

# DISCOVERY CHALLENGE

## 5th Grade, Curriculum Notes

### FINDING THE SPARK

Help students pick a subject that they find truly interesting.

### LEARNING "GOOD" RESEARCH TECHNIQUES

Train students to become better consumers of information.

### ORGANIZING THE PRESENTATION

Assist students as they bring their research together to form a presentation.

### VISUAL AIDS

Coach students to "show-off" their work.



## 4-H REPRESENTATIVE/VOLUNTEER OVERVIEW



A 4-H volunteer or Purdue Extension educator will visit every classroom a minimum of 5 class periods. A 6th or 7th day may be required, if all presentations will not fit within one class period. Between 4-H visits, the classroom instructor will spend a minimum of one period, after each of days 2-4, in order to allow in-class work time and follow-up. In the case of research and visual aids, more than one work day between 4-H visits may be appropriate.

All presentations will be given by one student using electronic media visual aids. Exceptions will be made for students with appropriate IEPs or schools lacking the necessary technology. In addition, students whose presentations meet high standards may be invited to participate in a district-level competition.

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### VISUAL AIDS

Adding visual interest to presentations.

“

All the great  
speakers were  
bad speakers  
at first.

Ralph Waldo Emerson

”

# DAY #1: THE SPARK



Introduce yourself. Discuss the goals and timeline of Discovery Challenge. After a brief question and answer period, ask the class to

think about, not answer out-loud, the following questions: "What is your favorite subject at school?" "Which do you like best: sports, arts and crafts, camping, hiking, or technology?" "Do you like helping people?" "What is your favorite hobby?" "What classroom lesson do you wish your teacher could spend weeks covering?" "If you could go back to any time in history, what time and place would you pick?" Ask the students to keep their answers in mind, while thinking about which subject they would like to research and present to the class. Unless the classroom instructor has a preference, all "school-appropriate" topics are acceptable.

Ask students if any of their answers to the earlier questions interests them as a Discovery Challenge topic. If not, suggest that they think about what job they might like one day, where would they like to live, what foods they love, and what features they might like in a future home. Most of those things will make good topics.

Discuss the difference between wide and narrow topics; and suggest that it is much easier to research and present on a narrow topic. The representative should give an example, such as, "Wouldn't it be easier to give a good presentation on freight train engines instead of all of the forms of transportation in the world?" Allow students a couple minutes to narrow their topic. Ask for students to share their topics with the class. Praise those who have a narrow enough topic and ask the class to suggest ways to narrow down topics for those that may still be overly broad. Have students turn in their written topics at the end of the period or the beginning of the second day/week of Discovery Challenge.

Post or copy the the parent brochure and rubric. Review, the requirements for the presentation. Encourage students to take this brochure home, or look it up if posted, and share it with their guardians.

To end class, discuss the words "Independence" and "Perseverance" (Indiana Employability Standards) and how they relate to Project Achievement. A simple discussion of independence is that, to do a good project, they need to do work on their own and maybe even outside the classroom. A basic understanding of perseverance is that they may not immediately find the sources and materials they want for their project; but, they will need to keep trying until they have what they need.



# Day #2: Doing Research

Before you start your presentation, begin circulating the "Presentation Subject" worksheet. Have each student write their name and final project topic. **Remind them, this subject will not be changed.**

Project on a screen, "It Is On The Internet" PowerPoint (or use pdf version). Go through the slides showing a great deal on a new mobile kitchen for only \$4,599. This is a real-world posting (05/17/2024), it was posted on AliExpress, which is a legitimate company, who lets anyone sell on their site for a commission. By the time you get to the last slide, the students will hopefully agree that this is a rip-off. Photos from a trailer customization firm in Virginia were undoubtedly copied by someone in China.

## Good Sources:

Discuss, "If this site is a rip-off, how did they get the photos of the trailer in the first place? By doing just a little research, we were able to save ourselves from being conned out of \$4,599. I think that we can agree that everyone on the internet is not always honest, and that is why we need to be extra careful about our sources when we do research presentations."

Hand Out: "Is This a Good Source?" think sheet to students and summarize the high-points with them. It will be

helpful to be familiar with this sheet prior to class. Students will need help with some of the larger words. This sheet is used in grades 4-5; so, students may remember going over it previously. Remind them, by reviewing we are less likely to make mistakes in the future.

## Plagiarism:

Ask students to define the word "plagiarism." If they can't remember it from 4th grade, give them this definition: "Plagiarism is stealing someone else's words or work without giving them credit." See if the students can come up with examples. If not, present them with some real-world questions about plagiarism.

1. Is this plagiarism? You copy and paste a story from the internet. You don't want to be called a plagiarist, so you change one out of every four words before you turn it in as your work. (Yes, this is not using your own words and you gave no credit to the person who wrote the story.)

2. Is this plagiarism? You copied sentences from multiple sources, mixed them together, and turned it in as your own. (Yes)

3. Is this plagiarism? You researched how to make the perfect after school snack. You get lots of great information from a book and restate most things from the book in your own words.

However, you can't paraphrase the recipe, or it would not cook properly. So, you indent (the recipe is too long to be in quotation marks) and you have a citation giving credit to your source right after the recipe. (No)

4. Is this plagiarism? You research proper technique for welding a trailer. You make sure to write everything in your own words and you give credit to the sources where you found your information. (No)

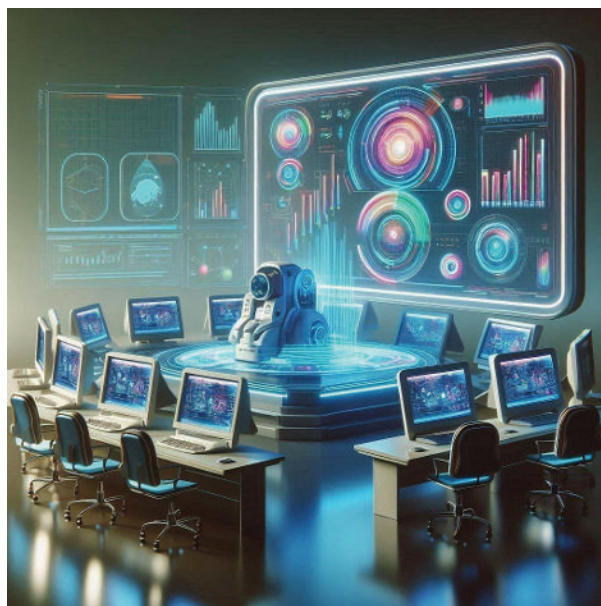
We know how do we avoid plagiarism: make sure to use good sources, translate what they are saying into your own words, and give credit to your sources! Very short quotes directly from a source or person can be used as long as that material is in quotation marks (or indented if over 5 lines), and you give credit to whoever is being quoted.

### **Taking Research Notes:**

**Discuss:** A big mistake many people make while taking notes from a source is to write/type/copy everything down from the source. This takes lots of extra time and really does not help you narrow down the important parts of your presentation. In addition, it makes it more likely that you will accidentally plagiarize your source. Focus on using summary statements on notes and only using quotes when paraphrasing the work would not be adequate.

Students also need to have very basic citation materials written into their notes (source title, page numbers, etc.)

Students do not need proper citation styles at this point. They need to simply state where they found their research. **Google and Kiddle are NOT web sites, they are search engines. No student should use the words Google or Kiddle as their source.** Style will be worked on in the higher grades. Citations should appear in alphabetical order at least on a "Works Cited" slide at the end of their presentations. Citations can also be worked into each slide, instead of using a "Works Cited."



### **AI Research: (Cut if time needed)**

**Discuss:** We are well into the age of "Artificial Intelligence," (AI). Can you tell me what we can do with AI? Should we use it to write our presentation for us? NO

Here is why...Often AI does not significantly change the wording from sources; thus, you may be guilty of plagiarism without intending to "cheat." Sometimes, AI will make up sources. Often the data AI uses is out of date or even simply wrong. Lastly, the fun of doing a presentation is displaying your creativity and thought. At the end of any presentation, you should have something of which to be proud. If a computer created the presentation, will you feel a sense of accomplishment? Remember, when you go to Google and it gives you a short paragraph summary of your topic, that paragraph was written by AI.

### Time Management/Organization:

Discuss, "Time Management and Organization" (Indiana Employment Standard) and how they relate to this project. Examples of organization would be students simply making sure to have their citations with their source materials, keeping sources in a way they are not likely to be lost or destroyed, and thinking about how their research may start to fit together into a presentation. Organization is what we need in order to make anything: from a Lego house to skyscrapers, from writing a simple note to leading a massive scientific study, and from sorting your socks to sorting DNA.



Time management is the study of priorities and balance. We can't do everything we would like accomplish every day; and, that is fine. Time management is making a conscious plan to accomplish your priorities by not doing other things. You may love baseball; but, signing up for three teams would keep you from doing so many other things that you would not be managing your time very well. Discuss time management by having students think of how they will get all of their research accomplished before you return to class.

To end the period, provide the sheet of "Helpful Research Sites" and have students look up "cats" on Kiddle. Make sure they are comfortable using the search engine and **actually opening sources**. Many will stop searching when the AI summary appears on the screen. Have them open actual web-sites. Then, allow them to start their research; saving facts, interesting information and sources. They may save this information on an electronic app or hand-written notes are always acceptable. Suggest that they should summarize instead of copy-and-paste.



# DAY #3

## ORGANIZATION AND CONCLUSIONS

Handout "How to Build A Presentation." Give attention to each bullet and special attention to conclusions. This should help the students understand what we mean about the five parts of the presentation and focus on where we want to end the presentation.

Announce, "A good conclusion is just as important as a good introduction. You have already done your research, or at least it should be done---remember 'Time Management.' You probably already have some ideas for a good introduction. But, have you thought about where you want to go with a conclusion?"

Hand out, then read out-loud, "Three Conclusion Paragraphs." Work through it to remind students that a good conclusion should: restate the topic in different words than the introduction, summarize the body supporting points and end with a thought-provoking statement or call-to-action.

On the back of the "Three Conclusion..." handout, have students take a stab at writing the conclusion of their presentation before the introduction and body. This is very difficult, but an interesting exercise. After they have struggled for a few minutes ask a volunteer to read their draft. Suggest that writing the conclusion will be much easier once they have organized their research.

Provide the students with the "Presentation Structure Table." Tell them to use it to help organize their information into an

introduction, supporting topics, and a conclusion. They are encouraged to jot down bullet points. If they use full sentences instead, remind them that they want to make sure to use bullet-points on their slides. Remind them, if they copy-and-paste to their presentation or notes, they are plagiarizing/cheating. If time is short, the instructor can follow-up with this table on another day. This table needs to be completed before the next time you visit.

### Adaptability:

Save some time to discuss Indiana's employability standard of "Adaptability." A good example of this was asking students to write a conclusion before they had written the rest of the essay. While difficult, looking at things in an unusual way, often helps us to overcome obstacles. Being adaptable is being able to get from one place to another, even when the road you usually travel is blocked and GPS isn't working.





# Day #4, Visual Aids

Show students YouTube video

<https://www.youtube.com/watch?v=kRlcD7v-Vm8>

You will want to watch this first. Notice that it has been cut around his “bullet-point” slide. After the presentation ends, remind students of some things that make bad slides: 1. Putting every word you are about to say on the slide. 2. Not running spell-check. 3. Using too many bullet-points. 4. Colors that do not go together. 5. Too many slides. 6. Too much information on one slide. 7. Too much, or inappropriate, animation. 8. Poor use of font types or size.

Let them work in pairs on their devices to try to make a **bad** slide with between one and three major problems. As the first two or three finish up, have them show the entire class their awful slide. Vote on the worst slide presented.

Hand out the “Draft Visual Aids” handout (it should have two pages). Tell students, “Think about your research. We want to convert it to slides that will back-up your presentation. So, we need a minimum of seven slides (cover slide, five parts of a presentation plus a works cited). Of course, you can use more slides; but, let’s keep the information slides to a maximum of 15. Remember, you have limited time to present. Think about your introduction slide and draw it on the first rectangle on your handout. What words does it have (at least your name and the

presentation subject)? Does it have a picture or drawing? What else might you want on your introduction?” After they have designed the introductory slide, have them look at their presentation bullet points and decide on at least one visual from each of the 5 presentation parts. Ask them to map out (draft) the rest of their slides on the handout. If time allows, ask students to share one visual they may be using for a slide.

Discuss the Indiana employability standard of “Attention to Detail,” and its relation to this project. In this case, they need to run spell check on their slides, edit their presentations, practice presenting and time themselves, practice showing their slides on the classroom AV equipment, etc.

To wrap up, hand out and review the competition rubric with the class, note the attention to detail required for the project. Provide one last hint, “notes are allowed in your hands during the speech. They are best written or typed on index cards; however, sheets of paper are acceptable. This is a great place to put quotes and helpful material that might not be on your slides. Remember, don't “read” your presentation from your notes or your slides; and, look up from your notes when you are not using them.”

"If you can't explain it simply, you don't understand it well enough."

Albert Einstein

# Day #5+, Judging

Indiana 4-H Discovery Challenge Scorecard

Grades 4 & 5

Judges Name: \_\_\_\_\_

Name of Presenter	1.	2.	3.
Topic			
<b>Logical Flow (15 pts.)</b> Presentation flows well and is easy to follow. 13-15 = Excellent 8-12 = Good 7 = Needs Improvement			
<b>Research (20 pts.)</b> Presentation is research-based, accurate and supports the topic. 17-20 = Excellent 11-16 = Good 10 = Needs Improvement			
<b>Subject Coverage (20 pts.)</b> Subject is well covered and audience knowledge is increased. 17-20 = Excellent 11-16 = Good 10 = Needs Improvement			
<b>Presentation Delivery (15 pts.)</b> Notes used appropriately, enthusiasm shown, voice clear. 13-15 = Excellent 8-12 = Good 7 = Needs Improvement			
<b>Visual Aids (15 pts.)</b> Easy to see, support research, cited. 13-15 = Excellent 8-12 = Good 7 = Needs Improvement			
<b>Time (10 pts.)</b> 10 = 4-6 minutes 9 = 3 to 3:59 min. or 6:01 to 7 min. 8 = 2 to 2:59 min. or 7:01 to 8 min. 7 = 1 to 1:59 min. or 8:01 to 9 min. 6 = Over 9 Minutes 5 = Under 1 Minute			
<b>Appearance (5 pts.)</b> Clean and appropriately dressed for presentation. 5 = Excellent 4 = Good 3 = Needs Improvement			
<b>Total Score</b>			

White = 49-65, Red = 66-87, Blue = 88-100

# Day #5+, Judging

## Presentation Day(s), Grade 4 and 5

Before you arrive, have available a stopwatch, or a phone app that will keep track of time. Have more than enough judging sheets for every member of the class and a couple of writing utensils.

During presentations, you are welcome to tell students when to begin and start can your timer. Do not interrupt the presentation. Do not ask questions of the presenter. If you don't see citations during the presentation, you are welcome to ask the presenter for them after the end of their presentation. In grades 3-5, citation format mistakes should not be judged against the student; however, lack of citations should reduce available points within the "Research" section of the rubric. (See: "District Judging Helpful Thoughts" for more detail.)

During and after the presentation, fill out the score sheet. Do not wait until the end of all presentations to consider your scores. Try your best to judge only according to the rubric. Do not judge the speaker against another student's work. If there are ties in the final scores, do not go back and attempt to rescore them in order to determine placing. "Ties" are allowed!

## Frequently Asked Questions:

1. Should I brief the students before judging? Yes, remind students how the judging process will proceed, remind them (and anyone else in attendance) to clap at the end of every presentation, remind them not to talk or make noise during presentations, remind them to speak up when presenting. Unless it is an emergency, they should wait to ask for passes, etc. until the class is between presentations.
2. Are parents allowed to attend the presentation? There is no rule against them attending; however, defer to the classroom instructor. A small classroom can't take the addition of 60 parents.
3. Who gets to see the score sheets? The instructor is welcome to the scores; however, we ask the judge not to give them directly to students. The instructor may use them for grades, completion marks, or helpful critique, after you leave the room.
4. How strict should I be about scoring? If you feel that there is a reason to deduct points, do so! If everyone "gets a 'Blue'," we will be unable to decide who should be invited to other events. That being said, if you could "go either way" between two scores, err on the side of the presenter.
5. How should I dress for presentations? We ask students dress appropriately for their presentations. Out of respect to the presenter, the judge should dress in something approximating "business casual." Certainly, "old school" business attire is welcome; however, we want our judges to be comfortable. In cases where a school lacks sufficient climate control, please adjust your attire accordingly and give the students some latitude if they don't look "crisp." Of course, students wearing inappropriate clothing (such as references to illegal acts, drugs, or alcohol) should lose all points under "Appearance."

THANK YOU FOR BEING PART OF 4-H!

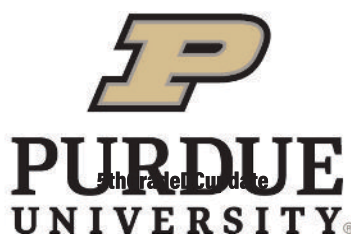
# VOLUNTEERS NEEDED

COME HELP INDIANA STUDENTS BUILD SKILLS FOR LIFE

The Indiana 4-H Youth Development Program relies heavily on adults who care about the positive development of youth across the state. All volunteers must complete a volunteer application, screening process and participate in training provided by 4-H educators. To start your volunteer certification for Project Achievement, contact Bill Decker at [wdecker@purdue.edu](mailto:wdecker@purdue.edu).

## 4-H Discovery Challenge Volunteers:

- Never pay for volunteer membership.
- Don't need any 4-H experience.
- Are welcome to help with other 4-H activities.
- Annually refresh their training on youth protection.
- Know the value of positive role models.



Extension

LET'S STAY TOGETHER.

**BILL DECKER, 4-H REGIONAL EDUCATOR**  
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([HTTPS://EXTENSION.PURDUE.EDU/4-H/GET-INVOLVED/DISCOVERY-PROGRAMS.HTML](https://extension.purdue.edu/4-H/GET-INVOLVED/DISCOVERY-PROGRAMS.HTML))