

iTech Design Process #1

Explorers will be introduced to products for social good and market research while starting their IDC.

BEFORE YOU BEGIN

1. Leaders should have completed the Leader First Day Survey online at the start of the Exploring program.
2. Explorers should have completed the Youth First Day Survey online here at the start of the Exploring program.
3. The Exploring unit should have completed the Intro to Innovation Activity.

ACTIVITY LIBRARY TAGS

- Exploring: Engineering & Technology, Science
- iTech Exploring: Required
- Life Skills: Computer Literacy, Team Building
- US Dept of Education: Information Technology, STEM

OBJECTIVES

By the end of this session, participants will be able to:

- Identify solutions for social good and their impact on a local, national and global level
- Gather market research to better understand the needs of a user group
- Understand the importance of the user and his/her needs while conducting research
- Identify the importance of planning and brainstorming, prior to implementation

SUPPLIES

- Sticky Notes (1 pad of 100 sheets per group)
- Poster Paper (1 per group)
- Scrap paper (5 – 10 sheets per group)
- **Team Contract Handout** (one per group)
- **Brainstorming Handout** (one per group)
- [UN Sustainable Development Goals](#) (use as a reference)
- **Market Research Guide Handout** (one per group)

LEADER NOTE: Text in italics should be read aloud to participants. As you engage your Exploring unit (club or post) in activities each week, please include comments, discussions, and feedback to the group relating to **Character, Leadership, and Ethics**. These are important attributes that make a difference in the success of youth in the workplace and in life.

ACTIVITIES

Activity 1 | Innovating for Social Good

Say: Can you think of any examples of products and/or services that solve a problem in our society? What are some examples? Why do you think this product or services solves the societal problem?

YOUTH LEADERSHIP POSITION: Research Managers should lead their team through the following section.

Explorers will spend 10 – 15 minutes researching to find examples online or in their community that solve a social problem. Each Explorer should pick one example to share with the group.

Say: What is the social issue that this example addresses? How was it designed to do so? Are there other examples that address a social issue?

Explorers will work as a team to implement a solution. Distribute the **Team Contract**. Review each section with the class. There are some bullet points that are missing. Explorers will fill in the remaining bullet points as a team then complete and sign it.

YOUTH LEADERSHIP POSITION: Project Managers should lead their team through the following section.

Distribute sticky notes. Explorers will use the **Brainstorming Handout** to brainstorm and reference the [UN Sustainable Development Goals](#) to choose a social impact problem. They will generate ideas for users, sort sticky notes and name groups. Explorers will have 2 minutes to brainstorm and 2 minutes to group the users. Once teams have a group of users, narrow the potential target user group to one or two categories. Explorers will have time in the next two lessons to research and refine.

Say: Ask each team to briefly share their name, topic and user groups. How can you learn more about your users and their needs? Spend 5 – 10 minutes discussing.

Activity 2 | Market Research

Distribute the **Market Research Guide Handout** to each team. Explorers will search for examples in their chosen topic and analyze at least one. They should save the examples that they like and record the name/location for reference later. Explorers should continue brainstorming ideas for their project on the **Market Research Guide Handout**. They will have time in the next meeting to finalize their choice and start designing.

YOUTH LEADERSHIP POSITION: Research Managers should lead their team through the following section.

Explorers should stay focused on research. Encourage them to take notes on what they find inspiring in other examples, but to wait on designing their project. After reviewing examples, Explorers have 10 minutes to finish the Brainstorming section. This activity can be done with sticky notes. Explorers should write down their ideas, select the top 3-6 ideas and record them on their activity guide.

NOTE: Leaders should review all project ideas prior to prototype creation. It is important that all project ideas are doable in 2 meeting periods. Do your best to gauge if the project is challenging for the team while also doable within the timeline.

Say: Share at least one example you found inspiring.

LEADER NOTE

Once Explorers have completed the Design Activity #1, they will move onto Design Activity #2 in the Exploring Activity Library at www.exploring.org/activity-library-category/itech. Save the completed handouts from Design Activity #1. Explorers will use these handouts as a reference in future activities.

LEADER NOTE

Some sample questions are below. They are designed to help the participants apply what they have learned to their own interests. You are welcome to use these questions or develop your own questions that relate to your Exploring program or specific focus area.

REFLECTION

- *What factors did you consider when researching a solution for social good?*
- *What strategies worked well when researching your user? What would you do differently?*
- *Why is it important to consider the user at every stop of the innovation process? How does this help you to create a stronger product?*
- *Why is it important to discuss teamwork, communication and delegation before starting your project? How does this help your team later in the project?*

Content for this session provided by Kiwi Compute (www.kiwicompute.com).

Links to other websites are provided for your convenience and information only. When you click on a link to another website, you will be leaving this website. The fact that we provide links to other websites does not mean that we endorse, authorize, or sponsor the linked website, or that we are affiliated with that website's owners or sponsors. Unless otherwise indicated, the linked sites are not under our control and we are not responsible for and assume no liability for the content or presentation of any linked site or any link contained in a linked site, or any changes or updates to such sites. Your use of a linked site and its content is at your sole risk and may be subject to restrictions and/or limitations. Always take care to abide by the linked site's terms of use, including any permission requirements/guidelines.

RESOURCES

Activity 1 - Team Contract Handout

Your first decision as a team is to agree to how you'll work together. You'll follow the agreed upon classroom norms for communication, decision-making, and participation. There is space for additional agreements as well.

Read through this contract, discuss it as a team, include any additional notes in the blank spaces, then sign in the box below saying you agree.

Communication

When working together in the classroom, we agree that we'll treat each other with respect. That means:

- our written and verbal communication will be considerate (no calling each other names)
- we'll take turns when sharing ideas
- we'll all listen politely when others are speaking
- _____
- _____

Decision Making

When making decisions as a team, we'll first talk together as a group. We'll then:

1. try to reach consensus where everyone agrees to the same decision
2. if that isn't possible after several tries, then we'll take a vote. Simple majority wins.
3. if it's a tie, then we'll ask the leader to decide

Once a decision is made, we all agree to work on it with our best effort, even if it wasn't our personal choice.

Participation

We agree that this project will only succeed if we are all participating and working on it. We promise to:

- try our best on every activity
- ask for help if we need it
- turn in our work on time
- check in with other team members or the teacher if we miss class, so the project can stay on track
- _____
- _____

Signed,

First and Last Name	Today's Date

Activity 2 - Brainstorming Handout

Team Name

Choose a team name and write it below:

Topic

What general topic will your project focus on? Don't worry about what specifically your project will do at this point, just consider what type of problem you are interested in. For example, you may consider issues in your school community, encouraging civic service, promoting the arts, improving the environment, or improving the health and wellbeing of others.

User Groups

What kinds of people could you develop this project for? Consider all of the different groups of users impacted by your chosen topic.

Other Notes:

Activity 3 – Market Research Guide Handout

Finding Similar Ideas

Fill in the information below on the ideas or projects that you find during your research. For each idea you find, you'll need to identify who the target users might be, what you liked about it (and therefore might use for inspiration in your own) and what you didn't like.

Misconception Alert: The goal of this research is to help you decide the topic, the target user group, and the type of project you want to create. You are not yet making decisions about what the design of your project yet.

Name of Project/Idea	Who is the target user? How are their needs met?	I liked...	I didn't like...

Brainstorming Ideas

Brainstorm with your team potential ideas for your project. When you've found an idea that the team can agree on, document it here. Focus on the minimum set of features that will allow you to prototype and test your core idea.

Team Project Idea:

Projects and/or Ideas used for Inspiration:

Project Name and URL	Features that Inspired your Team: