



Amazon
Longitude
Explorer
Prize

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amazon
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nesta
Challenges

How to use the lesson plans:

Each session (except the introductory presentation), has:

- A facilitator plan for you to follow,
- A powerpoint presentation to show the group,
- A list of materials needed for the session.

Some activities recommend handing out materials during the session so it's advised to spend roughly 5-10 minutes prior to prepare. All materials can be downloaded for free on the prize website: <https://longitudeexplorer.challenges.org/>

While the sessions are outlined below in order, this is an example schedule. You can pick and choose lesson plans/activities to create your own schedule to meet the needs of your group and your own timeframes. We estimate that the sessions last 30-40 minutes each if delivered as they are, but you can adapt the time spent on activities to make them shorter.

Example lesson plan schedule:

Week 1 - Discovering a problem

Week 2 - Defining the problem

Week 3 - Idea generation

Week 4 - Turning an idea into a reality

Week 5 - Part 1: Security & ethics & Part 2: Application writing time.



Lesson plan 1: Discovering a problem

Learning objectives:

- Introduction to the prize and design thinking.
- Working as a group, or as an individual, to research social and environmental challenges or issues to potentially solve using technology.

Time:

- 30-40 mins

Materials needed:

- Post-it notes/paper or word document/notes
- Pen/pencil
- Thematic information sheets (Live Better, Live Longer, Live Greener and Live Together) - available online as well.

Slide 1:
(title slide)

Slide 2:
Ask the group if anyone knows who this quote is usually attributed to?
Answer: Albert Einstein.

Explain that often when trying to come up with new ideas, products or services people start with thinking straight away about the potential solution, while in fact design best practice shows that its much more effective to start with the problem.

By starting with the problem then you can come up with lots of different ideas to solve it rather than getting stuck on one initial idea. Also by finding a real problem you'll know that the people who are affected by it will be interested in your ideas on how you might be able to solve this - this avoids a common mistake amongst some new businesses who create products or services which no one actually needs!

Curriculum links:

- Undertake a creative project which will involve electing, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals.
- Identify and use appropriate sources of information/research to help generate and develop ideas for products or service.



Slide 3:

Explain that their challenge for the Prize is “How can you use technology to create an app, product or service that will make the world a better place, enabling people to Live Better, Live Longer, Live Greener and Live Together?”

Explain that the four themes can be seen as broad problem areas and are there to help them come up with ideas which will have a positive social impact on their communities.

Slide 4:

Ask the group to close their eyes and then listen carefully to the descriptions of the four themes. Once the group has heard all four, read out the themes again and ask them to raise their hands if they feel strongly about a problem in that theme. Encourage them to not be influenced by others' choices and think carefully about the issues and challenges they feel passionate about then decide which theme they would like to explore further.

Note to the facilitator: If the session is being conducted online an easy to use free platform like [google jamboard](#) or Zoom whiteboard. Split the board into four sections (one section per theme) and ask the group to add their names to the theme they are most interested in exploring further.



1. Living Better: Explain that there have been huge leaps and bounds in technology and medicine to help us live healthier lives, but that we are also faced with ongoing health challenges, these can be both physical and mental.



1. Living Longer: Explain that because of breakthroughs in medicine and better healthcare. We are living longer than ever. But as we get older, our needs change, with challenges around mobility and isolation, re-skilling, and access to care.



1. Living Greener: Explain that it is becoming increasingly important to transform the way we live to reduce our negative impacts on the environment, including challenges like pollution and climate change.



1. Living Together: Explain that we are presented with more and more options that can help us move about, access vital services and supplies and stay connected to each other however these may also have negative consequences, such as impact on our environment and mental health.



Slide 5:

Once everyone has split up into the four themes give each group the information sheet for each theme accordingly and some post it notes.

Explain to each group that their first task is to think of all the problems or issues they can think of within the theme they chose and write them all down on the post-it notes (or digital post-its/word doc if conducting online). They can use the information sheet to help but encourage them not to be limited to this either. The groups will have 10 minutes to do this. Remind the groups to focus on the problems still at this point!

Slide 6:

Once the 10 minutes are up, ask everyone to reflect on the problems suggested by the group. Explain they may have some duplications which can be grouped together. Now tell the groups that they have 5 minutes to choose 3 problems/post it's that they think are most important to solve or feel would like to solve the most.

Once the 5 minutes are up use a wall or white board (online or offline) and ask one person from each group to put them on the wall/board, and explain what they are - and why their group chose them to the rest of the groups.

Slide 7:

To close the session tell the groups that to prepare for the next sessions that they will need to do some quick research on their identified problems and bring this to the next session.

Explain that this doesn't have to take them long e.g. using a search engine like google or speaking to friends/family but ask them to try and be able to answer the following questions about their chosen problem areas by the next session:

- Who has this problem?
- How are they addressing it/Is anyone addressing it?
- Are there any existing solutions already?

Note to the facilitator: For social distancing reasons if necessary keep groups to 5 people only. The thematic information sheets can also be accessed online on:
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Encourage the groups to really focus on the people who are affected by the problem as they do their research and think about their problems, asking them to reflect on questions like:

- Who are they?
- How are they affected?
- How do they feel about the problem/issue?
- What is the change they want to see?

Explain that this focus is an important part of starting to build a user-centered design approach i.e. the person who will use their eventual solution!

Remind them that there are lots of fun and useful resources available to them through the prize at <https://longitudeexplorer.challenges.org> and that these can help them with this task.

References

- <https://blog.thinkherrmann.com/blog/why-problem-solving-starts-with-problem-definition/>
- <https://aryatra.com/problem-solving-skills/>
- <https://hbr.org/2012/09/are-you-solving-the-right-problem>
- <https://medium.com/hygger-io/methods-and-exercises-for-effective-problem-solving-3503dfabbd02>
- <https://www.designcouncil.org.uk/news-opinion/what-framework-innovation-design-councils-evolved-double-diamond>
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- <https://www.invisionapp.com/inside-design/user-centered-design-definition-examples-and-tips/>