

Lesson Script

THIS SCRIPT IS TO BE USED AS A GUIDE TO ACCOMPANY THE SLIDE DECK FOR THIS YIP LESSON FOR PRESENTATION IN PERSON OR VIRTUAL (SYNCHRONOUS OR ASYNCHRONOUS-PRE-RECORDED).

TEACHER MAY ADD SPECIFIC GREETINGS AND COMMENTS AS NEEDED AND MAKE CHANGES TO MEET CLASS NEEDS USING THE LESSON PLAN IN THE YIP CURRICULUM.



[TEACHER SHOULD MODIFY INTRODUCTION TO LESSON AS NEEDED]

Welcome to the fifth session for our invention unit with the Young Inventors' Program.

Today we are going to cover YIP Lesson Five: Research. Does your invention already exist?



By the end of today, you will be able to use library resources, internet search and speak with people to research your problem and your invention idea. You will analyze information to determine if your invention is original. And, if you find that something similar exists, you will be able to make modifications to your invention to improve it and make it unique.

LESSON 5: Research

MATERIALS:

- Pencil or pen
- Notebook paper
- My Invention Research worksheet
- YIP Inventor's Journal
- YIP Suggested Research Websites worksheet



Before we begin, you will need the following materials.

- Pens/pencils
- Notebook or other paper for writing and drawing
- YIP Inventor's Journal
- My Invention Research worksheet (*copy also found in YIP Inventor's Journal*)
- YIP Suggested Research Websites worksheet (*optional*)

IF PRE-RECORDING YOU MAY SAY:

If you want to pause the video while you collect your things, go ahead and press Pause. Then hit Play when you are ready.

WHAT IS RESEARCH?

Research is the process of solving problems and finding **facts** in an organized way.
... **Research** is done by using what is known (if anything), and building on it.



<http://www.yip.org/Research>



So what is research? Research is gathering facts and information to help approach a subject with as much knowledge as possible in order to understand it. You have identified a problem you wish to solve, and today you will begin to research this problem and its possible solution.

LESSON 5: Research

HOW CAN WE LEARN MORE?

- How can inventors find out more about the problems they want to solve?
- How do they find out who is affected by a problem?
- How do they find out how many people are affected by this problem?
- How would they know where to find people who are affected by it?

Class ideas:




Think about the questions here. How can you find out more about the problem you have identified and want to solve. What might be important background information to better understand the problem? It is good to know who might be affected by the problem. How are they affected? How many people are affected- is this a big problem that affects a lot of people or is it more specific to a small group? Do you know anyone who is affected by this problem?

NOTE:

IF IN PERSON OR SYNCHRONOUS RECORDING, STOP SLIDES AND ASK STUDENTS TO BRAINSTORM IDEAS AS TO HOW THEY CAN FIND OUT MORE ABOUT THEIR PROBLEM. WHERE CAN THEY FIND ANSWERS TO THE FOLLOWING QUESTIONS? BEGIN SLIDES WHEN READY TO RESUME.

- How can we find out more about our inventions?
- How do we find out who is affected by a problem?
- How do we find out how many people are affected by this problem?
- How would we know where these people are who are affected?

GUIDED DISCOVERY:
Describe your invention using **key words**.

Think about your invention.

- List **5 words** you would use to describe your invention.
- Use these words when you research your idea on the internet.
- Have an adult help you!

Example: Pencil

- What 5 words describe a pencil?
- What comes up on the internet when you type in those words?



E.g. Something **wooden** that has **lead** that you use to **write** and **erase**!



Once you have learned more about your problem, next, you will need to explore your invention idea. Sometimes it's hard to know where to begin when you first start your research on your invention idea. One way to get started is to think about your invention. What is it? How would you describe it? I want you to list 5 key words that you would use to describe your invention.

NOTE:

IF IN PERSON OR SYNCHRONOUS RECORDING, STOP SLIDES AND GIVE STUDENTS A FEW MINUTES TO LIST THEIR 5 KEY WORDS. OR TEACHER MAY WISH TO ASSIGN THIS TO DO INDEPENDENTLY AT HOME. BEGIN SLIDES WHEN READY TO RESUME.

IF PRE-RECORDING, TEACHER MAY WISH TO ASK STUDENTS TO PAUSE THE VIDEO WHILE THEY WRITE DOWN THEIR 5 KEY WORDS. WHEN READY, THEY MAY RESUME VIDEO.

DO AN INTERNET SEARCH

Try your key words on the internet.

1. Go to a research site like libraryspot.com or kids.yahoo.com.
2. Type in your key words.
3. What do you find? What can you learn?



You may need an adult to help you here!

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Now that you have your key words, you can begin an internet search. I am sure many of you have used search engines such as Google or Yahoo to look up information about something, or even to buy a game or a toy you want.

NOTE:
TEACHER MAY WISH TO OFFER SUGGESTIONS FOR RELIABLE AND SAFE WEBSITES FOR STUDENTS. SEE YIP'S LIST OF SUGGESTED RESEARCH WEBSITES.

It's important to use reliable search engines when you are researching. We have created a list of good ones that we recommend, and you can download that list from our resources page or maybe your teacher has given you a copy. Sites like **library.spot.com** and **kids.yahoo.com** are great resources for research.

Choose your search site, and then type in your key words. For example, if your invention was a "pencil" but you didn't have a name for it yet, you might have the key words: wooden, uses lead, writes, erases.

So you would type in your search bar: "Something **wooden** that has **lead** that is used to **write** and **erase**". Then, begin to look at the information that comes up to read more about it.

DO AN INTERNET SEARCH

4. Now try a shopping site like Amazon.com or Target.com
5. What items come up?
6. How are these similar or different from your idea?



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Once you've looked up information about your invention idea, you should also shop around to see if something similar is already on the market, or being sold in stores.

Good shopping sites to check for what might already exist might be Amazon.com or Target.com. Take a shopping trip and look at some online stores and type in your key words or invention name and see what you find.

NOTE:
IF IN PERSON OR SYNCHRONOUS RECORDING, STOP SLIDES AND LEAD CLASS THOROUGH AN INTERNET SEARCH. USE THE PENCIL OR ANOTHER COMMON TOOL AS AN EXAMPLE. BEGIN WHEN READY TO RESUME.

LESSON 5: Research

IF PRE-RECORDING, TEACHER MAY WISH TO EXIT THE SLIDE SHOW BUT CONTINUE SCREEN SHARE TO SHOW A FEW EXAMPLES OF RESEARCH ON THE INTERNET. USE THE PENCIL AS AN EXAMPLE AND TALK THROUGH THE STEPS SO THAT YOUR STUDENTS CAN FOLLOW ALONG. BEGIN SLIDES WHEN READY TO RESUME.

THINK ABOUT IT...

What important information should you record?

- **Website name** and address
- **Names** of experts who provided information in the information found
- **Facts** about the problem and/or the solution idea
- **What similar ideas exist**- how is your idea the same and how is it different?



Don't forget to record all of your research and the sites you looked at in your YIP Inventor's Journal or logbook. Your research is an essential part of your invention journey and you may want to refer to things you learn later on as you work on your project.

Always write down the :

- Website name and address you used
- The names of any people you interview or read about who provided information
- The facts you find

And if you do find any similar products on the market, you will want to write about them, where you found them, how much they cost, and finally, how is your idea similar and how is it different.

STUDENT PROVING BEHAVIOR ACTIVITY:

NOW IS A GOOD TIME TO INSERT ONE OF THE RECOMMENDED STUDENT PROVING BEHAVIOR ACTIVITIES FROM LESSON 5 PLAN INTO THE LESSON. STOP SLIDES AND/OR SCREEN SHARE TO LEAD ACTIVITY. BEGIN SLIDES WHEN READY TO RESUME.

LESSON 5: Research



We have discussed how to research problems, solution ideas and inventions. You can now research your invention idea at home on your own.



NOTE:

TEACHER MAY ADJUST REQUIREMENTS AND RECOMMENDED TIME SPENT ON RESEARCH TO GUIDE STUDENTS AS NEEDED.

I encourage you to take time to research. You probably won't be able to do it all in one session. *[Spend at least 60 minutes total researching your projects. You can break this down into three 20-minute sessions, or two 30-minute sessions.]* Use more time if you feel you need it. The thorough research you do now will prepare you and help you avoid challenges that may slow you down later.

You can use the My Invention Research worksheet in your YIP Inventor's Journal to guide you in your research. And as always, be sure to record all of your resources and what you learn.

NOTE:

IF IN PERSON OR SYNCHRONOUS RECORDING, STOP SLIDES AND EXPLAIN ANY SPECIFIC EXPECTATIONS OR REQUIREMENTS FOR THE RESEARCH PART OF THE PROJECT. TEACHER MAY CHOOSE TO ASSIGN STUDENTS TO COMPLETE THE MY INVENTION RESEARCH WORKSHEET AND SUBMIT IT. BEGIN SLIDES WHEN READY TO RESUME

IF PRE-RECORDING, TEACHER MAY WISH TO GO OVER ANY SPECIFIC EXPECTATIONS OR REQUIREMENTS FOR THE RESEARCH PART OF THE PROJECT. TEACHER MAY CHOOSE TO ASSIGN STUDENTS TO

COMPLETE THE MY INVENTION RESEARCH WORKSHEET AND SUBMIT IT.

INSTRUCTIONS:

- Use 2 internet resources and 1 other resource
 - library
 - interview with a professional about the topic
 - a book from home
- Spend at least 60 minutes doing research.



As you research, I suggest that you try to use a variety of resources to find information. You should use at least 2 internet sites and at least 1 other resource such as a book from the library, an interview with a professional about the topic, a book from home, or a magazine article.

And, if you need help, please ask someone for help. Research can be tough, but you do not have to do it totally by yourself. Just ask.

THINK ABOUT:

What resources can you use?
 Who can you talk to?
 What questions do you want to ask?
 What information do you want to find?




Before you begin your research, it may be helpful to make a list of possible resources you can use. You can then go back to this list as you search for information. Perhaps you want to learn more about the problem, so websites like **Dictionary.com** or **kids.yahoo.com** might be good places to start. Your school or local librarian is also a wonderful person to talk with. Tell them what you are doing and I bet they can point you to some great books and other tools to help. And, if you are interviewing someone, think about who might be an expert that you know. Again, tell them what you are doing and that you have some questions. Ask them if there is a good time to talk. You may need to plan this in advance. And, finally, when it comes time for the interview, make sure you are prepared and write down some questions you want to ask. As they answer, it is a good idea to take notes. And don't forget to write down their full name, their job or how they are related to you, and of course, the information they give you.

LESSON 5: Research

INSTRUCTIONS:

3. Complete the My Invention Research Worksheet.



https://www.yip.govt.nz/...
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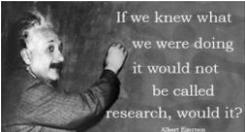
Turn to the My Invention Research worksheet in your YIP Inventor's Journal (see PDF on our website). This worksheet will help guide you as you look up information. Fill in the worksheet as you discover new things about your invention idea.

NOTE:

IF STUDENTS ARE SUBMITTING THE WORKSHEET OR ANOTHER RECORD OF RESEARCH WORK, TEACHER MAY ADD SPECIFIC INSTRUCTIONS FOR ASSIGNMENT.

Today I learned...

How to use different resources to research my problem and solution.



If we knew what we were doing it would not be called research, would it?
— Albert Einstein

https://www.einstein-online.info/...
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Research may take time, but it's fun to dive in to learn more about your idea and what might make your invention work best to solve the problem at hand. Take your time in this process. You can do a little bit every day until you feel that you have enough knowledge to develop your idea into a drawing or a model. Use as many resources as you can and don't forget to write everything in your Inventor's Journal as this is a big part of your process.

NOTE:

TEACHER MAY CHOOSE TO CLOSE THE LESSON BY GIVING A RELEVANT ASSIGNMENT OR ASKING STUDENTS TO REFLECT ON THE ACTIVITY. SEE THE YIP LESSON 5 PLAN FOR SUGGESTIONS.