

# ***FIRST<sup>®</sup> LEGO<sup>®</sup> League***

# ***TUT******RIALS***

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## VISÃO GERAL DO PROJETO DE PESQUISA

SESHAN BROTHERS

TRADUZIDO POR EQUIPE SUNRISE

# SOBRE O AUTOR

- Seshan Brothers eram da equipe Not the Droids You Are Looking For
- Nosso projeto de pesquisa na Trash Trek foi um dos semifinalistas no Global Innovation Award (Top 20 de 30,000 equipes).
- Nosso projeto de pesquisa na Nature's Fury ganhou o Innovative Solution na FIRST LEGO League International Open em Toronto.
- Nosso projeto de pesquisa na World Class foi o EV3Lessons.com! ;-)
- Nós somos os ganhadores do Champion's award do World Festival 2018

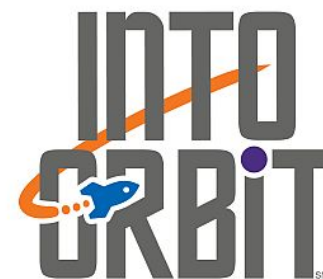


# O QUE É O PROJETO DE PESQUISA?


- Uma pesquisa em grupo relacionado ao tema da temporada
- Criar uma solução inovadora para um problema da vida real

- **Temas:**

- 2011: Food Factor (segurança alimentar)
- 2012: Senior Solutions (cidadãos sêniores)
- 2013: Nature's Fury (desastres naturais)
- 2014: World Class (educação)
- 2015: Trash Trek (lixo)
- 2016: Animal Allies (animais)
- 2017: Hydro Dynamics (água)
- 2018: INTO ORBIT (espaço)



# NOVAS RUBRICAS PARA 2017



**Project**  
 Team Number \_\_\_\_\_  
 Judging Room \_\_\_\_\_

Directions: For each skill area, clearly mark the box that best describes the team's accomplishments. Teams should demonstrate everything at the level; if they are missing part, mark the level below. If the team does not demonstrate an area, put an "X" in the first box for Not Demonstrated (ND). Please provide as many written comments as you can to acknowledge each team's hard work and to help teams improve. When you have completed the evaluation, please circle the team's areas of strength.

	Beginning	Developing	Accomplished	Exemplary
<b>Research</b>	<b>Problem Identification</b> Clear definition of the problem being studied			
	ND unclear; few details	partially clear; details missing	mostly clear; detailed	clear; very detailed
	<b>Sources of Information</b> Quality and variety of data/evidence and sources cited			
	ND minimal quality; variety limited	quality OR variety need improvement; did not include professional(s)	sufficient quality and variety; included professional(s)	extensive quality and variety; included multiple professionals
<b>Comments</b>	<b>Problem Analysis</b> Depth to which the problem was studied and analyzed by the team, including extent of analysis of existing solutions			
	ND minimal study; no analysis	minimal study; some analysis	sufficient study and analysis	extensive study and analysis
<b>Innovative Solution</b>	<b>Team Solution</b> Clear explanation of the proposed solution and description of how it solves the problem			
	ND difficult to understand	some parts confusing	understandable	easy to understand by all
	<b>Innovation</b> Degree to which the team's solution makes life better by improving existing options, developing a new application of existing ideas, or solving the problem in a completely new way.			
	ND existing solution/application	solution/application contains some original element(s)	original solution/application; potential added value	original solution/application; demonstrated added value
<b>Comments</b>	<b>Solution Development</b> Systematic process used to select, develop, evaluate, test, and improve the solution (implementation could include cost, ease of manufacturing, etc.)			
	ND process AND explanation need improvement	process OR explanation need improvement	systematic process included evaluation	systematic process included evaluation; implementation considered
<b>Presentation</b>	<b>Sharing</b> Degree to which the team shared their Project before the tournament with others who might benefit from the team's efforts			
	ND shared within the team and/or relatives	shared once outside the team	shared with one audience who may benefit OR one professional	shared with multiple audiences who may benefit OR multiple professionals
	<b>Creativity</b> Imagination used to develop and deliver the presentation			
	ND minimally engaging OR unimaginative	engaging OR imaginative	engaging AND imaginative	very engaging AND exceptionally imaginative
<b>Comments</b>	<b>Presentation Effectiveness</b> Message delivery and organization of the presentation			
	ND unclear OR disorganized	partially clear; minimal organization	mostly clear; mostly organized	clear AND well organized
<b>Strengths:</b> _____ <small>* Required for Award Consideration</small>				

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## ■ Pesquisa

- Identifique o problema e analise as soluções existentes

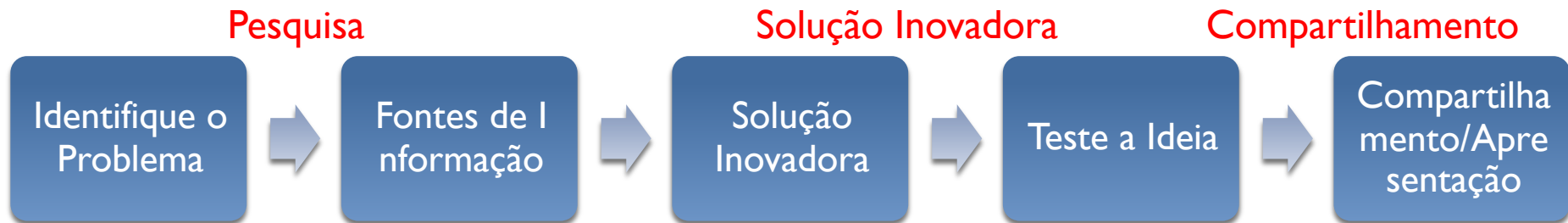
## ■ Solução Inovadora

- Desenvolva uma solução para o seu problema e entenda o que precisa para implementar a ideia.

## ■ Apresentação

- Compartilhe seu projeto com pessoas e organizações
- Crie uma apresentação eficiente para os juízes

# PROCESSO DO PROJETO



Procure por estas lições no [flltutorials.com](http://flltutorials.com)

# EXEMPLOS DE PROJETOS

- **2011: Food Factor (segurança alimentar)**
  - Detectando leite azedo/vencido
- **2012: Senior Solutions (cidadãos sêniores)**
  - Ajudar sêniores a lembrarem aonde deixaram suas coisas
- **2013: Nature's Fury (desastres naturais)**
  - Detecção de cinzas nos aviões
- **2014: World Class (educação)**
  - Uma melhor maneira de aprender a programação do EV3 ([EV3Lessons.com](http://EV3Lessons.com))
- **2015: Trash Trek (lixo)**
  - Maneira mais eficiente de reciclar baterias
- **2016: Animal Allies (animais)**
  - Morecegos sendo mortos por turbinas
- **2017: Hydro Dynamics (água)**
  - Detectando vazamentos em tubulações



# CRÉDITOS

- Essa lição foi escrita por Sanjay e Arvind Seshan
- Mais lições disponíveis em [www.ev3lessons.com](http://www.ev3lessons.com) e [www.flltutorials.com](http://www.flltutorials.com)
- Traduzido por Equipe Sunrise, de Santa Catarina, Brasil



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