Think like a stakeholder, and you might be able to think like them and find new ideas.**

Solution Selection criterion: FUSE
FUSE Criteria is used to select the best idea to solve a problem from the many ideas you find by rating them on 5 based on the following criteria. FUSE stands for:

- **Feasible - How efficiently can it be implemented? (time, cost, materials required)**
- **Useful-Will users find it useful?**
- **Sustainable - Will the solution last long or is not harmful to the environment?**
- **Effective - Is it helping achieve the goal in the problem statement?**

Any of the higher scoring ideas can be chosen as your solution.

Module 6: Make & Test



STORY

The next day, Deki Yangzom stops by the school to pick her sister, Pelden, on her way home. The team engages with Deki Yangzom in a casual conversation, which reminds Deki Yangzom of her days in school. As the conversation builds up, Deki Yangzom senses an opportunity to teach the team about an important step in the problem-solving process: **Prototyping a solution**. She narrates from her experience how missing this step proved costly for her when she was working on her solution to the problem of plastic waste. She goes on to teach them various prototyping methods, after which the team decides on a prototyping method for their testing of their idea.

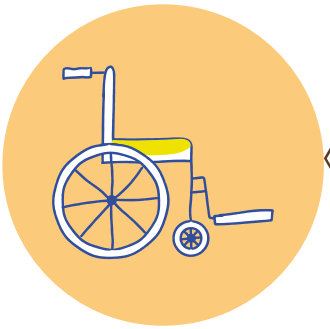
After **resourcing** for materials needed, they create a prototype which they test it with the stakeholders for their feedback before making further refinements to their final idea.Finally, the team celebrates their success by thanking their classmates and is overjoyed to learn that they have inspired a few of them to take up problem-solving in their communities.

key-concepts

- **Prototyping Methods**
- **Resourcing**

Module 6: Make & Test

key-concepts



Prototyping Method :
After Decided on a solution, it is important to make a sample design of the solution and test it with some users to get their feedback. These sample designs that help us see how a solution works are called prototypes.

1: Physical Prototype
Physical prototype is made when real materials are affordable and available. This is used when you want to test the usage and function with users like comfort, ease to handle. It can be used when prototyping can be made as per real size or function.

Prototyping Method 2: Mock-Up

In this method you use replacement materials like cardboard, clay etc as the real material are expensive or not easily available. It is helpful in showing the look, design, concept, and style of an idea to the users when it is not necessary to test usage. It can be used when prototyping cannot be made as per real size or function. (Ex - real idea may be big - design of apartments)

Prototyping Method 3: Role-Play

In Role-Play, a drama is performed in front of the people to act out the solution and to make them understand the solution. It can be used for Product as well as Process-based solutions when the steps involved in the solution need to be explained.

Prototyping Method 4: Storyboard

In storyboarding, the solution is explained to people in the form of a story in a comic book. The story shows all the actions that are a part of the process from start to end. However, it can be used for Product as well as Process-based solutions when the steps involved in the solution need to be explained.

Module 6: Make & Test

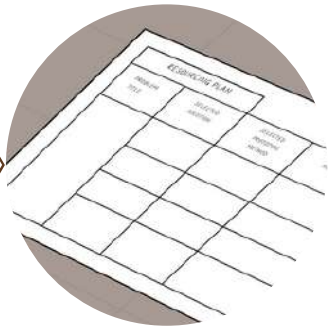
key-concepts

Prototyping Method 5: Paper prototype

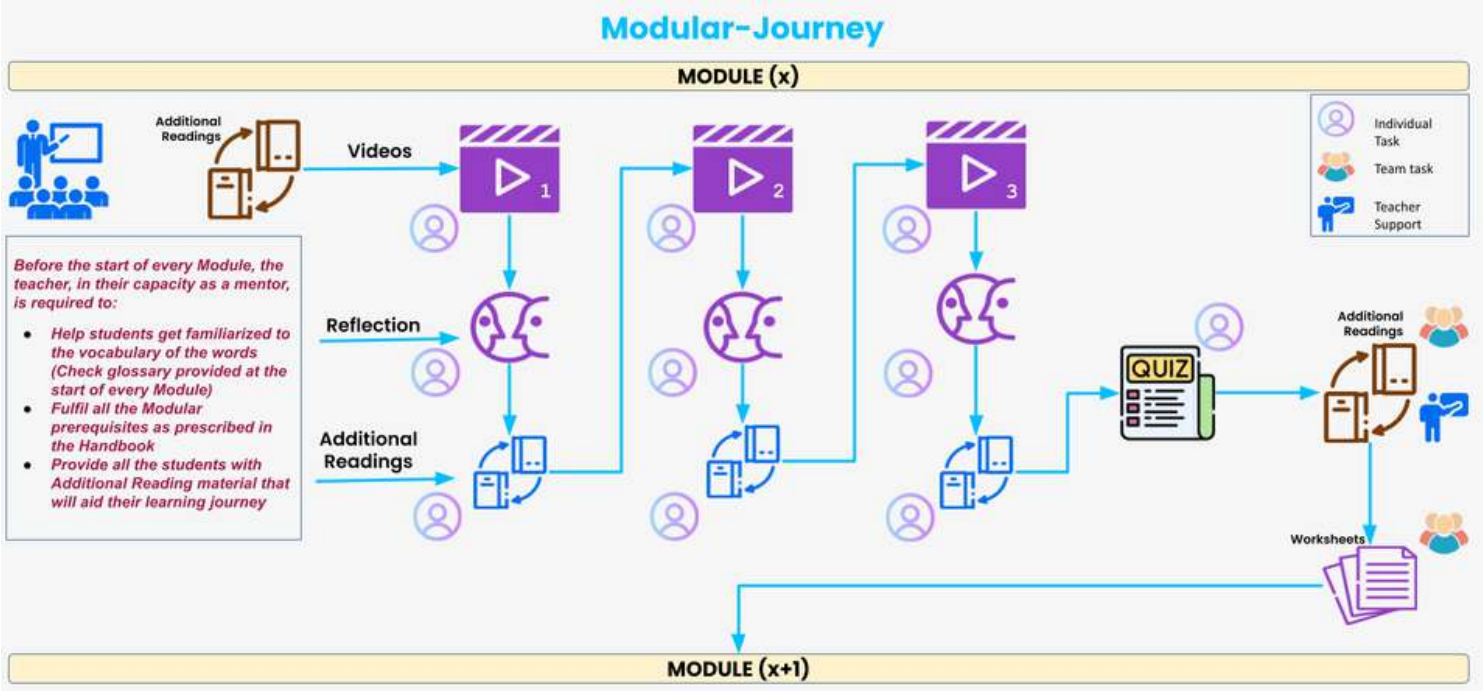
In Paper Prototype method, a drawing of the solution is made on a white paper with details and features to explain the solution. It is shown to the users to get feedback.

Resourcing:

Resourcing is the process of identifying the materials that will be required to build the prototype of the solution. It also involves identifying whose support will be needed to make it in terms of skills, permission etc. Identifying the people whose support is needed is important because good ideas sometimes fail without proper support. Resourcing helps to plan and collect things accordingly to make a prototype. It also helps to distribute responsibilities among the team.

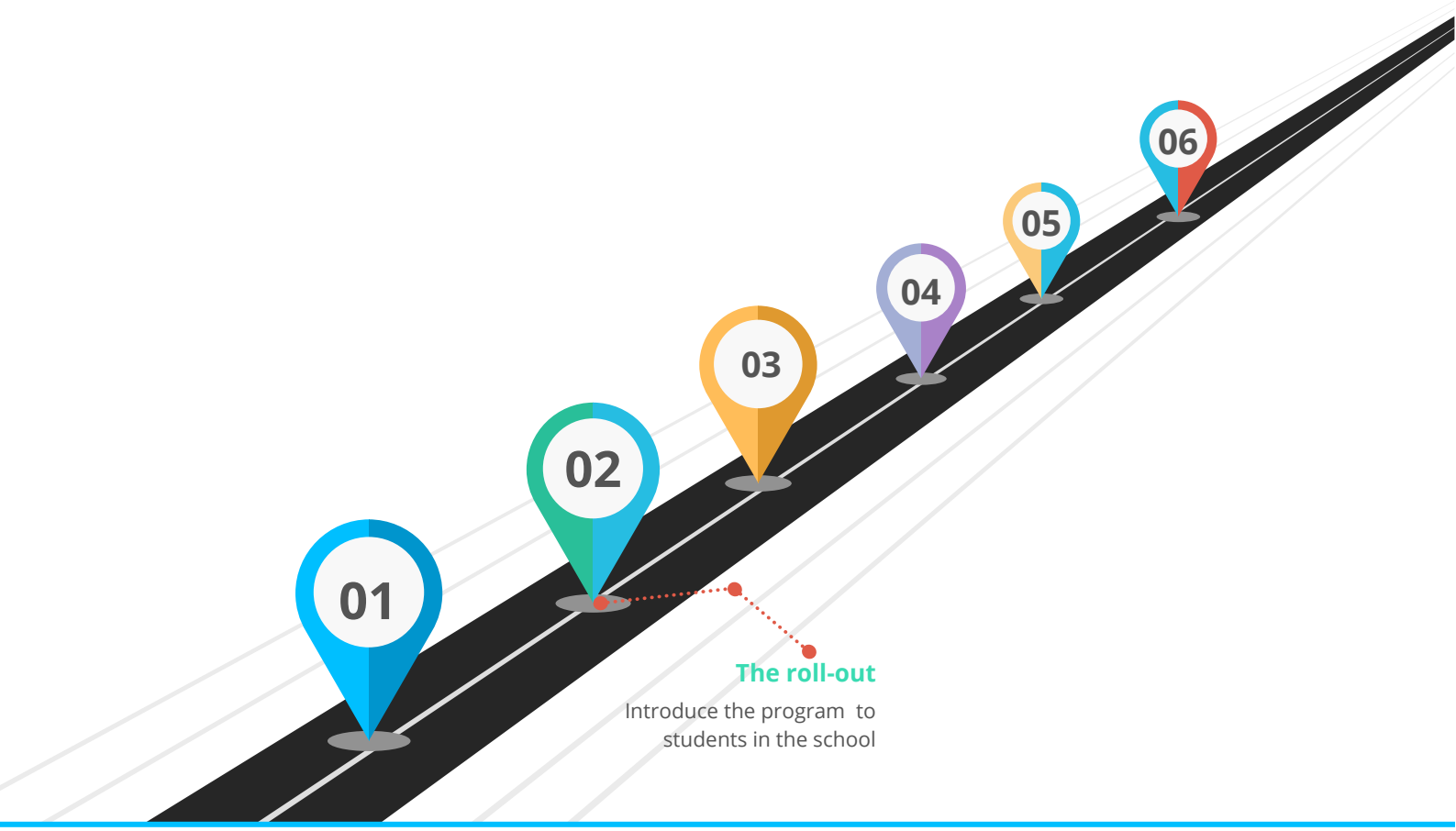


How does the course play out for Students?



- While the reflective questions are answered after each video, the other components (Quiz and Worksheets) are answered at the end of each module.
- Approximately 25% of the journey is online (videos, reflective questions, quizzes)
- Approximately 75% of the journey is offline (application of learning in the community using the worksheets)

The roll-out



Mentor Session -1

Session Name:

Introduction to problem-solving

Objective:

To inspire children to participate in the challenge

Audience:

All students in the school between Grades 6-10

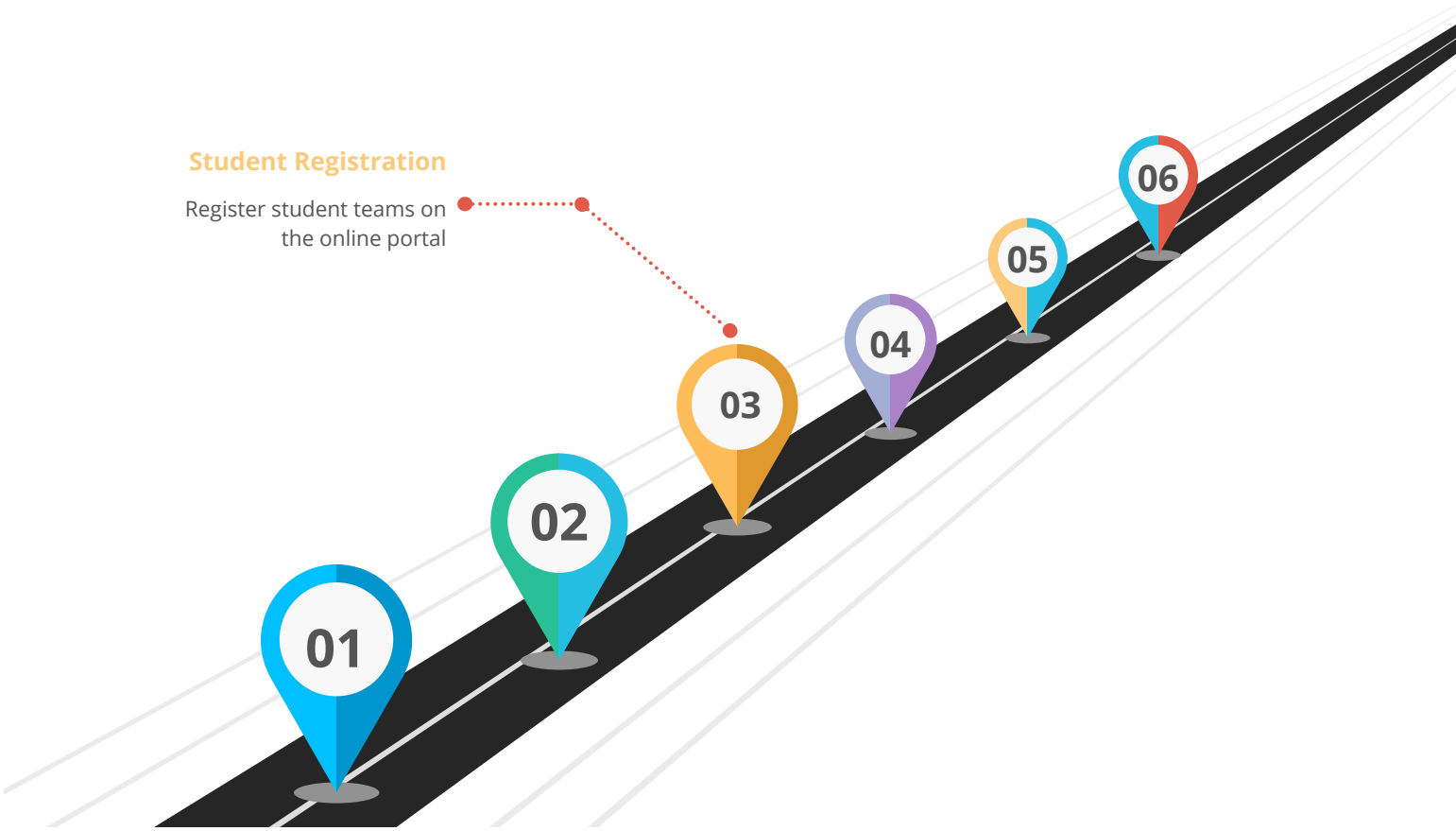
Materials Required:

Space enough to seat all the students between grades 6-10, 2-3 student volunteers to help with seating arrangements, print-outs of and "Sustainable Development Goals" given in pg 7
(1 for every 4 students)

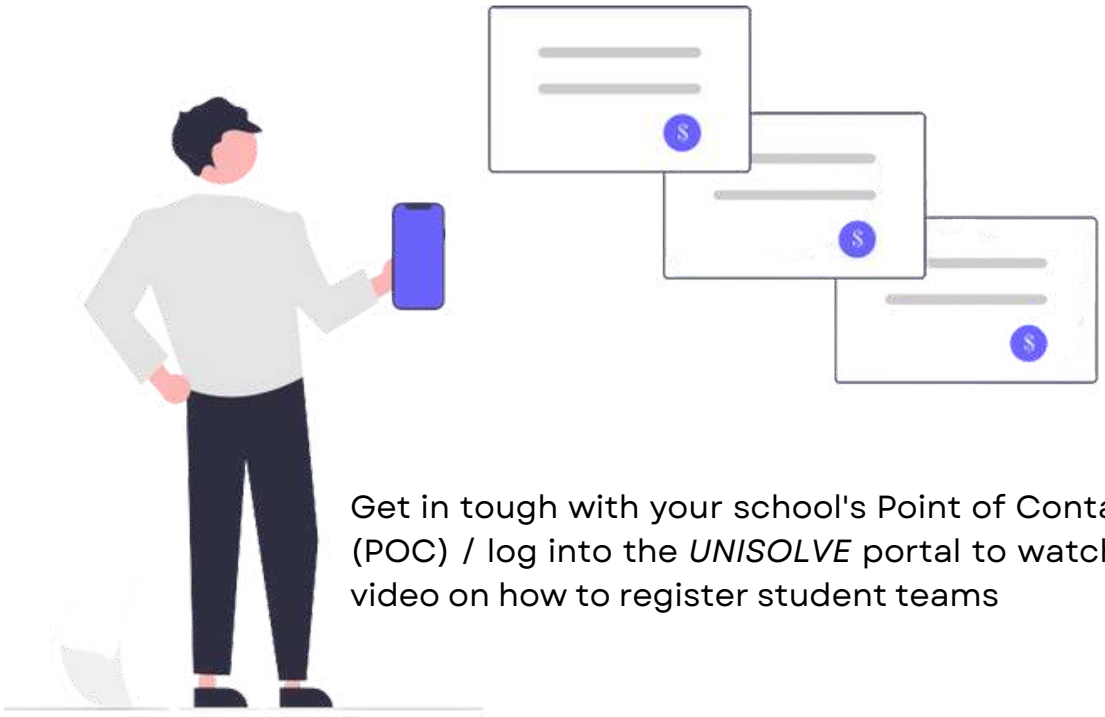
Duration	Teacher Action
1 min	Welcome students
5 min	With the help of student volunteers, seat all the students in groups of 4-5. (Students in a group need not be from the same class/ grades)
5 min	Distribute the sheet "Sustainable Development Goals" (as in Pg 7 of this book), 1 for every group of 4-5 students. Alternatively, you can also project it on the screen if a projector is available in your school.
3 min	Ask students the following question: • "What do you think is the sheet is talking about?" Take few responses and acknowledge their participation before proceeding on.
3 min	Tell the following: "Now, before we get to know about what Sustainable Development Goals are, let me ask you a question. Everyone wants to be something when they grow up. All of you have an aim or a goal and are in school today to be able to work towards it. Isn't it?" "And when you grow up to be what you always wanted to be, what kind of world would you want to live in?" Pause and take a few responses here and acknowledge their participation.
3 min	Continue in the following way: "Everybody wants to live in a peaceful and healthy world. Don't we? All our achievements can be enjoyed by us and the people in our lives only when the world we are living in is healthy and peaceful." But what does a peaceful and healthy world look like?
20 min	Ask the students to look at the sheet as you speak: "Leaders around the world have come up with 17 goals called as the sustainable development goals that are to be achieved by the world before the year 2030 to make it a better place to live in"
	Explain each of the goals very briefly as given in pages 8,9,10,11 and 12. Pause in between to ask students if they know of any problem relevant to a particular SDG that needs to be solved.
2 min	Once all the SDGs are covered, ask the students the following question: "But whose responsibility is it to make sure we are working towards these goals?" Take a few responses here and acknowledge their participation.
2 min	Now, tell the following: "It is the responsibility of each one of us. We can solve at least some of these problems in our capacity. No action is bis or small. Even a small action of reducing to use vehicles can bring down the pollution by a small level that can help the planet."

Duration	Teacher Action
10 min	"But we can do more if we thoroughly understand how we can contribute towards solving a problem. But how do we understand that?"
	Now, introduce children to the challenge. Tell them about the following things: • What is the challenge • What skills will they learn • The duration of the challenge/ time commitment required • Team composition • Registration date and timings
6 min	Buffer Time

Student registration

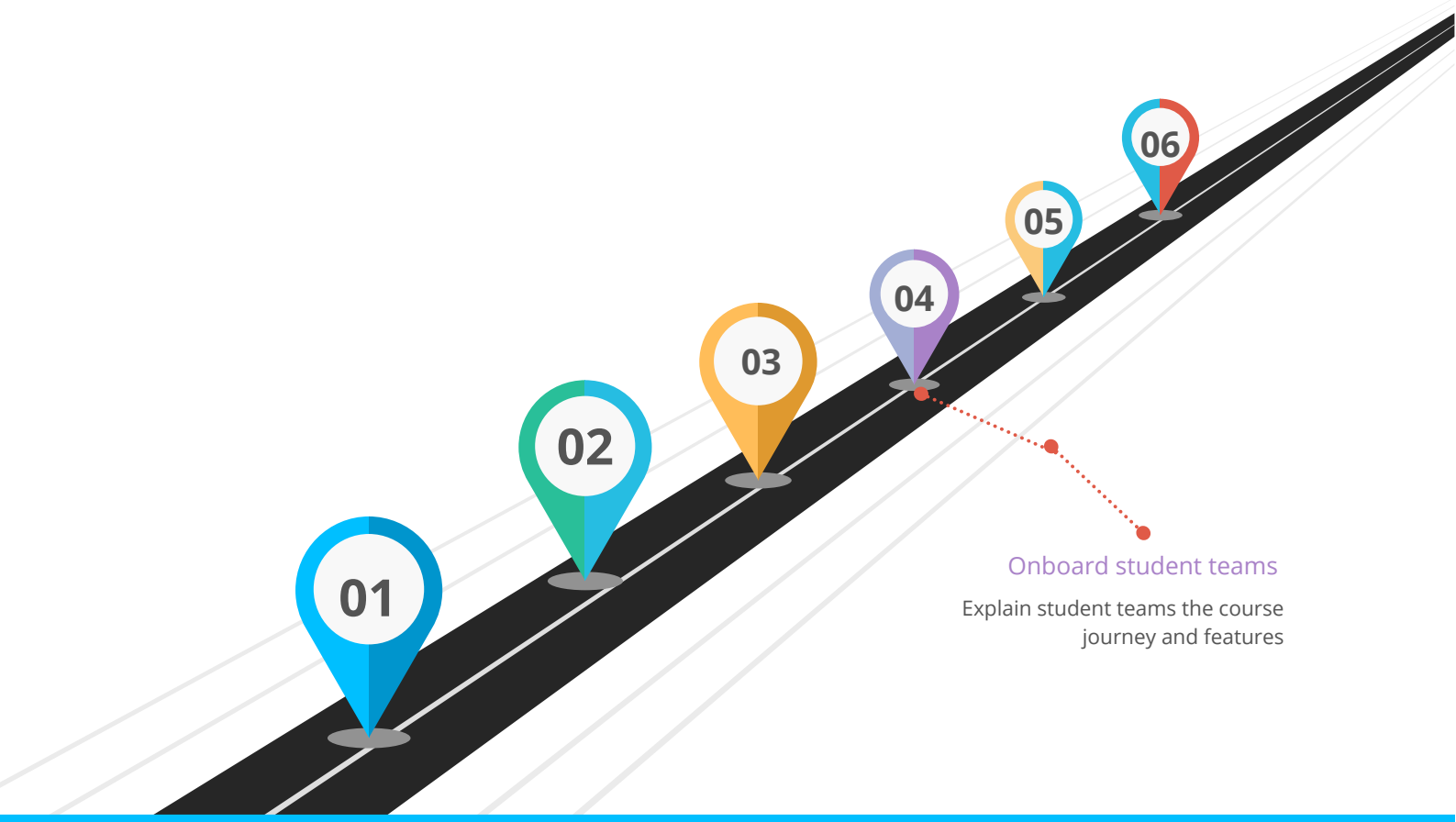


Student registration



Get in tough with your school's Point of Contact (POC) / log into the *UNISOLVE* portal to watch a video on how to register student teams

Onboard student teams



Duration: 45 Min

Mentor Session -2

Session Name:

Introduction to course elements

Objective:

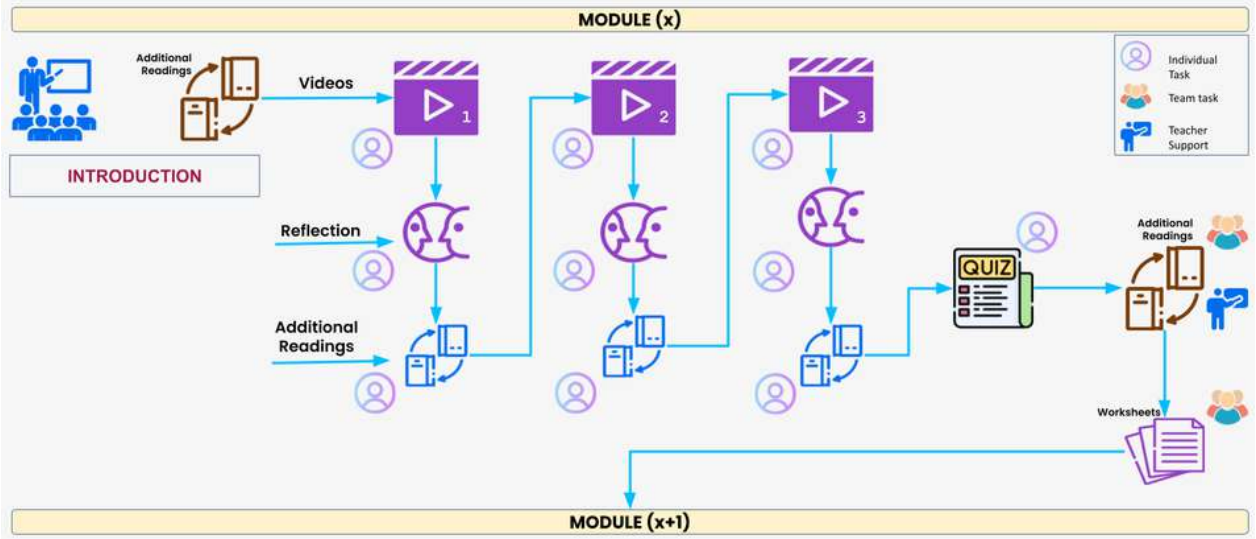
To onboard students and make them understand the course components their learning path-way.

Audience:

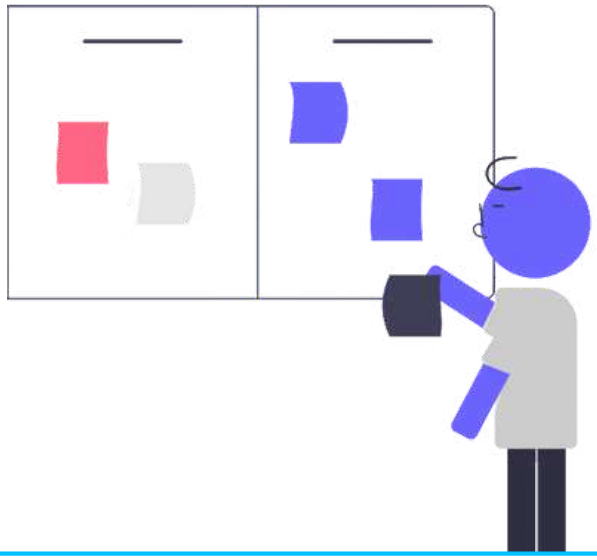
All the registered student teams

Materials Required:

Chalk/ Markers, Board, Sample Printouts of Additional Readings and Worksheet, Computer/Laptop with internet connection (For Portal Demo)

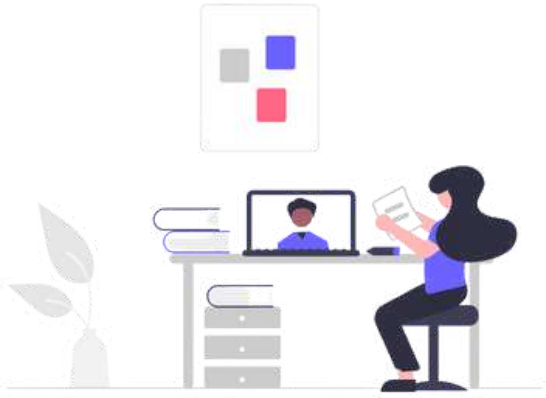
Duration	Teacher Action
1 min	Start off the session by congratulating the student teams for choosing to be a part of the Problem-Solving Journey.
5 min	Ask students, "What inspired/motivated you to be a part of the program?" Give them 1 min to think individually and another 2 min to share thoughts within their team. Encourage one member from each team to share their responses to the whole class.
9 min	Draw a rough sketch of the below student journey and explain each of the course components individually 

Introduction to Module



Time	Teacher Action
2 min	**Introduction to Module:** Every Module starts off with a brief Introduction that has the following components: • Revise the key-concepts learnt in the previous Module. • Familiarize oneself with the terminology used in the respective Module. • Sharing schedule of the respective Module, including the time limit for each component. • Distribution of Additional Reading material to be read during and after watching the videos

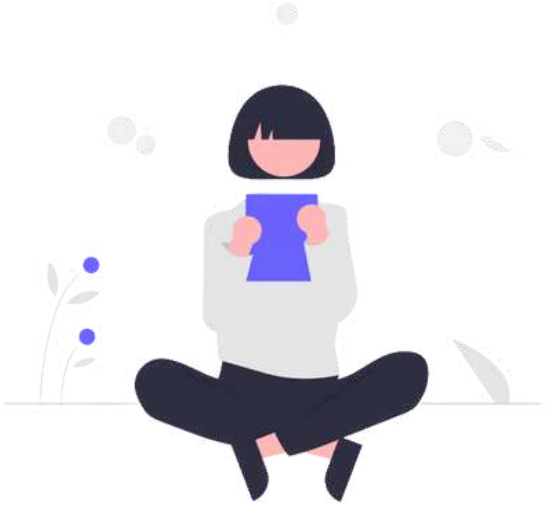
Course Module Videos



Time	Teacher Action
4 min	**Videos:** Every Module has between 4-5 videos to be watched individually by every student. Through these videos, all the skills necessary for problem-solving are taught. The videos tell the story of four students who set out to solve a problem they observed in their community. They seek the support of many people all through their journey to be able to find and implement their solution. Who are those people? What problem did they solve? How did they solve the problem? Watch the videos to know more. Also, tell your students that, everything the 4 characters do in their problem-solving journey is exactly what they will be doing to solve a problem they identified.

Duration: 45 Min

Additional readings



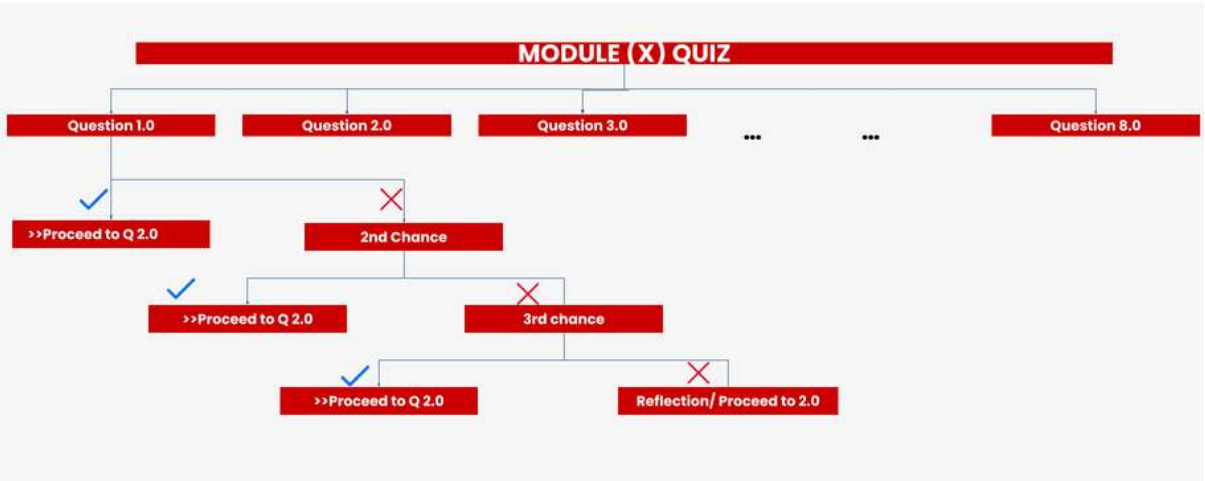
Time	Teacher Action
4 min	**Additional Readings:** These are distributed to every student at the beginning of the course module. Important concepts taught in the video are explained with more examples and other interesting information that will help learn the concepts much better. This Additional Reading material can also be used while answering the quiz and the questions in the worksheet.

Reflection questions

Time	Teacher Action
4 min	**Reflection Questions:** There are 24 videos that the students watch across the six (6) Modules. And every video ends with 1-3 reflective questions that are to be answered immediately after watching the videos. The purpose of these reflective questions is to: • Help reflect on our feelings after watching the video. • Set a goal for ourselves or our team. Every question has 4 options to choose from, and there are no right or wrong answers in them. An option is to be picked based on how/ what we fell about the question asked. Students are encouraged to discuss these reflective questions once they are back in their teams.

Duration: 45 Min

Quizzes

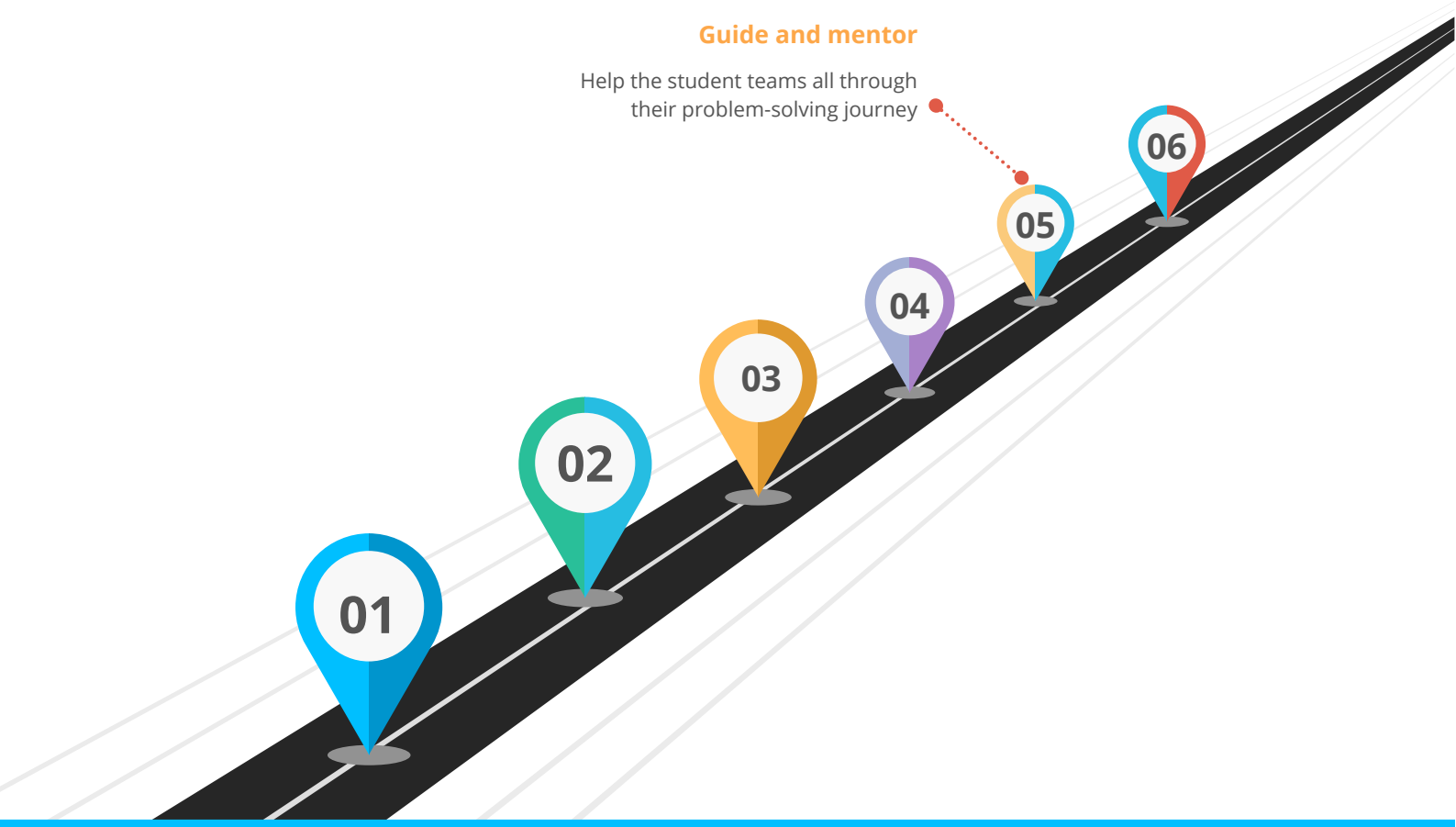
Time	Teacher Action
4 min	**Quizzes:** After all the videos in a particular module are watched, the students have to individually answer a Quiz based on the 8 important concepts/topics learnt in the respective Module. The Quiz is designed to help: • Recall and revise the 8 most important topics learnt in the respective course module. • Help understand concepts better by giving multiple chances and resources to get the answers right. The students are expected to rewatch the videos or try understanding the concepts better by going through the Additional Reading material as pointed out in the portal, whenever they answer a question wrong.
	The flow of the quiz is designed as follows:  Every time a student gets a right answer, the quiz automatically moves on to a question from the next topic. In case a student gives a wrong answer, they are nudged to rewatch or read a respective Additional Reading material about the topic, before trying to answer another question on the same topic. Every student gets 3 chances to answer a question correctly on a given topic. If a student gets the answer wrong in all the 3 attempts, they will be allowed to move on to the next topic after nudging them to reflect on their performance.

Duration: 45 Min

Worksheets

Time	Teacher Action
4 min	**Worksheets:** Worksheets are done together in a team. Only after all the students in a team complete their individual activities (watching videos, answering reflective questions and quiz), will they be able to access the worksheets on the portal. All the students are expected to spend some time reading the Additional reading material together in their teams and get their doubts clarified from their teacher before proceeding on to do the tasks in the worksheets. The worksheets are of two kinds: • Activity sheets: These are some fun activities or games that the student teams can engage in to practice some important concepts / skills needed for problem -solving. • Actual Worksheets: These are to be done in a team by applying all the concepts learnt in the module to their own problem-solving journey. The completed sheets are to submitted on the portal to unlock the next Module in the course.

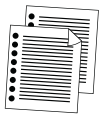
Guide and mentor



Best practices

Ensure all the students have access to a mobile or a laptop with internet connection to complete their individual tasks.

Give clear instructions to the students teams about their individual and group tasks and schedules before the start of every module.



Timely distribution of Additional reading material(printed/digital) at the beginning of every module and Worksheet after the completion of Quiz.

Conducting timely check-in as prescribed and ensuring that teams have a good hold of the concepts before proceeding on with the completion* of worksheets.

***Note:** *The teacher is not supposed to help students with the completion of worksheets. However, before the students get on to the tasks in the worksheets, they may provide support to understand the concepts better.*

Week 2- Module 1: Inspiration

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11

2

3

4

5

6

Module 1 Inspiration consists of the following components for the students to finish:

<u>Components</u>

1. 4 Learning Videos
2. Quiz
3. Additional Reading Materials
4. Worksheets

<u>Schedule for Completion</u>

- Week 2: Day 2,3
- Week 2: Day 4
- Week 2: Day 5
- Week 2: Day 5,6

After completion of Module 1, Students have a 2-day break before they proceed on with Module 2.

Glossary
Module 1: Inspiration

Ceramic:
Nature friendly material that has clay and is used to make utensils like glass.

Development :
The process of improving.

Deforestation :
Large-scale cutting of trees.

Global-Warming :
The warming up of Earth's atmosphere, leading to increase in temperature.

Glacier :
Huge natural forms of ice.

Resources :
Anything that can be of use to do something.

Sustainable (SDG):
Development that does not overuse resources.

Development (SDG):
The process of improving people's lives, planet, and communities for a better life.

Tsunami:
A huge tidal wave near beaches that can cause mas destruction.

Module 1: Inspiration

Objectives:

1. Students realize the need for **problem-solving**
2. Students understand the need to work towards the **Sustainable Development Goals**
3. Students are **inspired** to take on the problem-solving journey

prerequisites:

- Ensure all the students have a thorough understanding of the learning journey and components before they begin their Problem-Solving journey.
- Ensure all the students have access to the Additional Reading material, either through Print/ Digitally, before they begin watching the videos in the course modules.
- Every team should be given one set of printed worksheets to fill. Alternatively, the students can view the worksheet digitally and answer the questions in them in their own team notebook/ sheets.
- Prepare and discuss, with student teams, the schedule of the Module 1.

Learning Experience:

Component		Week/ Day	Teacher Support	Estimated Time Required
Videos	**1. Our Future**	**Week 2, Day 2**	After students finish watching the videos, ask students the following questions to Check For Understanding: 1. What is concerning about the future of our planet? 2. What is global warming, and What can we do to save our planet from it?	**45 min**
	2. Solver in us			
Videos	**3. Innovation For Better Life**	**Week 2, Day 3**	After students finish watching the videos, ask students the following questions to Check For Understanding: 3. What is innovation, and how does social innovation help? 4. What are SDGs, and how will you use them?	**45 min**
	4. Sustainable Development Goals			
Quiz		**Week 2, Day 4**	Make sure all the students complete the quiz individually	**30 min**
Additional Readings(ARs)		**Week 2, Day 5**	• All the student teams in the school can sit together to discuss the ARs with help from each other. • Be present in the classroom to clear the doubts the students might have and to encourage collaboration between the teams • Ask the Check For Understanding questions once again to the whole group to check if they can answer them better • Provide your explanation if the student responses are unsatisfactory	**30 min**
Worksheet		**Week 2, Day 6**	• All student teams are required to complete the worksheets within their teams. • Help students understand the questions in the worksheet if necessary, but do not help them in answering the questions. • Check for completion of worksheets and help students upload them on the portal.	**30 min**

Answers to Check For Understanding Questions

Question	Expected Student Response
1. **What is concerning about the future of our planet?**	The planet earth is facing a danger due to disasters such as extreme floods that are caused by human actions
2. What is global warming, and What can we do to save our planet from it?	Human actions such as cutting of trees and pollution are causing the globe to warm up, leading to global warming. We can all contribute in our own way by doing small actions that can help protect the plant. Ex: Not using too much plastic, reusing materials and reducing waste, Saving electricity
3. What is innovation, and how does social innovation help?	Innovation is any new idea that can help solve a problem. A social Innovation can help people lead better lives by solving problems.
4. What are SDGs, and how will you use them?	Leaders around the world have identified different problems that need to be solved for a better life for all of us. These goals are called SDGs and these help us think about what developments do our communities need.

Module 1: Teacher Rubric

Evaluate by shading the appropriate box

Criteria/ Scale	0	1	2
Comprehension • ***Are all the learning objectives of the module met?*** • ***Are all the key-concepts clearly understood by the students?*** ***Note: You can use the worksheets and the Check For Understanding responses of your students to check for comprehension***	Not met. Greater support required.	Partially met. Better support required.	Fully met. Support worked well.
Participation • ***Are all the students actively participating within a team to complete the required tasks?***	Not active. More push required.	Active but with constant push.	Active with minimal push.
On-time Completion • ***Are all the students showing up and finishing their online and offline tasks in the allotted time?***	Poorly met. More reminders required.	Well met but regular reminders were necessary.	Well met with minimal reminders.

Note: *If your response is '0' or '1' for any of the above, reach out for support and think what can you do as a mentor to improve the score going forward.*

Week 3,4- Module 2: Me & Us

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11
			1							
		3								
		4								
		5								
		6								

The teacher facilitates team building activities on Days 4 and 5

Module 2: Me & Us consists of the following components for the students to finish:

Components	Days Required
• 2 Learning Videos	- Week 3: Day 3
• Worksheets	- Week 3: Day 6,
	- Week 4: Day 1

After completion of Module 2, Students have a 2-day break before they proceed on with Module 3.

Glossary
Module 2: Me & Us

Budget :
The amount of money that can be used for expenses.

Creative :
Thinking Differently.

Feedback :
Comments and suggestions that can be used to improve something

Prototype :
A sample model of an idea that is being made.

Stationery :
Writing, drawing, other crafts items like scissors, pen etc.

Skills :
The ability to do something well.

Module 2: Me & Us

Objectives:

1. Students recognize the benefits of **working together in a team**
2. Students explore each other's **strengths**

prerequisites:

- Recap the topics learnt in the previous module by asking the student teams to discuss the following questions:

1. What actions can we do to reduce Global Warming?
2. Why is problem-solving important?
3. How is knowing about SDGs going to help us?

** Write the above questions on a board or read them out and ask the students in all teams to together discuss them. You may help the students recall the concepts if necessary.*

- *Every team should be given one set of printed worksheets to fill. Alternatively, the students can view the worksheet digitally and answer the questions in them in their own team notebook/ sheets.*
- *Prepare and discuss, with student teams, the schedule of the Module 2.*

Learning Experience:

Component		Week/ Day	Teacher Support	Estimated Time Required
Videos	**1. Our Team**	**Week 3, Day 3**	After students finish watching the videos, ask students the following questions to Check For Understanding: 1. What is the advantage of working in team? 2. What are strengths? And why is it important for you to know the strengths of your team members?	**45 min**
	2. Your Journey Ahead			
Activity	**Classroom Budget**	**Week 3, Day 4**	This is an activity the students watch in one of the videos in the module that tells the importance of working in a team. Look for the plan in Appendix (pg 63) , and facilitate the activity in the classroom below with all the student teams	**45 min**
	Stronger Together	**Week 3, Day 5**	This is an activity that will help students explore their strengths and help them understand each other better. Look for the plan in Appendix (pg 65), and facilitate the activity in the classroom below with all the student teams	**45 min**
Worksheet		**Week 3, Day 6 & Week 4, Day 1**	• Students have the following two worksheets to submit in this module. -**Worksheet 1: Dream Team Logo**. Students are required to read the introductory page and answer a fun puzzle before they complete the task of designing their team logo in the worksheet. -**Worksheet 2: Stronger Together.** This is the same activity that the teacher is required to facilitate on Week 3, Day 5. The students can fill the worksheet as a part of the activity and submit the same. • Help students understand the questions in the worksheet if necessary, but do not help them in answering the questions. • Check for completion of worksheets and help student teams upload them on the portal.	**45 min**

Answers to Check For Understanding Questions

Question	Expected Student Response
1. **What is the advantage of working in team?**	Working in a team helps think of better ideas, and it makes work easier and faster.
2. What are strengths? And why is important for you to know the strengths of your team members?	Strengths of a person are the things they are good at. Knowing about each other's strengths in a team will help the team use these strengths while working together.

Module 2: Teacher Rubric

Evaluate by shading the appropriate box

Criteria/ Scale	0	1	2
Comprehension • ***Are all the learning objectives of the module met?*** • ***Are all the key-concepts clearly understood by the students?*** ***Note: You can use the worksheets and the Check For Understanding responses of your students to check for comprehension***	Not met. Greater support required.	Partially met. Better support required.	Fully met. Support worked well.
Participation • ***Are all the students actively participating within a team to complete the required tasks?***	Not active. More push required.	Active but with constant push.	Active with minimal push.
On-time Completion • ***Are all the students showing up and finishing their online and offline tasks in the allotted time?***	Poorly met. More reminders required.	Well met but regular reminders were necessary.	Well met with minimal reminders.

Note: *If your response is '0' or '1' for any of the above, reach out for support and think what can you do as a mentor to improve the score going forward.*

Week 4,5,6- Module 3: Feel & Find

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11
				1	1					
				2						
				3						
			4	4						
			5	5						
			6	6						

Module 3: Feel & Find consists of the following components for the students to finish:

Components	Days Required
• 4 Learning Videos	- Week 4: Day 4,5
• Quiz	- Week 4: Day 6
• Additional Readings	- Week 5: Day 1,2
• Community Visits	- Week 5: Day 3,4,5
• Worksheets	- Week 5: Day 6
	Week 6: Day 1

After completion of Module 3, Students have a 2-day break before they proceed on with Module 4.

Glossary
Module 3: feel & find

F

Factors :
Different parts or components of something

M

Mentor :
Someone who can guide you while learning or doing something new.

P

People with disabilities :
People who have mental or physical differences that make it difficult for them to do certain activities

S

Shortage :
Lack of or unavailability of something

Stress :
To worry about something

Sketch :
To make a rough drawing

T

Technique :
A way of doing something

Textile :
Pieces of cloth/fabric

Module 3: Feel & Find

Objectives:

1. Students will be able to make use of **different tools and identify problems** in their communities
2. Students will be able to objectively **choose a problem that they** want to work on

prerequisites:

- Recap the topics learnt in the previous module by asking the student teams to discuss the following question:

1. What did we learn in the previous module: Me & Us about the importance of teamwork?

- *Prepare and discuss, with student teams, the schedule of the Module 3.*
- *Ensure all the students have access to the Additional Reading material, either through Print/ Digitally, before they*
- *begin watching the videos in the course modules.*
- *Every team should be given one set of printed worksheets to fill. Alternatively, the students can view the worksheet digitally and answer the questions in them in their own team notebook/ sheets.*
- Students are required to do a community visit and record their observations during the week 5: Day 3,4 & 5. Seek necessary permissions from the parents and school management for the same.

Learning Experience:

<table>
<tr><th colspan="2">Component</th><th>Week/ Day</th><th>Teacher Support</th><th>Estimated Time Required</th></tr>
<tr><td rowspan="2">Videos</td><td>1. What are problems?</td><td rowspan="2">Week 4, Day 4</td><td rowspan="2">After students finish watching the videos, ask students the following questions to Check For Understanding:
1. What are the four problem finding techniques?
2. What sources can you depend on to find a problem using Research technique?</td><td rowspan="2">45 min</td></tr>
<tr><td>2. Identifying Problems</td></tr>
<tr><td rowspan="2">Videos</td><td>3. Community Map</td><td rowspan="2">Week 4, Day 5</td><td rowspan="2">After students finish watching the videos, ask students the following questions to Check For Understanding:

3. What is a community-map, and how is it helpful??
4. How do you use PEAK criteria to choose a problem?</td><td rowspan="2">45 min</td></tr>
<tr><td>4. Choosing a problem</td></tr>
<tr><td colspan="2">Quiz</td><td>Week 4, Day 6</td><td>Make sure all the students complete the quiz individually</td><td>30 min</td></tr>
<tr><td colspan="2">Additional Readings(ARs)</td><td>Week 5, Day 1,2</td><td>• All the student teams in the school can sit together to discuss the ARs with help from each other.
• There are a total of 7 ARs. Divide them between the two days for thorough reading.
• Be present in the classroom to clear the doubts the students might have and to encourage collaboration between the teams
• Ask the Check For Understanding questions once again to the whole group to check if they can answer them better
• Provide your explanation if the student responses are unsatisfactory</td><td>30 min
+
30 min</td></tr>
<tr><td colspan="5">Worksheets</td></tr>
<tr><td colspan="5">• Help students understand the questions in the worksheet if necessary, but do not help them in answering the questions.
• Check for completion of worksheets and help student teams upload them on the portal once they are done.</td></tr>
</table>

The Blind-Mind	**Week 5, Day 3**	• Students have to spot the differences between similar images. The activity is to emphasize that • our mind is generally blind to many problems that exist around us, but when one wants to find them, they can easily begin to observe the problems around.	**10 min**
Who's That		• This activity can either be played within teams or between teams. Read the instructions on the given page and help students conduct the activity. This activity teaches students to practice asking questions while they are out talking to people on their community visit.	**15 min**
Quiet Please		• This activity nudges the students to think of their own experiences with problems they might have faced and analyse if it can be solved.	**10 min**
Investigation Report		• The student teams can individually learn how to research by finding out information about the problem given in the activity and answer the questions given in the sheet. Provide each student team access to a mobile phone/ computer with internet.	**25 min**
Community Visit	**Week 5, Day 4** **Week 5, Day 5**	• Students are required to tour their surrounding/ community to observe for problems and interview people to find the problems they are facing. • Remind the students to use the I SEE - I WISH technique they learnt in the course modules. • Once back, the student teams can record their observations on the **I SEE - I WISH** and **Field Note Template** worksheet.	**3 hrs**
Research	**Week 5, Day 6**	• Provide every student team access to Internet/ latest few newspaper editions for them to research and find if they can identify any problem that can be solved. • The students can record their Research in the **Field Note Template** worksheet	**45 min**
Community Map + Selection of Problem	**Week 6 Day 1**	• Help students recall the purpose of a community map. The students are required to draw a rough sketch of their community on the **community map*** worksheet. Look for the instructions in the worksheets on how to draw a community map and help the students understand it. **The students can show this community map to their other classmates / teachers to identify other places where these similar problems are observed.* • Finally, the students record all the problems identified on the **Problem Selection Rubric** and rate them on a fixed criterion mentioned in the rubric. One of the top scoring problems can be chosen by the team for solving. Ensure this problem is contextual and meaningful to them.	**45 min** **15 min**

Answers to Check For Understanding Questions

Question	Expected Student Response
1. **What are the four problem finding techniques?**	Observation- Look for problems using the I SEE- I WISH technique Interview-Interview people at home and in the community to understand their problems Experience-Think of our own experiences with the problems we faced Research-Read newspapers or watch news channels to look for problems
2. What sources can you depend on to find a problem using Research technique?	Newspapers, News channels on television, Internet, Books
3. What is a community-map, and how is it helpful?	A community map is a sketch of the community with all the important places and roads marked. It helps us identify and mark the different places where an observed problem might exist.
4. How do you use PEAK criteria to choose a problem?	Every problem observed is marked on a scale of 1-5 based on Preference, Effect, Achievability and Knowledge. The problem with the highest final score is selected to solve.

Module 3: Teacher Rubric

Evaluate by shading the appropriate box

Criteria/ Scale	0	1	2
Comprehension • ***Are all the learning objectives of the module met?*** • ***Are all the key-concepts clearly understood by the students?*** ***Note: You can use the worksheets and the Check For Understanding responses of your students to check for comprehension***	Not met. Greater support required.	Partially met. Better support required.	Fully met. Support worked well.
Participation • ***Are all the students actively participating within a team to complete the required tasks?***	Not active. More push required.	Active but with constant push.	Active with minimal push.
On-time Completion • ***Are all the students showing up and finishing their online and offline tasks in the allotted time?***	Poorly met. More reminders required.	Well met but regular reminders were necessary.	Well met with minimal reminders.

Note: *If your response is '0' or '1' for any of the above, reach out for support and think what can you do as a mentor to improve the score going forward.*

Week 6,7- Module 4: Explore

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11
						1				
						2				
						3				
					4	4				
					5	5				
					6	6				

Module 4: Explore consists of the following components for the students to finish:

Components	Days Required
• 4 Learning Videos	- Week 6: Day 4,5
• Quiz	- Week 6: Day 6
• Additional Readings	- Week 7: Day 1,2
• Idea Exploration	- Week 7: Day 3,4
• Worksheets	- Week 7: Day 5,6

After completion of Module 4, Students have a 1-day break before they proceed on with Module 5.

Glossary
Module 4: Explore

C — Current State :
The condition of a place right now.

I — Interact :
To talk/communicate with something or someone

O — Old Stock :
Old pieces of cloth in shops that have not yet been sold.

D — Discounts :
Selling something at lower prices.

Desired State :
The condition you wish to see in the future

L — Long-term Effect:
The things that happen as a result of something and can last a long period of time.

R — Root Cause:
The main reason for a problem

E — Explore :
To understand more about a problem

Expert : S
Someone who has great knowledge about a particular thing

M — Municipal :
The local government of a town or city.

Manufacture :
To make something in large quantity.

S — Social Workers :
People who work for the community and planet to better the lives of people.

Module 4: Explore

Objectives:

1. Students will be able to identify **different stakeholders** involved in the problem they identified
2. Students explore the problem **deeper** using various **problem exploration tools**
3. Students develop a clear **problem statement** for the problem they identified

prerequisites:

- Ask the student teams to recall the problem they finalized to work on and discuss briefly about it before proceeding on to watch the videos in the course module 4
- *Prepare and discuss, with student teams, the schedule of the Module 4.*
- *Ensure all the students have access to the Additional Reading material, either through Print/ Digitally, before they*
- *begin watching the videos in the course modules.*
- *Every team should be given one set of printed worksheets to fill. Alternatively, the students can view the worksheet digitally and answer the questions in them in their own team notebook/ sheets.*
- Students are required to do a community visit to interview the stakeholders connected to their problem, during Week 7, Day 3. Seek necessary permissions from the parents and school management for the same.

Learning Experience:

Component	Week/ Day	Teacher Support	Estimated Time Required
1. Stakeholder-Map	**Week 6, Day 4**	After students finish watching the videos, ask students the following questions to Check For Understanding: 1. Who are stakeholders and how are different stakeholders important. 2. What does a mind-map help you understand?	**45 min**
2. Mind-Map			
Videos — **3. Understanding a problem**	**Week 6, Day 5**	After students finish watching the videos, ask students the following questions to Check For Understanding: 3. How is a problem tree helpful, and How can you get to the root causes of your problem? 4. What all information should a problem statement have, and how does it help?	**45 min**
Videos — **4. Developing a problem statement**			
Quiz	**Week 6, Day 6**	Make sure all the students complete the quiz individually	**30 min**
Additional Readings(ARs)	**Week 7, Day 1,2**	• All the student teams in the school can sit together to discuss the ARs with help from each other. • There are a total of 8 ARs. Divide them between the two days for thorough reading. • Be present in the classroom to clear the doubts the students might have and to encourage collaboration between the teams • Ask the Check For Understanding questions once again to the whole group to check if they can answer them better • Provide your explanation if the student responses are unsatisfactory	**30 min** **+** **30 min**

<table>
<tr><th colspan="4">Worksheets</th></tr>
<tr><td colspan="4">• Help students understand the questions in the worksheet if necessary, but do not help them in answering the questions.
• Check for completion of worksheets and help student teams upload them on the portal once they are done.</td></tr>
<tr><td>Stakeholder-Map</td><td rowspan="2">Week 7, Day 3</td><td>• Help the students recall how community-map can help them identify stakeholders for their choosen problem. They may seek help from their peers to identify them.
• Once all the different types of stakeholders are identified, the students are required to fill them up in the Stakeholder-map worksheet.</td><td>30 min</td></tr>
<tr><td>Mind-Map</td><td>• The worksheet also includes the mind-map used in the videos. This serves as an example and can help the students understand the design of a mind-map better.
• Clarify any doubts the students may have about the mind-map before they proceed on to draw a mind-map for their problem in the respective team worksheet.
• In case the students are finding it difficult to identify connections between different stakeholders, provide them your support as a mentor.</td><td>30 min</td></tr>
<tr><td>Community Visit: Interviewing the stakeholders</td><td>Week 7, Day 4</td><td>• Remind students to follow the instructions in the AR: How to take interviews to understand your problem deeper before they design the Interview questions to ask the stakeholders.
• The student teams must prepare the questions separately for each type of stakeholder and write them down in the Interview worksheets provided. These questions will be useful to ask the stakeholders during their community visit.</td><td>15 min

2 Hrs</td></tr>
<tr><td>Problem-Tree</td><td rowspan="2">Week 7, Day 5</td><td>• Ask the students to discuss in their teams the different causes and effects of their problem using the information filled in the Mind-map and Interview worksheets.
• The student teams are then required to fill in the causes and effects in their problem-tree worksheet.</td><td>30 min</td></tr>
<tr><td>Why's-Technique</td><td>• To understand causes more deeply, encourage the students to apply the Why's technique*.

*It's worth noting that not all causes need to be investigated deeper using the why's technique. But it is worth giving a try to see if a deeper cause can be identified. In case both the mentor and students feel they already have a cause to target their solution around it, why's technique maybe skipped.</td><td>15 min</td></tr>
<tr><td>Problem-Statement</td><td>Week 7, Day 6</td><td>• Students may refer to the examples of problem statements given in the ARs.
• They are then required to formulate a problem statement for their problem by following the instructions given in the Problem-Statement worksheet.</td><td>30 min</td></tr>
</table>

Answers to Check For Understanding Questions

Question	Expected Student Response
1. Who are stakeholders and how are different stakeholders important.	Any person connected to the problem is called a stakeholder. Stakeholders are of 3 types. Direct stakeholders are people who create or face the problem directly. Indirect stakeholders are people who are not affected but might have more information about the problem, and other stakeholders are people who have solved/ solving similar such problems. Every type of stakeholder can give a different but valuable information about the problem.
2. What does a mind-map help you understand?	A mind map helps in understanding the connections between different types of stakeholders and how are they either causing the problem or getting affected by it.
3. How is a problem tree helpful, and How can you get to the root causes of your problem?	A problem tree helps in arranging all the information gathered in an easy to read and understandable format. We can get to the root causes of a problem by applying the why's technique.
4. What all information should a problem statement have, and how does it help?	A problem statement should be able to tell the current state, effect, root cause of the problem and the desired state we hope to achieve with our solution. It helps us in reminding the goal (desired state) of our solution.

Module 4: Teacher Rubric

Evaluate by shading the appropriate box

Criteria/ Scale	0	1	2
Comprehension • ***Are all the learning objectives of the module met?*** • ***Are all the key-concepts clearly understood by the students?*** ***Note: You can use the worksheets and the Check For Understanding responses of your students to check for comprehension***	Not met. Greater support required.	Partially met. Better support required.	Fully met. Support worked well.
Participation • ***Are all the students actively participating within a team to complete the required tasks?***	Not active. More push required.	Active but with constant push.	Active with minimal push.
On-time Completion • ***Are all the students showing up and finishing their online and offline tasks in the allotted time?***	Poorly met. More reminders required.	Well met but regular reminders were necessary.	Well met with minimal reminders.

Note: *If your response is '0' or '1' for any of the above, reach out for support and think what can you do as a mentor to improve the score going forward.*

Week 8,9- Module 5: Give Ideas

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11
							1	1		
							2	2		
							3	3		
							4	4		
							5			
							6			

Module 5: Give Ideas consists of the following components for the students to finish:

Components	Days Required
• 5 Learning Videos	- Week 8: Day 2,3
• Quiz	- Week 8: Day 4
• Additional Readings	- Week 8: Day 5
• Worksheets	- Week 8, Day 6 Week 9: Day 1,2,3,4

After completion of Module 5, Students have a 1-day break before they proceed on with Module 6.

Glossary
Module 4: Explore

A

Awareness :
To provide knowledge to make people understand something.

C

Customer Care :
Someone you can contact to clear technical issues in products.

Crazy :
To think very differently without limits.

Criteria :
Condition for rating something.

P

Product :
An object that is used.

Process :
A set of steps followed to do something.

Polythene :
A synthetic material that is used like plastic.

S

Storm :
A large amount or large quantity.

T

Typhoid :
A disease that spreads through bad water or food and causes fever, vomiting etc

Module 5: Give Ideas

Objectives:

1. Students will be able to think of ideas **creatively.**
2. Students will be able to effectively make use of the **brainstorming tools** and come up with a large variety of ideas.
3. Students will be able to **refine their solution** after **analysing the feedback** from their users/stakeholders.

Prerequisites:

- Ask the student teams to recall the problem statement and discuss briefly about it before proceeding on to watch the videos in the course module 5
- Prepare and discuss, with student teams, the schedule of the Module 4.
- Ensure all the students have access to the Additional Reading material, either through Print/ Digitally, before they begin watching the videos in the course modules.
- Every team should be given one set of printed worksheets to fill. Alternatively, the students can view the worksheet digitally and answer the questions in them in their own team notebook/ sheets.

Learning Experience:

<table>
<tr><th colspan="2">Component</th><th>Week/ Day</th><th>Teacher Support</th><th>Estimated Time Required</th></tr>
<tr><td rowspan="2">Videos</td><td>1. Thinking creatively and critically</td><td rowspan="2">Week 8, Day 2</td><td rowspan="2">After students finish watching the videos, ask students the following questions to Check For Understanding:
1. When can you think creatively, and why is it important to think creatively?
2. What is the difference between a product-based and process-based solution? Explain with an example.</td><td rowspan="2">45 min</td></tr>
<tr><td>2. Idea Generation: part 1</td></tr>
<tr><td rowspan="3">Videos</td><td>3. Idea generation; Part 2</td><td></td><td rowspan="3">After students finish watching the videos, ask students the following questions to Check For Understanding:

3. What is idea brainstorming? How many ideas do you have to generate for your problem statement?
4. How do you select a solution for your problem after idea brainstorming?</td><td rowspan="3">45 min</td></tr>
<tr><td>4. Selecting a solution</td><td rowspan="2">Week 8, Day 3</td></tr>
<tr><td>5. Refining a solution</td></tr>
<tr><td colspan="2">Quiz</td><td>Week 8, Day 4</td><td>Make sure all the students complete the quiz individually.</td><td>30 min</td></tr>
<tr><td colspan="2">Additional Readings(ARs)</td><td>Week 8, Day 5</td><td>• All the student teams in the school can sit together to discuss the ARs with help from each other.
• Be present in the classroom to clear the doubts the students might have and to encourage collaboration between the teams
• Ask the Check For Understanding questions once again to the whole group to check if they can answer them better
• Provide your explanation if the student responses are unsatisfactory</td><td>30 min</td></tr>
</table>

Worksheets			
• Help students understand the questions in the worksheet if necessary, but do not help them in answering the questions. • Check for completion of worksheets and help student teams upload them on the portal once they are done.			
Best from Worst (Activity)	**Week 8, Day 6**	• This activity can be played between teams or within teams. • An item is given and students have to think of making it worse first and then try to turn the worse idea into something useful. An example is given for the better understanding of the students. • There are no bad answers here. Encourage the students to think and share their ideas. This activity helps students unlock their creative potential and think freely without judgement.	**15 min**
Process vs Product(Activity)		• The students recall the difference between process and product-based solutions and answer the short quiz. These examples help students understand the difference better.	**5 min**
Brainstorming: First Idea Crazy Idea (Activity)		• There are two activities here for students to practice thinking fast. • Students are required to look at the problem statement and think of ideas quickly and note them down without judging how good or not an idea is.	**5 min + 5 min**
Brainstorming: First Idea Crazy Idea (worksheet)	**Week 8, Day 6**	• After finishing the above 3 activities, the students can now get ready to think of solutions for their selected problem • Encourage the students to think quick and share as many ideas as possible, and keep noting them down on the worksheet. • Remind students that the ideas need not be perfect and go for quantity rather than focussing on the quality of the ideas.	**15 min**
Brain Storming: Open storming (Activity)	**Week 9, Day 1**	• This activity maybe conducted between teams or within a team. • This activity starts off with an example emphasizing on the creativity of Ideas. Students can read the examples within their groups before trying out the activity themselves. • Encourage students to think creatively and keep sharing their answers continuously in a group for quick discussion among themselves before bettering the idea and finalizing it. • This activity teaches the students the importance of brainstorming together within a group.	**15 min**
Brain Storming: Open storming (Worksheet)		• The teams can now have an open brainstorming session to discuss in detail all the ideas they came up with for their chosen problem. • They can also think of new ideas as a group and note down all the ideas, in the respective worksheet, they think are worthy of trying.	**30 min**

***Brain Storming: What-if (Activity)**	***Week 9, Day 2**	• This activity maybe conducted between teams or within a team. • Through this activity, students can practice to think of different types of ideas by putting a condition.	**10 min**
***Brain Storming: What-if (Worksheet)**		• Students can try to put similar conditions, as they did in the above activity, to think of further ideas to their problem.	**20 min**
***Brain Storming: Role Storming (Activity)**		• This activity maybe conducted between teams or within a team. • Through this activity, students learn to think of a solution by putting themselves in the shoes of others.	**10 min**
***Brain Storming: Role Storming (Worksheet)**		• Ask the students to pick a few stakeholders from the stakeholder map and try to think of a solution by being in their shoes. • Encourage students to try this technique by taking the role of different stakeholders.	**20 min**
Solution Selection: FUSE Rubric	**Week 9, Day 3**	• Teams are required to rate all of their ideas on a scale of 1-5 using the criterion in the FUSE rubric and select the solution/ solutions with highest final score.	**30 min**
****Feedback & Refine**	**Week 9, Day 4**	• Once the teams have finalized their solutions, the teams can share their idea with a few stakeholders or their peers to get their feedback. • Encourage the students to note the feedback down as they talk to the stakeholders and think of the changes they may want to make to their solution before once again finalizing them.	**1 hr**

Note:

** The teacher in their capacity as a mentor can decide if they want to conduct all the 4 Brainstorming/ Ideation techniques or not. If both the mentor and students feel they have enough ideas to choose from, they may use day 2 of week 9 as a buffer day to discuss or refine their ideas. In case, students want to try out more techniques for better ideas, 'What-if' and 'Role-storming' can be great tools to come up with unique and innovative ideas. The teacher in their capacity as a mentor is expected to do what is reasonable and best for the teams.*

***The student teams may have to make a community visit to talk to the stakeholders for their feedback on the selected ideas. The teacher in their capacity as a mentor is requested to plan for it accordingly. Alternatively, the teacher or the student teams can also choose to make arrangements for a virtual meet with the stakeholders.*

Answers to Check For Understanding Questions

Question	Expected Student Response
1. **When can you think creatively, and why is it important to think creatively?**	Creative thinking happens when one is not afraid to think or give wrong answers. It is important to think creatively as it helps us come up with new, different and more efficient solutions for problems.
2. What is the difference between a product-based and process-based solution?	A product-based solution is one where a product that one can use is created to solve a problem, whereas a process-based solution is one where following a set of instructions will solve a problem.
3. What is idea brainstorming? How many ideas do you have to generate for your problem?	Brainstorming is a way to discuss and come-up with as many ideas as one can to solve a problem. There is no limit to the number of ideas one can think of and the more you can think of, the better.
4. How do you select a solution for your problem after idea brainstorming?	The final solution can be selected by rating the solutions on a scale of 1-5 on the criterion mentioned in the FUSE (Feasibility, Usability, Sustainability, Effectiveness)

Module 5: Teacher Rubric

Evaluate by shading the appropriate box

Criteria/ Scale	0	1	2
Comprehension • ***Are all the learning objectives of the module met?*** • ***Are all the key-concepts clearly understood by the students?*** ***Note: You can use the worksheets and the Check For Understanding responses of your students to check for comprehension***	Not met. Greater support required.	Partially met. Better support required.	Fully met. Support worked well.
Participation • ***Are all the students actively participating within a team to complete the required tasks?***	Not active. More push required.	Active but with constant push.	Active with minimal push.
On-time Completion • ***Are all the students showing up and finishing their online and offline tasks in the allotted time?***	Poorly met. More reminders required.	Well met but regular reminders were necessary.	Well met with minimal reminders.

Note: *If your response is '0' or '1' for any of the above, reach out for support and think what can you do as a mentor to improve the score going forward.*

Week 9,10,11- Module 6: Make & Test

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11
									1	1
									2	2
									3	3
									4	4
									5	
								6	6	

Module 6: Make & Test consists of the following components for the students to finish:

Components	Days Required
• 5 Learning Videos	- Week 9: Day 6 - Week 10: Day 1
• Quiz	- Week 10: Day 2
• Additional Readings	- Week 10: Day 3
• Prototyping Plan	- Week 10: Day 5
• Resourcing	- Week 10: Day 5,6
• Prototyping	- Week 11: Day 1,2,3
• Worksheets +User Testing	- Week 10-Week 11

After completion of Module 6, Students are required to fill up the Idea Submission Form on the portal as a team and complete the individual student post-survey.

Glossary
Module 6: Make & Test

C

Ceramic:
Nature friendly material made of clay and is used to make utensils like glass.

D

Drama :
To perform and show something to others.

F

Fabric :
Piece of cloth.

M

Meter :
A way of measuring length or distance.

Model :
A sample structure to show how something could look like when finally made.

R

Refine :
To make better or improve.

Recipe :
A set of instructions that is used to cook food.

Recycle :
To make something new by using old things to remake it.

Module 6: Make & Test

Objectives:

1. Students will be able to understand the **importance of prototyping**
2. Students will be able to **choose a prototyping method** for their solution
3. Students will be able to **plan for resourcing materials** for their prototype
4. Students will be able to **design a final prototype** for their solution

prerequisites:

- Ask the student team to discuss briefly about their finalized solution before proceeding on to watch the videos in the course module 6
- *Prepare and discuss, with student teams, the schedule of the Module 6.*
- *Every team should be given one set of printed worksheets to fill. Alternatively, the students can view the worksheet digitally and answer the questions in them in their own team notebook/ sheets.*
- *Ensure all the students have access to the Additional Reading material, either through Print/ Digitally, before they begin watching the videos in the course modules.*

Learning Experience:

Component		Week/ Day	Teacher Support	Estimated Time Required
Videos	**1. How are solutions or products made?**	**Week 9, Day 6**	After students finish watching the videos, ask students the following questions to Check For Understanding: 1. What is a prototype? Why is it important? 2. How do you choose between different prototyping methods?	**45 min**
	2. Prototyping Methods			
Videos	**3. Building prototypes and Resourcing**	**Week 10, Day 1**	After students finish watching the videos, ask students the following questions to Check For Understanding: 3. What is resourcing? 4. Why is important to test your prototypes with the users?	**45 min**
	4. Testing and refine			
	5. Finalizing Solution			
Quiz		**Week 10, Day 2**	Make sure all the students complete the quiz individually	**30 min**
Additional Readings(ARs)		**Week 10, Day 3**	• All the student teams in the school can sit together to discuss the ARs with help from each other. • Be present in the classroom to clear the doubts the students might have and to encourage collaboration between the teams • Ask the Check For Understanding questions once again to the whole group to check if they can answer them better • Provide your explanation if the student responses are unsatisfactory	**30 min**

<table>
<tr><th colspan="4">Worksheets</th></tr>
<tr><td colspan="4">• Help students understand the questions in the worksheet if necessary, but do not help them in answering the questions.
• Check for completion of worksheets and help student teams upload them on the portal once they are done.</td></tr>
<tr><td>Journey of a Problem Solver (Activity)</td><td rowspan="4">Week 10, Day 4</td><td>• Students plot their journey as a problem solver. Congratulate the student teams for coming this far to the final step in their problem-solving journey.</td><td>10 min</td></tr>
<tr><td>Journey of solution (Activity)</td><td>• Students order the solution journey of a student problem solver</td><td>10 min</td></tr>
<tr><td>Prototyping(Activity)</td><td>• Students learn how to select from various prototyping methods. The teacher may help the students understand the prototyping selection process if necessary.
• Example pictures of various prototypes are given, and the students have to identify which type of prototype it is.</td><td>20 min</td></tr>
<tr><td>Storyboarding(Activity)</td><td>• Students are required to guess the problem and the solution, looking at the storyboard prototype.
• This helps them understand how storyboarding as a prototyping method can explain the solution.</td><td>10 min</td></tr>
<tr><td rowspan="2">Resourcing (worksheet)</td><td>Week 10, Day 5</td><td>• The student teams need to decide on the type of prototype that best suits their solution.
• Ask the students to read the AR on how to choose a prototyping method if they are finding it difficult.
• The teacher may help the students in selecting a prototyping method if necessary.
• Once a prototyping method is finalized, teams can discuss on the resources (or materials) needed for prototyping and write their plan down in the resourcing worksheet.</td><td>1 hr</td></tr>
<tr><td>Week 10, Day 6</td><td>• Student teams may use this time to gather the materials and support required to prototype their idea</td><td>2 hrs</td></tr>
<tr><td>Creating a prototype</td><td>Week 11, Day 1,2</td><td>• Student teams can use this time to create the prototypes of their solution according to the plan made.
• The teacher may provide guidance, but should refrain from creating the prototype themselves.</td><td>4 hrs</td></tr>
<tr><td>*User Testing and changes</td><td>Week 11 Day 3, 4</td><td>• Use the user testing worksheet to test your prototype with the users and record their observations and feedback
• The feedback received should be analysed, and the teams can decide to make changes to their solution/ prototype as per the feedback received if they wish.
• Once the students are ready with the final prototype, they can complete the final step of submitting their idea onto the platform.</td><td>2 hrs</td></tr>
</table>

Note:

**The student teams may have to make a community visit for their feedback on their solution and prototype. The teacher in their capacity as a mentor is requested to plan for it accordingly. Alternatively, the teacher can also make arrangements for a virtual meet with the stakeholders.*

Answers to Check For Understanding Questions

Question	Expected Student Response
1. **What is a prototype? Why is it important?**	A prototype is a model of a solution that clearly helps show and tell the user how an idea works. Prototypes help in understanding what a user likes or dislikes about the idea/solution, which helps design better solutions.
2. How do you choose between different prototyping methods?	Choosing a prototyping method depends on the type of the solution, i.e., is it a process-based or a product-based solution. Availability of materials is also an important factor in choosing the type of prototype.
3. What is resourcing?	Planning and collecting for materials to make a prototype is called as resourcing
4.Why is important to test your prototypes with the users?	Prototypes are made to test them with the users so that their feedback can be incorporated for designing a better solution before implementing it on a larger scale

Module 6: Teacher Rubric

Evaluate by shading the appropriate box

Criteria/ Scale	0	1	2
Comprehension • ***Are all the learning objectives of the module met?*** • ***Are all the key-concepts clearly understood by the students?*** ***Note: You can use the worksheets and the Check For Understanding responses of your students to check for comprehension***	Not met. Greater support required.	Partially met. Better support required.	Fully met. Support worked well.
Participation • ***Are all the students actively participating within a team to complete the required tasks?***	Not active. More push required.	Active but with constant push.	Active with minimal push.
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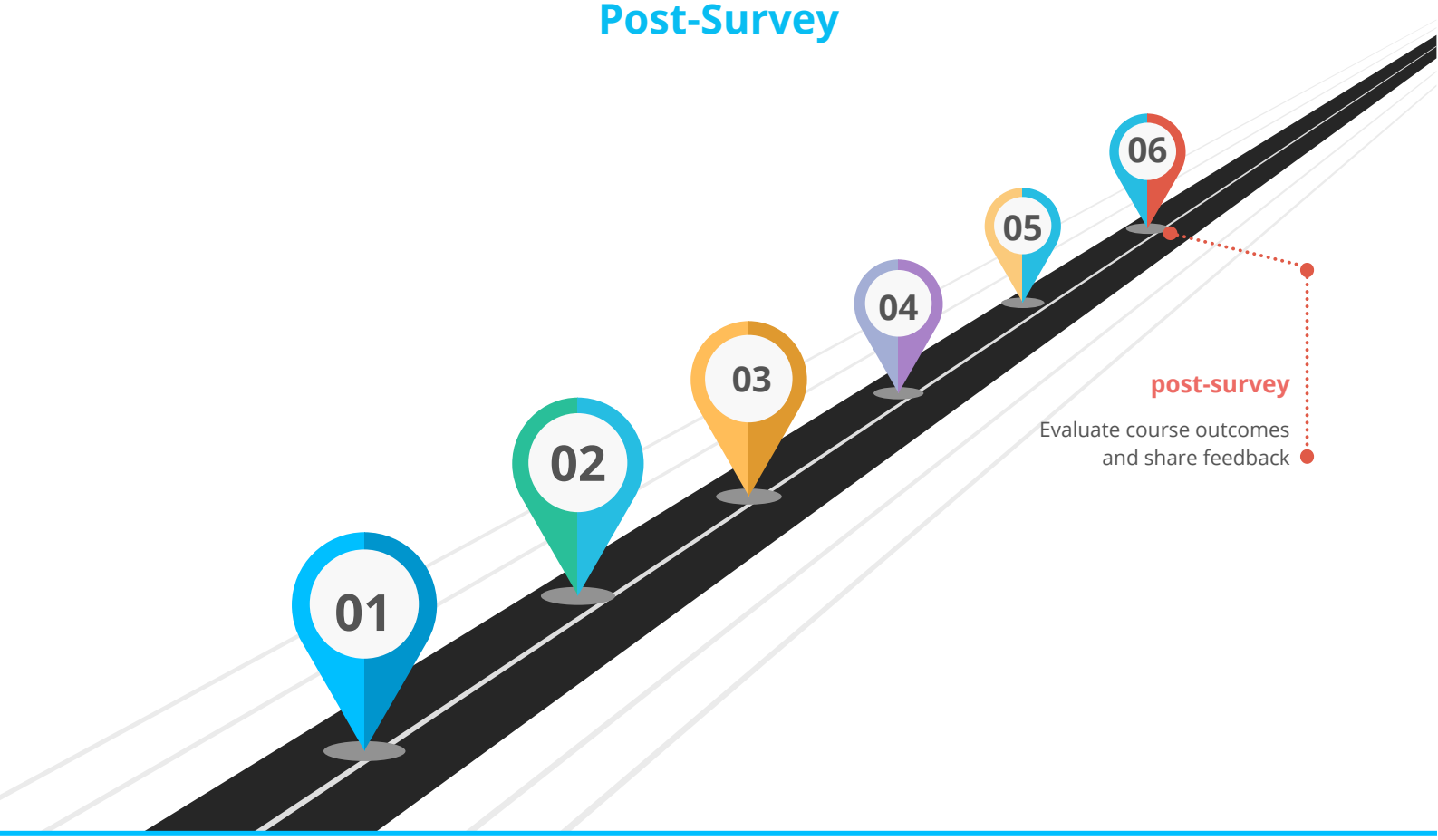
Note: *If your response is '0' or '1' for any of the above, reach out for support and think what can you do as a mentor to improve the score going forward.*

Post-Survey

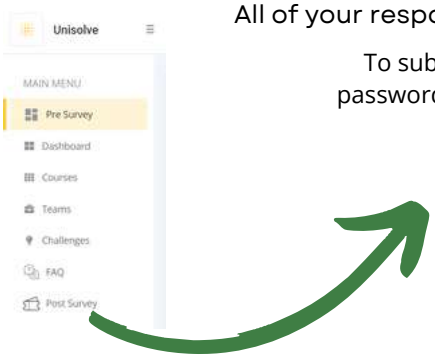


Post Survey: What and Why?

The effectiveness of any course has to be determined through proper survey's and analysis of the same. We are deeply grateful to you for playing the role of a guide and mentor to your students in their problem-solving journey. And since you, in your capacity as a guide and a mentor, have been the closest to the ground-reality, your input on the effectiveness of the course is extremely valuable to us.

All of your responses will be analysed to build a better product in the future.

To submit your responses, login with your user-name ID and password on to the *UNISOLVE* portal and click on the **post-survey** tab on the MAIN MENU in the top-left corner.



APPENDIX

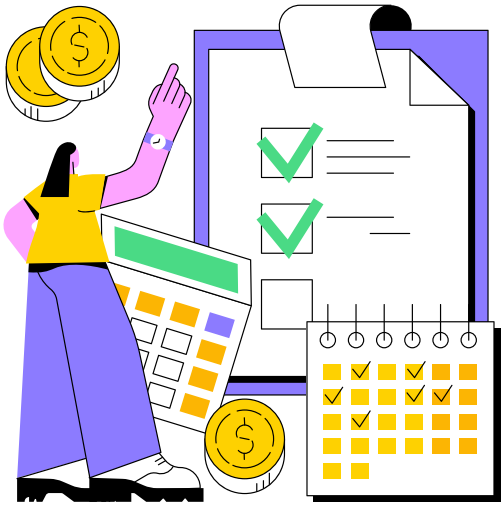
Activity

Classroom Budget

DURATION	MATERIALS REQUIRED
45 MIN	Papers, Pens chalk, Black-board / chart

About the Activity

The classroom budget is an activity that teaches students the advantages and importance of working together in a team.



How to conduct

- Gather students from all teams to one classroom. The students need not necessarily sit with their teams.
- Give each student an A4-sized paper, or ask them to carry a notebook and a pen.
- Move around and help the students when they are working in a group.

Instructions on running the Activity:

Introduction (10 min)

- Ask students to imagine that each of them have enough money to buy whatever they want for their school/classroom.
- Give students 5 min to think of the items they would want to buy and ask them to individually list the items in their notebooks/papers.
- On the black-board, list a minimum of 15-20 items that students wanted to buy and assign one of the following value to each item based on their approximate cost:
  -5 coins, 10 coins, 20 coins or 50 coins.

Main Activity (20 min)

- Now tell each student that they will be given 50 coins each to spend on buying any of the items listed on the board.
- Ask them to individually list down, in their notebook/paper, the items they would prefer to buy with the 50 coins they have.
- After 5 min, group the students into teams of 4 and ask them to repeat the exercise.

Closing the Activity (15 min)

Ask teams to share their list of items with the whole class

Hold a whole class discussion to reflect on the following:

1. Individual vs Group: Which was better ?
2. Advantages of working in a team

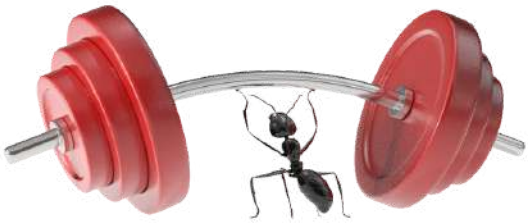
Conclude by helping students understand that a problem that concerns a larger number of people, like the classroom budget, can be solved better when people come together. Individually, they can only work with their strengths, but as a team they can also benefit from the strength of others and get better work done.

Activity
Stronger Together

DURATION	MATERIALS REQUIRED
45 MIN	Printed Copies of “Stronger Together” Worksheet, . Pens

About the Activity

This activity helps students think about their own strengths and that of their team members, helping them understand each other better.



How to conduct

- Gather students from all teams to one classroom and make them sit with their team-mates.
- Give each individual student a copy of the 2-page “Stronger Together” worksheet.
- Move around and help the students, asking them guiding questions to understand each-other's strengths better.

Instructions on running the Activity:

Introduction (10 min)

- Define strength for students as : "Strengths are any positive character/ skills a person has”. Explain a few examples of positive character traits and skills in addition to what are already listed on the pg-1 of the worksheet. Ex: Brave, Kindness, Friendly, Curious, Honest, etc

Main Activity (25 min)

- Now ask them to think about themselves and try to identify what they think their strengths are.
- Let them list their strengths on the petals of the flower in pg-2 of the worksheet.
- Once they are done, ask each of them to talk to their team openly about their individual strengths.
- Now, ask the students to pick any one member from the team and discuss his/her strengths as they identify them and add them to their strengths sheet.
- Repeat the above exercise until, the team has discussed all the team members.

Closing the Activity (10 min)

Ask teams to share their team's strengths with the class and appreciate them by acknowledging their views.

Hold a whole class discussion by helping them reflect on the following:

1. What new strengths did you learn about yourself and your team members?
2. How did you feel about the activity?
3. How do you think this will help you?

Conclude by helping students understand that while working in a team, it is important to know what each other's strengths are as it will help them support each other better and form deeper friendships.

Encourage the students to keep looking for each other's strengths all through their problem-solving journey and keep adding them to their respective strengths sheet.

Teacher's Handbook

UPSHIFT

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Transforming Schools Into Places Of Creativity And Innovation

A practical guide to implementing the unisolve curriculum in schools.