

# Learning Experience

**LE Title:** Pathfinders: A Guide to Quality Research

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**Grade Level:** 6<sup>th</sup> (can be modified for any)

**School:** North Broad St. Elementary

**Topic/Subject Area(s):** The Research Process, and any subject area

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## LEARNING CONTEXT

### **Purpose or Focus of Experience**

**This lesson will guide students to quality resources in the LMC collection to meet research needs of a specific project using a Pathfinder. It will focus on using quality information and systematically checking local resources, LMS previewed online resources, and Internet searching as means of gathering relevant research materials. Students will use a Pathfinder the LMS has created that reflects the best materials on a topic the LMC collection has to offer.**

## CONNECTION TO STANDARDS

### **New York State Learning Standards addressed in assessment:**

ELA Standard 1: Students will read, write, listen, and speak for information and understanding.

ELA Standard 3: Students will read, write, listen, and speak for critical analysis and evaluation.

\*Note: Other subject standards would be specific to the topic of the collaborative research project.

### **AASL Learning Standards/Library & Information Skills Learner Outcomes addressed in assessment:**

AASL Standard 1: The student who is information literate accesses information efficiently and effectively.

-Selects examples of accurate information to answer information needs.

- Uses a full range of information sources to meet information needs.

AASL Standard 2: The student who is information literate evaluates information critically and competently.

-Selects information appropriate to the problem or question at hand.

AASL Standard 8: The student who contributes positively to the learning community and to society is information literate and practices ethical behavior in regard to information and information technology.

-Respects intellectual property rights by citing sources.

-Uses information technology responsibly by following all school guidelines related to the use of computing and communications hardware, software, and networks when resolving information problems or questions.

### **K - 12 Library and Information Literacy Skills Scope & Sequence:**

Learner Outcome 3: The student will be familiar with the layout and organization of the library.

Learner Outcome 14: The student will identify the reference section in the library.

Learner Outcome 15: The student will locate books on the shelves by using the call numbers. Recognize that there are special collections, such as Reference, 920, 921, etc.

Learner Outcome 17: The student will use the card/electronic catalog to locate materials on particular subjects.

Learner Outcome 21: The student will identify and use electronic resources in school and from remote locations, such as home.

Learner Outcome 25: The student will be able to take simple notes.

Learner Outcome 26: The student will list works cited in appropriate school format (MLA, APA, etc.)

Learner Outcome 36: Use magazine indices to retrieve articles for pleasure and information (print/non-print).

Learner Outcome 38: The student will use appropriate search engines, meta-search engines, and directories to access information on the Internet.

## **ESSENTIAL QUESTION(S)**

Can each student use a pathfinder as a guide to locate and access appropriate information in order to complete a research project on a specific subject?

## **CONTENT KNOWLEDGE: DECLARATIVE, PROCEDURAL**

### **Declarative**

1. Student will know that a Pathfinder is a map to quality resources the LMC has in its local collection or has access to.
2. Student will know how many resources they need to meet the research requirements of this project and the variety they must include.
3. Student will know that the Pathfinder for this project is arranged in a prioritized fashion and that it should be used in order of sources listed to guide them through the use of high quality information.

### **Procedural**

1. Students will follow the Pathfinder and check resources mentioned to find information that meets their research needs and which is comprehensible to them (at their reading level).
2. Students will take notes from resources, borrow resources, print copies, or get a photocopy of needed information.
3. Students will record resources used to gather information on works cited work sheet in order to later complete a bibliography of resources consulted.

## **PROCEDURE**

**Planning prior to lesson:** Collaborate with teacher on topic, prepare Pathfinder in prioritized order, prepare any staff expected to work with students on the project as to the expectations.

Items to ask determine during collaborative lesson:

- Whether print or electronic resources should be consulted first.
- Number of resources students are expected to gather during lesson activity.
- Variety of resources needed for research project: reference source, book, magazine, source, web site, etc.
- Essential questions of research project so Pathfinder is created specifically with those questions in mind.
- If one 45 minute research session will be enough to get majority of students on target.
- Will any student have specific modification to this research project and what are they?

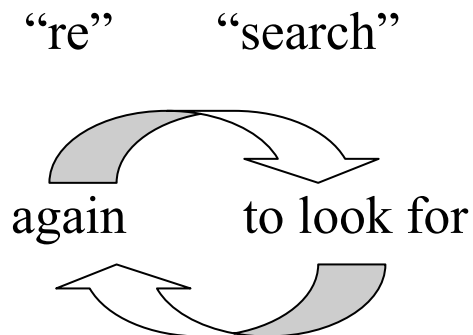
Students should arrive in the library with their teacher, their research notes/folder, topic and essential content questions. One such sample of those essential questions would be related to our Planet Research Unit, some of which are:

Where is my planet located? What is its distance from the sun and from the earth?  
Does my planet have moons, if so what are their names and composition?  
What is my planet's composition?  
Who is credited with the discovery of my planet?  
What space exploration has taken place to learn about my planet?

### **LESSON INTRODUCTION –10 minutes**

1. The LMS explains what a Pathfinder is and that this particular PF is listed in prioritized order.
2. Ask students what prioritized order means, discuss that it is the order they should progress through the resources in to find the best information to meet their research needs?
3. Distribute Pathfinder and briefly introduce each resource listed, when possible ask students to point out where in the library they would go to access that resource. \*NOTE – It is best to only include resources students have either been taught to use previously or that are very similar to another resource they have been taught to use.
4. Remind students of the number of resources that they are expected to collect during activity.
5. Discuss guidelines for borrowing circulating materials, reference materials borrowing or photocopying, or computer printing based on your LMC rules/guidelines.
6. Take any student questions.
7. Ask review questions such as:
  - a. Where should I see you looking first for information?
  - b. How do you determine whether a resource is valuable to you? (Note: This should have been taught in prior lessons.)
  - c. If you are confused at any point who should you see? Have them indicate the adults who are there to assist them.
  - d. What information are you required to collect for this project?

\*\* Remind students that research is comprised of a root word and a prefix with a very specific meaning. RE – again, Search – to look for and that they will not be successful with every resource thus they will “look again” and “look again” until they are successful. Demonstrate on board:



## **LESSON ACTIVITY** – 25 to 30 minutes

Students are assisted by adults to collect information resources that are referred to on the pathfinder.

### **CLOSURE** – 5 – 10 minutes

Have students stop gathering information and assemble as a group once again. Let them know that if they have not been successful in collecting all of their resources they will be given additional times later.

Informally poll students to see how many of them need additional time. This will give you an idea of those who might need more time. Let them know their teachers will be checking in class later to see who needs more time and they will be given additional times in the LMC.

Ask students what if any problems they encountered during the activity. This will give you the opportunity to brainstorm solutions with students and further explore the research process and provide students with time to evaluate the process with you.

As a final note, remind students that even though it appears they may have found their sources of information, when they look at them further they may find the resource does not fulfill their needs and that's okay. Refer to the RE in research once again and explain that when we use our resources to extract information, which is the next step, we may find we need to look AGAIN!

## **INSTRUCTIONAL/ENVIRONMENTAL MODIFICATIONS**

Modifications to using a Pathfinder are best done in individual and small group sessions following the introductory session. Students who need more help will need additional times to come to the library and work more closely with the LMS, discuss these ahead of time with the teacher during planning. Students may also be directed to easier versions of reference sources individually while they are locating sources, directed to resources with lower reading levels, etc.

The classroom teacher may also make modifications to the project requirements ahead of time, resulting in different or fewer questions for some students to research. This should be discussed in planning sessions so all adults working with students are aware of them.

This lesson is designed for both automated libraries and those libraries which are not automated. It works well with both card catalog searching and electronic catalog searching.

## **TIME REQUIRED**

1. Consultation with teacher when planning research project and prior to creating Pathfinder geared to the specific subject. Approximately 20 – 30 minutes.
2. One or more 45-minute research sessions with entire class.
3. Additional individual or small group research times as needed per student progress or student modifications.
4. Time to prepare a Pathfinder geared towards your LMC collection, the research project you collaborate on, and student's needs. There are some online sources that you can refer to for additional help listed in the resources section.
5. If other staff in the library will be expected to assist students during the lesson or in following sessions, such as library clerks or aids, and they cannot be present during planning sessions, they should also be informed of student expectations and the lesson format.

## **RESOURCES**

Note: All students should have been introduced to the resources they will be guided to on the Pathfinder. The only exception to this would be individual websites the librarian listed on the Pathfinder after previewing them for content and the results of unique search engine inquiries.

1. Sample Pathfinder – prioritized list of resources students should consult and location of them in the library. Print off on colored paper for ease of identification. Each student should receive one to keep in their research folder and should bring it to the LMC whenever continuing research on this project.
2. Works cited/works consulted worksheet. A sample has been provided but should be modified to meet your student, teacher and LMS needs.

### Other resources for examples of Pathfinders:

1. Internet Public Library  
<http://www.ipl.org/div/pf/>
2. Library Links: Document Author: B. Perry. Copyright © GPSoftware 2000  
<http://www.gpsoft.com.au/smg/assign/spirituality.html>  
The Pathfinder was created to guide research in Aboriginal Spirituality. Created by  
  
[http://www.gpsoft.com.au/smg/assign/british\\_india.html](http://www.gpsoft.com.au/smg/assign/british_india.html)  
The Pathfinder was created to guide research on British India  
  
<http://www.gpsoft.com.au/smg/assign/planets.html>  
On the Solar System  
  
[http://www.gpsoft.com.au/smg/assign/race\\_relations.html](http://www.gpsoft.com.au/smg/assign/race_relations.html)  
Race Relations in Australia
3. Lakewood Public Library Class Assignment Pathfinders  
<http://www.lkwdpl.org/schools/schlpath.htm>
4. Maywood Middle School Library Media Center  
<http://www.cuesd.tehama.k12.ca.us/library/anciv1.htm>
5. Milbank Memorial Library Multicultural Education Pathfinder  
<http://lweb.tc.columbia.edu/rr/mc/>
6. Montgomery Country Public Schools  
Chesapeake Bay Problems Pathfinder  
<http://www.mcps.k12.md.us/departments/isa/elit/el/chesapeakeprobs.html>  
  
A Real Gem Pathfinder  
<http://www.mcps.k12.md.us/departments/isa/elit/el/4thbirthstonepathfinder.htm>  
  
Explorers of the New World Pathfinder  
<http://www.mcps.k12.md.us/departments/isa/elit/el/explorerer.htm#hub>

## **ASSESSMENT PLAN**

Both the teacher and librarian can assess student progress in collecting data as the lesson activity of collecting resources is completed to some degree. Later the classroom teacher can assess the number, variety and quality of sources used when the project is completed using a rubric the classroom teacher has designed for the overall research project grade. Students should be familiar with this rubric ahead of time so that they fully understand the project requirements.

Assessment is also made during lesson closure from interviewing students at the end of the session and asking who found all their material? Who needs more time?

Student concerns or problems discussed in closure will also allow for assessment of whether further instruction is needed by some or all, or if clarification could be made and addressed then.

When students return to class the teacher can assess more formally who needs additional research time making a list of students who have not the needed resources. Those students would then visit the library to receive more guidance and individual attention during other times setup between the teacher and librarian.

## **STUDENT WORK**

To collect relevant research resources to meet the needs of their assigned research project and its essential questions.

Students who are able to collect all resources needed and have time left over should have within their research folder the necessary forms/graphic organizer to take notes. This should be provided by the classroom teacher or by the LMS in prior lessons.

## **REFLECTION**

This project is designed to help students direct their research practice and become lifelong learners with the ability to walk into any library and use the quality resources they have.

This can be done both informally and more formally with a follow up planning session with the classroom teacher, and will allow for adaptation to the research process as needed.

Did most students have ample time to begin collecting relevant resources?

What were the concerns students had or problems they encountered?

Were other students able to offer advice during the closure on how to solve those situations or address those concerns?

Were enough follow up times arranged?

Were students with modifications able to find some materials at their comprehension level?

Did students follow the prioritization of resources per the pathfinder or not, did students searches remained focused with the aid of the pathfinder?

Planet Pathfinder  
6<sup>th</sup> Grade Science Research Project  
Mrs. Becker, Librarian



**WHAT IS A PATHFINDER?**

ANSWER: IT IS A LIST OF SOURCES YOU SHOULD USE FOR RESEARCH. **THIS ONE IS LISTED IN THE ORDER YOU SHOULD USE THEM!**

**Circulating Resources -**

- ❑ You can choose to use the library catalog or browse the specific section of the library your information would be in.
- ❑ Most books that circulate and that can help you can be found in the "Astronomy section" located in the Dewey Decimal 520 section and "Planets section" located in the Dewey Decimal 523 section.
- ❑ Also look in the 031 section for circulating almanacs and 030 section for circulating encyclopedias.

**Reference Resources -**

- ❑ World Book Encyclopedia - in the reference section  
This is a good source of high quality information, even though it may not be the most current and up to date.
- ❑ World Book Student Discovery Encyclopedia
- ❑ Raintree Science Encyclopedia
- ❑ Young Student Learning Library

**Computer Resources -**

- ❑ **Grolier Online Database of Encyclopedias**

Go to [www.go.grolier.com](http://www.go.grolier.com)

Note: If can't link automatically try this (you can do this from home too!)

GO TO our main page and click on *Encyclopedias*

Click on the *Grolier Encyclopedia*

Then click on the picture of the Little Girl

Username and Password: (see your librarian)

TIP: Try a general search to search all the various encyclopedias or search the New Book of Popular Science which is a science encyclopedia.

❑ **Searchasaurus by EBSCO Host**

From our main page GO TO:



- ← *Magazines and Newspapers*  
Searchasaurus  
Primary Search Via Searchasaurus  
Select Primary Search/Magazines

## **Computer Resources -Internet Websites**

- ❑ **Exploring the Planets**  
<http://www.nasm.si.edu/ceps/etp/>
- ❑ **NASA Kids**  
<http://kids.msfc.nasa.gov>
- ❑ **NASA**  
<http://www.nasa.gov>
- ❑ **NASA's Planetary Photojournal**  
<http://photojournal.jpl.nasa.gov>
- ❑ **Nine Planets**  
<http://www.seds.org/nineplanets/nineplanets/nineplanets.html>
- ❑ **Planets**  
<http://pds.jpl.nasa.gov/planets>
- ❑ **Solar System Exploration**  
<http://sse.jpl.nasa.gov/features/planets/planetsfeat.html>
- ❑ **StarChild: The Planets**  
[http://starchild.gsfc.nasa.gov/docs/StarChild/solar\\_system\\_level1/planets.html](http://starchild.gsfc.nasa.gov/docs/StarChild/solar_system_level1/planets.html)
- ❑ **Windows to the Universe**  
<http://www.windows.ucar.edu>

## **Search Engines –**

Using the library homepage use the preselected search engines to conduct research.