Information Fluency: Priority Benchmark Skills and Assessments
Grade 12

STANDARDS AND INDICATORS	BENCHMARKS	ASSESSMENTS
STANDARD 1: USING INQUIRY TO BUILD UNDERSTANDING		
Inquiry Phase: Connect	12.1 Explores problems or questions for which there are multiple answers or no "best" answer.	12.1 Selecting Complex Research Problems or Questions
Inquiry Phase: Wonder		
Inquiry Phase: Investigate	12.2 Challenges ideas in text and makes notes of questions to pursue in additional sources.	12.2 Investigating Ideas 12.2 Learning Logs for Reflective Notetaking
Inquiry Phase: Construct	12.3 Builds a conceptual framework by synthesizing ideas gathered from multiple sources 12.4 Develops own point of view and supports with evidence	12.3 Concept Maps for Organizing Thinking 12.3 Concept Map 12.4 Supporting an Opinion
Inquiry Phase: Express	12.5 Evaluates own product and process throughout the work and uses self-assessment, teacher feedback, and peer feedback to make revisions when necessary	12.5 Student Research Checklist 12.5 Inquiry Process Questions
Inquiry Phase: Reflect		
STANDARD 2: PURSUING PERSONAL AND AESTHETIC GROWTH		
Reader/Viewer Response and Expression		
Personal Exploration		
Motivated, Independent Learning		
STANDARD 3: DEMONSTRATING SOCIAL RESPONSIBILITY		
Importance of Information to a Democratic Society		
Effective Social Interaction to Broaden Understanding		
Ethical Behavior in Use of Information		

Name_____ Class_____

Selecting Complex Research Problems or Questions

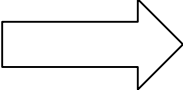Use the following process to identify a problem or question within a broad topic that:
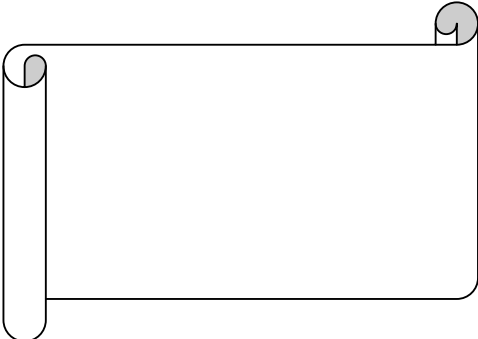- Has multiple answers, or
- Has no clear "right" answer.
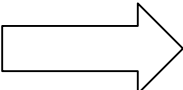
PROCESS FOR SELECTING A COMPLEX PROBLEM OR QUESTION TO RESEARCH

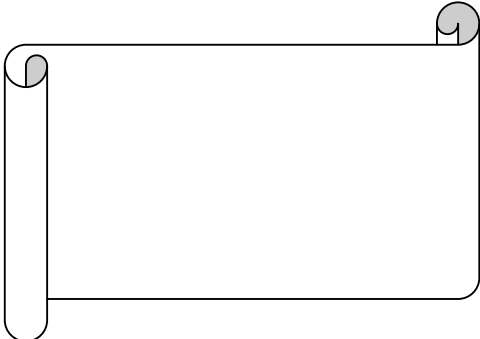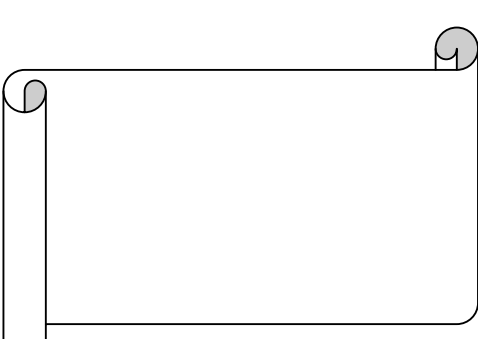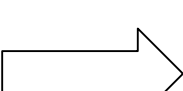| PROCESS	YOUR RESEARCH PROBLEM/QUESTION
1. What is your **broad topic area**? *[Ex: 1920's]*	
2. Read background information to gain an overall understanding of your broad topic and **identify aspects that are controversial or complex** enough to merit different perspectives. *[Prohibition, Economic Overextension, Organized Crime, Role of Women]*	
3. Pick one controversial aspect that interests you. **Identify the different perspectives** on that issue. For each, list who holds the perspective and what that point of view is. *[Prohibition. Law enforcement – maintaining a civil society; Temperance movement – save families; Organized crime – profit; Common citizens – Rights vs. Family values]*	
4. **Predict the availability of information** on all the perspectives you listed. Will you be able to find credible, authoritative information for each perspective?	
5. Look carefully at the controversial issue you have identified. If it still seems to be a viable topic for research, then **identify the underlying problem or question** that you will address. *[How did the intended and unintended consequences of Prohibition affect society in the 1920's?]*	

Name_____ Class_____

Investigating Ideas

Ideas/things that I want to know more about:	**What exactly I want to know (questions that I have) :**

Name_____ Class_____

Learning Logs for Reflective Notetaking

| Notes	Reactions
Learning logs can be used any time you are responsible for writing down information (from library sources, interviews, lecture notes). Write notes in your own words in the left column and react to those notes in the right column. The purpose of a learning log is to help you learn to challenge ideas in the text and interact mentally and emotionally with your notes. You will learn more while you are taking notes by confronting and questioning the ideas that you read or hear.	Reactions can include: • **Personal comments** or feelings about the information *(I think companies that dump toxic waste should be heavily fined)*; • **Challenges to the text** *(This seems to be heavily biased toward the perspective of the industrial companies)*; • **Questions of the text** *(Why doesn't the author provide believable evidence to back up his opinions)*; • **Questions for further research** *(What are the laws on toxic-waste dumping?)*; • **Notes about organization** *(Use this in intro)*; • **Connections to previous knowledge** *(Toxic-waste dumping is worse than oil spills because it's intentional)*.

Question:

Notes	Reactions

Name_____ Class_____

Concept Maps for Organizing Thinking

A concept map is a visual representation of main ideas and relationships among those ideas. Concept mapping is a thinking strategy for finding patterns in the information you have gathered during your research and organizing your conclusions for presentation and sharing.

The concept map often looks like a spider web, with nodes of main ideas connected by arrows, lines, or symbols to show how the main ideas are related. For example, if you have found that global warming is causing the melting of Arctic ice, then a portion of your concept map might look like this:

Global Warming → Melting of Arctic ice
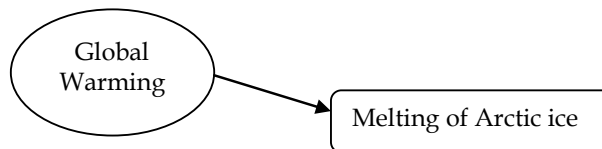
How to Create a Concept Map:
1. Focus
   - Identify the main concept of your research topic or question.

2. Select
   - Select the key ideas that you discovered through your research.

3. Categorize and Cluster
   - Categorize the key ideas and group the categories that are related into larger ideas, or clusters. *[Ex: melting of Arctic ice, flooding, drought – clustered under Effects of Global Warming]*

4. Organize by Pattern / Draw Conclusions
   - Look for patterns that will show the relationships between your clusters of ideas. This is the most creative and thoughtful phase of your research because you will be able to draw conclusions based on the patterns you see. For example, does it make the most sense to organize the clusters in a chronological sequence? In a cause and effect pattern? In order of importance?

5. Arrange in a visual display
   - Place the main concept in a prominent place so that the supporting ideas can be connected to it (center, left side).
   - Arrange the clusters of ideas according to the pattern you have selected in order to show your conclusions (for example, a chronological sequence may be laid out left-to-right).
   - Connect the clusters with lines and arrows (and perhaps words) that show how the ideas are related.
   - Fill out the concept map with your supporting ideas/evidence.

Name_____ Class_____

CONCEPT MAP

Reason #1	Reason #2

My Opinion:

Reason #3	Reason #4
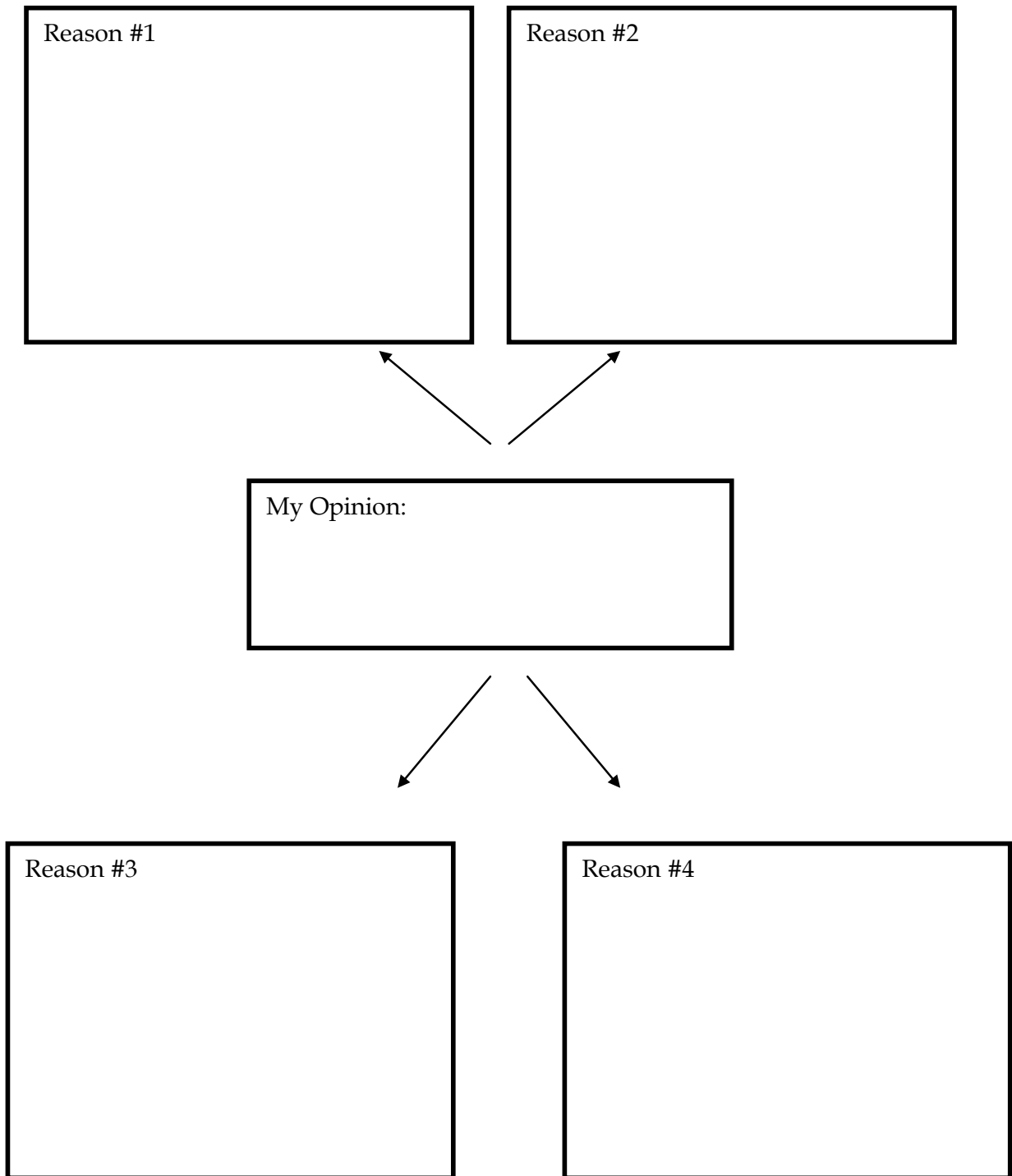
Name_____ Class_____

Supporting an Opinion

OPINION:	
REASONS	**EVIDENCE**

Name_____ Class_____

<u>Student Research Checklist</u>

☐	**I have used key words and concepts, as well as synonyms, to look for my topic of research.**
☐	**My idea is a good topic for research … I will be able to find enough supportive evidence.**
☐	**I have used multiple sources for my research.**
☐	**I have researched more than one perspective/view on questions that can have more than one answer.**
☐	**I have developed my own, original point of view.**
☐	**I have organized the evidence and facts that support my ideas.**
☐	**I have shown my work to a classmate and asked for his or her opinion.**
☐	**I have shown my work to my teacher and asked for his or her opinion.**

Name_____ Class_____

Inquiry Process Questions

Students should reflect throughout their inquiry experience in order to self-regulate their progress through this recursive process (see the following excerpt from the New York City *Information Fluency Continuum*).

INQUIRY PHASE: CONNECT
At the beginning of the Connect Phase, a student may ask: ➢ What interests me about this idea or topic? ➢ What do I already know or think I know about this topic? ➢ What background information would help me get an overview of my topic?
Before moving to the Wonder Phase, a student may ask: ➢ Do I know enough about the idea or topic to ask good questions? ➢ Am I interested enough in the idea or topic to investigate it?

INQUIRY PHASE: WONDER
At the beginning of the Wonder Phase, a student may ask: ➢ What intriguing questions do I have about the topic or idea? ➢ Why am I doing this research? ➢ What do I expect to find?
Before moving to the Investigate Phase, a student may ask: ➢ Can my question(s) be answered through investigation? ➢ Will my question(s) lead me to answers that will fulfill my assignment or purpose for research?

INQUIRY PHASE: INVESTIGATE
At the beginning of the Investigate Phase, a student may ask: ➢ What are all of the sources that might be used? ➢ Which sources will be most useful and valuable? ➢ How do I locate these sources? ➢ How do I find the information within each source? ➢ How do I evaluate the information that I find?
Before moving to the Construct Phase, a student may ask: ➢ Have I located sources with diverse perspectives? ➢ Have I found enough accurate information to answer all my questions? ➢ Have I discovered information gaps and filled them with more research? ➢ Have I begun to identify relationships and patterns and thoughtfully reacted to

the information I found?

INQUIRY PHASE: CONSTRUCT

At the beginning of the Construct Phase, a student may ask:
- ➢ Have any main ideas emerged from the research?
- ➢ Did I find enough evidence to form an opinion or support my thesis?
- ➢ What organizational patterns or tools will help me make sense of my information?

Before moving to the Express Phase, a student may ask:
- ➢ Have I drawn conclusions that are supported by the evidence?
- ➢ Have I organized my conclusions and evidence to present them effectively?

INQUIRY PHASE: EXPRESS

At the beginning of the Express Phase, a student may ask:
- ➢ What type of product or presentation will allow me to present my conclusions and evidence effectively to the intended audience?
- ➢ What technology will help me create a product or presentation?
- ➢ How will I get help to revise and edit my product?

Before moving to the Reflect Phase, a student may ask:
- ➢ Have I organized the product/presentation to make my major points and present convincing evidence?
- ➢ Does my product/presentation fulfill all the requirements of the assignment?

INQUIRY PHASE: REFLECT

At the beginning of the Reflect Phase, a student may ask:
- ➢ Is my product/presentation as effective as I can make it?
- ➢ How well did my inquiry process go?
- ➢ How can I get feedback on my final product to use in my next inquiry project?

Before moving to another assignment or personal inquiry, a student may ask:
- ➢ What new understandings did I develop about the topic or idea?
- ➢ What did I learn about inquiry?
- ➢ What new questions do I now want to answer about the topic or idea?