



Innovation Project Pre-Season Guide

SUPER POWERED

1

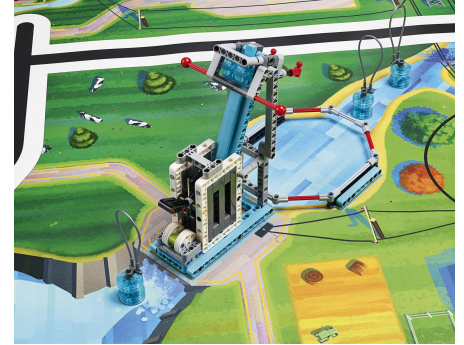
Released Video and Images

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?**”



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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

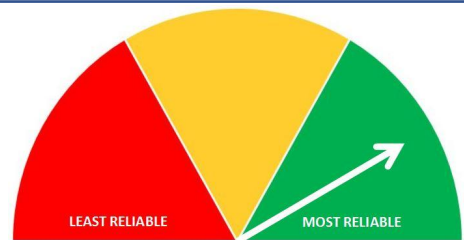
[Taking Notes](#)

[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](#)



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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.

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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