Innovation Project Pre-Season Guide
SUPER POWERED

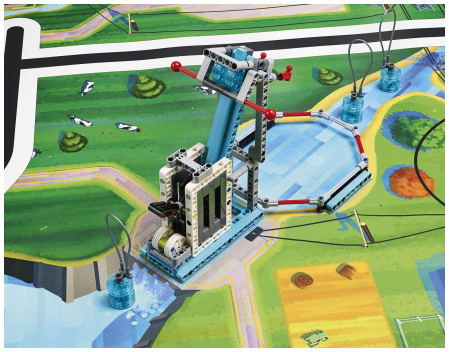
1

Released Video and Images

Start with the Teaser Video and Released Images.

What do you think the theme is? What objects or places do you see in the video/images?

Windfarm?



Hydroelectric Dam?

Links:
Teaser Video
Images

2

Keywords in Released Text

What keywords do you see in the released text on the FIRST website or Facebook/Twitter posts? These words are a great place to start your research process. Even if you do not know the exact Innovation Project requirements, these keywords give you insight about the topics you should know about this season.

"Explore energy sources and how energy is stored, distributed, and used in communities…"

"...explore where energy comes from and how it is distributed, stored, and used…."

"...innovative ideas in energy generation, efficiency, and use?"

3

How to do Research

Most students in FIRST LEGO League Challenge have not been taught how to do research. Discussing how to research is an important first step.

You can use the keywords from Step 2 to begin a search. Discuss what makes a source more reliable than another. Learn how to take notes and how to cite sources. In FLL, citations do not have to follow any particular format. Keeping track of the author and website/links is a great place for a young student to start. Your coach could also generate a list of safe and reliable sources ahead of time and have students select from that subset. Finally, discuss how to communicate your research to others (each other or judges). For example, some information is best presented in a comparison table. A pie chart might be useful for other information.

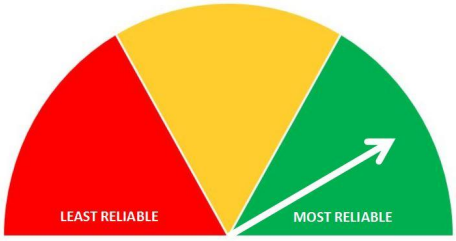
Develop keywords/search terms
Searching is Strategic

Select reliable sources
Credibility is Contextual
Format Matters

Take Notes
Taking Notes
Quote/Paraphrase/Summarize

Cite Your Sources
Basics of Citing

Share Information/Results



Links:
What is Energy?
What are sources of Energy?
Energy.gov
EIA.gov
Articles on Energy Consumption
Articles on Energy Production
Powering the Planet
PBS Nova Energy Lab
Science Journal for Kids

Image Source: University of Washington, Learn and Lead

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4

Look out for Problems to Solve

As you do research, did you find any interesting problems? What makes energy storage, distribution, or usage hard? Can you make some part of the process easier, faster, stronger, or cheaper? You do not have to invent a brand new product necessarily. Improvements are innovations.

5

Fieldtrip and/or Expert Interview

Now that you have done some basic research on the topic of energy you probably have more questions or some ideas for problems. Think of where can you visit to learn more? If you cannot travel, there are many virtual fieldtrips related to energy. Also think about what type of experts you can talk to.

Before you go on an interview, learn a bit about what your expert does and the company they work for. Make a list of questions.

Wind Farm Virtual Tour
Hydroelectric Power Plant Tour

6

Design a Survey

It is common among Challenge teams to do a survey to help select a topic or refine a solution. Learning how to create surveys can be useful.

How to Create Surveys
Google Form

6

Other Fun Ways to Learn

There are many fun, hands-on ways to learn about energy. Look for simple science experiments and games.

13 Energy Activities
Energy Choices Board Game

Research Notes	Name:

Source (Author, Title, Page Number, Link)

Summarize, Paraphrase or Quote

Did you identify any interesting problems?

Interview Notes

Name:

Who are we meeting?

What is his/her expertise?

Questions you want to ask the expert