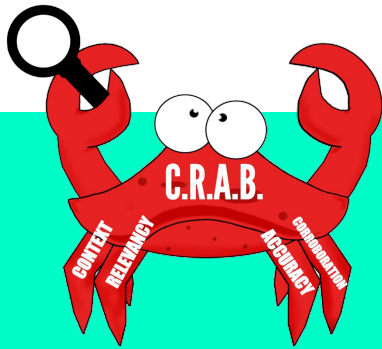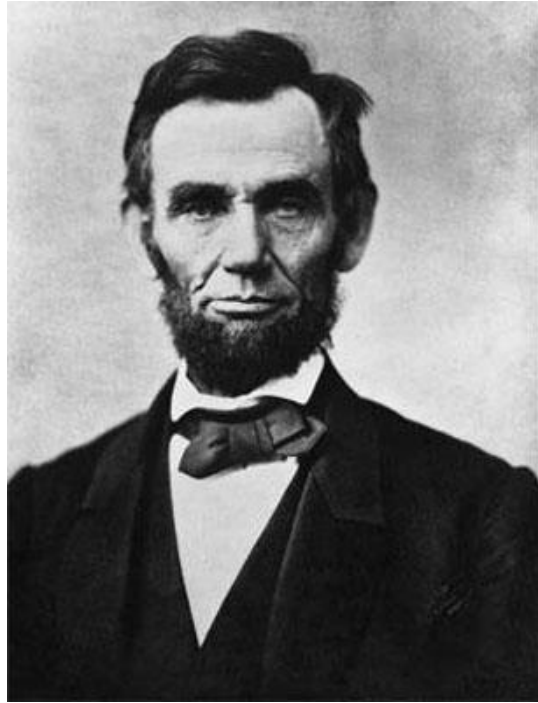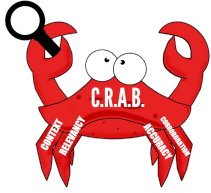# C.R.A.B.

The Middle Schooler's Guide to Conducting Credible Research

Our Dilemma...

In today's society with the **<u>abundance</u>** of information available at our fingertips, it's easy to accept all information as truth. However, we must be aware that *not* all sources, especially online, are equal in **<u>quality</u>** and therefore, **<u>credibility</u>**.

"Don't believe everything you read on the Internet just because there's a picture with a quote next to it."

—Abraham Lincoln

Imagine for a Moment...

Imagine for a moment that you are famous football player who makes millions of dollars a year. During a game, you injure your knee and will now require surgery. You are nervous because your career is very important to you and your livelihood ($) is on the line if the surgery goes wrong. When it comes to choosing a doctor to perform the surgery, what kind of doctor would you choose?

Before You Choose Your Surgeon, Consider...

❏ School/University he/she attended
❏ Specialization or area of expertise
❏ Type of doctor (surgeon, general practice etc .)
❏ What other doctors say about him/her
❏ What other patients say about him/her
❏ Successful surgeries that he/she has completed
❏ Research this surgeon has done in their field in their area of expertise

Why do these matter? These matter because they determine the quality and care you will receive. You want only the best quality of doctor for the task at hand. Quality determines credibility, or trustworthiness.

Quality is also important when it comes to academic research!

Quality matters when selecting which documents to use in your research. To determine quality and credibility, you can use the following acronym:

C.R.A.B.

❏ **C**ontext (Background)
❏ **R**elevancy
❏ **A**ccuracy & Corroboration
❏ **B**ias

Context (Background)

Context, or background includes a person's training, experience, and education. It is important that the author's background qualifies him/her to write about the subject/topic. You should be able to check each of the following to ensure a strong background:

❏ Author's field of study and expertise is noted on website or article and pertains to topic being studied. Sometimes, a biography or "about the author" section is included on website.
❏ Author's degree (BA, MA, **Doctorate** etc.) is related to what they're writing about.
❏ The author has published **other** research, articles, and books on the topic.
❏ The author is respected by their peers and academic community (may have peer reviews on their work)
❏ The organization, company, institution which is publishing this author's information has a good reputation and is well-respected (ie. National Geographic, PBS, Stanford University etc.)
❏ Contact information for the author should be available on the website.

Go to goo.gl/l4WYv0 for sample website

Let's Practice...

Roxy is doing a science report on volcanoes. She finds a website with a lot of information on volcanoes. It is published by a 6th grade student from Dallas, Texas who enjoys learning about volcanoes in his spare time and writing about them.

Would this 6th grade student's background be enough for Roxy to consider using him as a source? Why or why not?

Relevancy

- *Relevancy is how appropriate the information you find online is to the topic of your research.*
  - *Example: If you are researching the impact of immigration in **America**, then a website on immigration to **England** might not be appropriate.*
- *Relevancy is also how information you find is appropriate to the time period being studied.*
  - *Example #1: If you are looking up immigration in America in today's society, your articles should have been published recently.*
  - *Example #2- If you are looking at immigration in the past such as the 1800s, then you can look at articles on immigration published in the 1800s (primary sources).*
  - *Example #3- If you are looking at how ideas **change over time OR comparing events from the past and the present**, then you can look at documents from different time periods.*

Relevancy Cont'd

You should be able to check each of the following to ensure an article or information is relevant:

Topic Relevancy
- ❏ Website topic should be related to what you're specifically studying for your project.

Time/Date Relevancy
- ❏ If researching a topic related to society today, information in articles should have been **published** (first written) in the last five to ten years. Websites should be updated in the past year or two.
- ❏ *If researching events in the past, primary source documents from that time period should be used*
- ❏ If comparing and contrasting current AND past events, then documents should be from each time period.

Let's Practice...

Daniel is doing a research report on the effects of social media on teens between 13- and 18 years old in today's society. He finds an online article from 2002. It is about how MySpace has become an internet sensation and how students are using it to stay connected.

Would you consider this information relevant? Why or why not?

Accuracy and Corroboration

Accuracy is the quality of being correct and true, especially as it pertains to stated facts. Corroboration is when evidence is used to support a statement or claim and when other sources make similar claims. You should be able to check each of the following to ensure accuracy and corroboration:

- ❏ Factual information that you find in the article can be found on at least two other articles or websites (written by different authors)
- ❏ The opinions and claims of the author are supported with evidence from their own primary research (ie. interviews, observations, scientific data, experiments, surveys etc.)
- ❏ The author provides a list of websites and/or documents that they used in their own research (known as secondary research). This is usually mentioned throughout the article OR the author will list at the every end of the article.

Let's Practice...
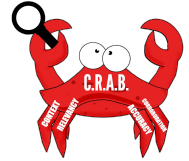
Alex is researching the effects of the American Civil War. He finds Website A that states that there were 500,000 deaths in this war, but he finds that this number is different on other websites and documents. Alex cannot find another website that supports the 500,000 death count. **Should he use Website A? Is the information on Website A accurate? Why or why not?**

Sue is doing research on the pros and cons of year-round school. She effectively creates and distributes a survey to students who currently attend year-round schools in surrounding areas. Is this information useful? Why or why not?

Jose is doing research on vegetables that can be grown in space. He finds information from other researchers who have already grown certain kinds of vegetables in space and recorded their observations and findings. Is the information worth using? Why or why not?

Bias
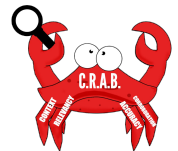
Bias is prejudice in favor or against a thing, person, group, or idea. Bias is considered to be unfair. There is always some bias in information, however, you should be able to check off many of the following items to ensure that there is as little bias as possible in the articles you are using:

❏ The article is not published by a political party, religious group, or corporation/groups trying to sell something.
❏ There are no ads on this webpage so the website is not trying to sell you anything.
❏ The publishing organization, company, or institution publishing the information is **not making money for profit**. Their websites usually end in **.edu, .gov. and .org.**
❏ The article/information has MORE facts than opinions and claims. Facts are true and actually exist while opinions are personal beliefs. Opinions can be argued.
❏ The article/information **does not** use emotion to appeal to readers.
❏ The article gives more than one perspective on the topic/subject OR more than one article has been identified on topic to provide you with multiple perspectives
❏ The author acknowledges the limitations of their research or their unanswered questions

Let's Practice...

Tony is looking up information on whether or not schools should require kids to take art. He finds an article published online by a group of art teachers that are in favor of the idea and list many reasons why they believe art education should be required in school. They have little research to support their claims, but their ideas sound good. Is there a chance that there might be bias in this article? Explain your thinking.

Let's Play...
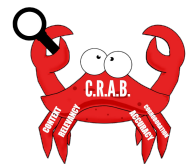
Directions:

In groups of 3-4 students, identify a website that will assist you in answering the following question:

Should students be required to study the arts in school (ie. art history, painting, music etc.)?

Think about the keywords you will search in Google. Write them down. Your teacher can assist you with keywords to search.

Next, take 10 minutes to look through various websites on this topic. Think about some of the things you have learned in this presentation. After ten minutes, pick <u>one</u> website on the topic that you will use for the game we will play-**C.R.A.B. Tic-Tac-Toe**
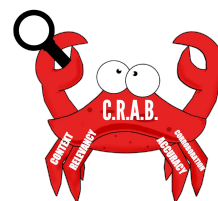
Playing C.R.A.B. Tic-Tac-Toe

Now that you have your website picked out, let's play! Take out a colored-marker. You will also receive a printed tic-tac-toe board from your teacher. When your teacher says go, you will try to identify each element on your tic-tac-toe board using your chosen website. Once you fill up an **entire line** (vertical, horizontal, diagonal), yell BRAB! Your teacher will verify your findings.

Note: At any point, you may find another website on the same topic if needed, BUT you have to clear off your board each time and start over.

Let's Play Tic-Tac-Toe

Contact information for the author can be found on the website.	The article was published by a researcher who has a background, including a specialized degree, in the subject of the article	The web document contains two or more points of view or perspectives on the topic.
There are <u>more facts</u> than opinions on this web document.	The web page is ad free.	The article was <u>published</u> in the past five years.
The website url of this website ends in either .edu .gov .org .edu	The article and/or author lists other websites where from where they got their information (throughout the article OR lists at bottom of webpage)	The web document has been <u>updated</u> in the past year or two.