FIRST® LEGO® League

TUTⓄRIALS

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PRIVIRE DE ANSAMBLU ASUPRA PROIECTULUI DE INOVARE

SESHAN BROTHERS

DESPRE AUTORI

- Frații Seshan Brothers au fost în echipa Not the Droids You Are Looking For

- Proiectul nostru de cercetare pentru Trash Trek a fost semifinalist la Global Innovation Award (Top 20 out of 30,000 teams).

- Proiectul nostru de cercetare Nature's Fury a câștigat Innovative Solution la FIRST LEGO League International Open în Toronto.

- Proiectul nostru de cercetare pentru World Class a fost EV3Lessons.com! ;-)

- Suntem câștigătorii Champion's award la World Festival 2018

CE ESTE PROIECTUL DE INOVARE?

- O cercetare de grup asupra temei din anul respectiv. Cercetare asupra unei probleme din lumea reală

- O soluție inovativă

- Iterează ideea și împărtășește soluția

Themes:

- 2011: Food Factor (food safety)
- 2012: Senior Solutions (senior citizens)
- 2013: Nature's Fury (natural disasters)
- 2014: World Class (education)
- 2015: Trash Trek (garbage)
- 2016: Animal Allies (animals)
- 2017: Hydro Dynamics (water)
- 2018: INTO ORBIT (space)
- 2019: City Shapers (cities)
- 2020: RePLAY (exercise)
- 2021: Cargo Connect (transportation)
- 2022: SUPERPOWERED (energy)
- 2023: MASTERPIECE (arts)

RUBRICILE CARE VĂ GHIDEAZĂ PROCESUL

- **Identificare**
  - Identificați problema, realizați o cercetare de bază, analizați soluțiile existente.
- **Design**
  - Gâmdiți-vă la soluții diferite, alegeți una și veniți cu un plan.
- **Creație**
  - Dezvoltă soluția incluzând un prototip/model/ desen.
- **Iterație**
  - Împărtășește soluția ta cu alții și îmbunătățește ideea.
- **Comunicare**
  - Crearea unei prezentări pentru jurați.

BEGINNING 1	DEVELOPING 2	ACCOMPLISHED 3	EXCEEDS 4 How has the team exceeded?
IDENTIFY – Team had a clearly defined problem that was well researched.			
☐ Problem not clearly defined	☐ Partially clear definition of the problem	☐ Clear definition of the problem	☐
☐ Minimal research	☐ Partial research from more than one source	☐ Clear, detailed research from a variety of sources	☐
DESIGN – Team generated innovative ideas independently before selecting and planning which one to develop.			
☐ Minimal evidence of an inclusive selection process	☐ Partial evidence of an inclusive selection process	☐ Clear evidence of an inclusive selection process	☐
☐ Minimal evidence of an effective plan	☐ Partial evidence of an effective plan	☐ Clear evidence of an effective plan	☐
CREATE – Team developed an original idea or built on an existing one with a prototype model/drawing to represent their solution.			
☐ Minimal development of innovative solution	☐ Partial development of innovative solution	☐ Clear development of innovative solution	☐
☐ Unclear model/drawing of solution	☐ Simple model/drawing that helps to share the solution	☐ Detailed model/drawing that helps to share the solution	☐
ITERATE – Team shared their ideas, collected feedback, and included improvements in their solution.			
☐ Minimal sharing of their solution	☐ Shared their solution with user OR professional	☐ Shared their solution with user AND professional	☐
☐ Minimal evidence of improvements in their solution	☐ Partial evidence of improvements in their solution	☐ Clear evidence of improvements in their solution	☐
COMMUNICATE – Team shared a creative and effective presentation of their current solution and its impact on their users.			
☐ Presentation minimally engaging	☐ Presentation partially engaging	☐ Presentation engaging	☐
☐ Solution and its potential impact on others unclear	☐ Solution and its potential impact on others partially clear	☐ Solution and its potential impact on others clear	☐

ÎNCEPE CU AFIȘAREA PROVOCĂRII

START Explore your energy journey. How can you reimagine a better energy future? It starts here, with your critical thinking and innovation leading the way to tomorrow's energized world with *FIRST*® ENERGIZE℠ presented by Qualcomm.

Exemplu de la SUPERPOWERED

→ Identify a specific problem related to improving your energy journey.

An energy journey is where energy comes from and how it is distributed, stored, and used. The Project Sparks (see Sessions 1-4) explore problems related to different energy journeys. You problem could come from a Project Spark, or it could be a different problem you want to solve.

→ Research your problem and solution ideas.

Explore energy sources and how energy is stored, distributed, and used in your community. Can you find ways to make part of your energy journey better? Can you improve one step to be more efficient, reliable, affordable, accessible, or sustainable? What solutions already exist? Are there any experts or users you could interview?

→ Design and create a solution that could improve your energy journey.

Use your research and explorations to either improve an existing solution used in your energy journey or design a new innovative solution. Can you make different energy technology choices? Make a drawing, model, or prototype of your solution.

→ Share your ideas, collect feedback, and iterate on your solution.

The more you iterate and develop your ideas, the more you will learn. What impact will your solution have on your community?

→ Communicate your solution with a live presentation at an event.

Prepare a creative and effective presentation that clearly explains your Innovation Project solution and its impact on others. Make sure your whole team is involved in sharing your progress.

ALEGE O PROBLEMĂ CARE CONTEAZĂ

- Întotdeauna, gândiți-vă mai întâi la problemă.

- Problema poate fi atât de mică sau de mare cât îți dorești

- Mulți elevi rezonează mai bine cu problemele locale care au impact și asupra vieții lor

EXEMPLE DE PROBLEME DIN ANII ANTERIORI

- **2011: Food Factor (food safety)**
  - Detectarea laptelui stricat
- **2012: Senior Solutions (senior citizens)**
  - Ajutarea seniorilor, să le aducem aminte unde și-au lăsat bunurile
- **2013: Nature's Fury (natural disasters)**
  - Atenționare avansată de detecție pentru avioane
- **2014: World Class (education)**
  - Un mod mai bun de a învăța să programezi în EV3 (EV3Lessons.com)
- **2015: Trash Trek (garbage)**
  - Un mod mai eficient de a recicla baterii
- **2016: Animal Allies (animals)**
  - Liliecii uciși de eoliene
- **2017: Hydro Dynamics (water)**
  - Detectarea scurgerilor de la țevi

CREDITS

- Această lecție a fost scrisă de Sanjay and Arvind Seshan

- Mai multe lecții disponibile pe www.ev3lessons.com și www.flltutorials.com

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