**SCIENCE 10 - BIOACCUMLATION RESEARCH ASSIGNMENT (CHAP2.2)**

**OBJECTIVES:**

* RECOGNIZE THE IMPACT OF SCIENCE AND TECHNOLOGY, SOCIETY, AND THE TECHNOLOGY ON INDIVIDUALS, SOCIETY, AND THE ENVIRONMENT
* EVALUATE A SCIENTIFIC CLAIM BASED ON THE SOURCE AND SUPPORTING EVIDENCE

**INSTRUCTIONS:**

Select one of the following topics and read the article below it and complete the worksheet.

(Copy and paste URL in order to access the document if the hyperlink doesn’t work)

**TOPICS:**

1. According to this article, “… symptoms caused by **lead** **poisoning** in **children** includes damage to the
 nervous system, bones, kidneys and hearing, as well as speech and language impairments. ”Why is there
 concern for the children in Flint, Michigan?

* Who is to blame for the poisoning of Flint’s water?
<http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=119213648&site=ehost-live>

2. Lead poisoning could also be affecting you! According to this article, A 2004 University of North
 Carolina at Asheville study found that a mere 20 seconds of daily contact with **lead** **jewelry** was enough to
 lower a child's IQ by two points.

* BLING TO DIE FOR
http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=24331983&site=ehost-live

3. Nutritionists recommend that you eat fish for health benefits. Environmentalists warn that eating some
 fish may be dangerous due to the toxic levels of mercury in them. Should you eat fish?

* The CONVERSATION: THE MERCURY LEVEL IN YOUR TUNA IS GETTING HIGHER ( in SCIENCE IN CONTEXT)

http://ic.galegroup.com/ic/scic/NewsDetailsPage/NewsDetailsWindow?disableHighlighting=false&displayGroupName=News&currPage=&scanId=&query=&source=&prodId=SCIC&search\_within\_results=&p=SCIC&mode=view&catId=&u=43psss&limiter=&display-query=&displayGroups=&contentModules=&action=e&sortBy=&documentId=GALE%7CA403742464&windowstate=normal&activityType=&failOverType=&commentary=

4. Decades after Europe banned toxic **PCBs**, the region's killer **whales** and three cetaceans still carry high
 levels of the pollutants. Why?

* **PCB** levels high in Europe's dolphins.
<http://web.a.ebscohost.com/chc/detail?vid=2&sid=258f524b-f1eb-4afd-8052308047ee4525%40sessionmgr4007&hid=4104&bdata=JnNpdGU9Y2hjLWxpdmU%3d#AN=112759124&db=cmh>

5. The effects of bioaccumulation are being felt in our backyard as well.

* Household **chemicals** could be harming **Fraser** **River's** sockeye salmon
<http://web.a.ebscohost.com/ehost/detail/detail?vid=3&sid=c03748de-98f9-491c-a49a-892d2ee15428%40sessionmgr4006&hid=4104&bdata=JnNpdGU9ZWhvc3QtY2Fu#AN=MYO194376289911&db=rch>

6. Why are some of our becoming fish sad – according to this article?

* ANTIDEPRESSANTS MAKE FOR SAD FISH
[**http://search.ebscohost.com/login.aspx?direct=true&db=rch&AN=35764042&lang=en-ca&site=src-can**](http://search.ebscohost.com/login.aspx?direct=true&db=rch&AN=35764042&lang=en-ca&site=src-can)

7. Why is it dangerous to eat oysters and other shellfish in some months? What is red tide?

* ReCORD LEVELS OF TOXIC ALGAE HURT COASTLINE
 <http://search.ebscohost.com/login.aspx?direct=true&db=rch&AN=J0E251445539209&lang=en-ca&site=src-can>

8. Why might these Albertans be against mining the tar sands?

* CANADA’S OIL SANDS RESIDENTS COMPLAIN OF HEALTH EFFECTS
[http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(14)60703-0/fulltext?rss=yes](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2814%2960703-0/fulltext?rss=yes)

9. “A new study shows the typical pregnant woman has dozens of potentially toxic …chemicals in her body --
 including ingredients found in flame retardants and rocket fuel.” What are the implications of this?

* PREGNANT WOMEN RIFE WITH CHEMICALS

 <http://search.ebscohost.com/login.aspx?direct=true&db=rch&AN=J0E399137605911&lang=en-ca&site=src-can>

10. The chemical, **BPA** is linked with infertility, obesity, diabetes and reproductive problems. Many water

 bottles with the number 1 or 7 are no longer sold because they contain BPA. However, why
 should we still be concerned?

* BPA IS STILL PRESENT IN 60% OF CANS IN THE US
http://web.b.ebscohost.com/ehost/detail/detail?vid=6&sid=125f31e0-1151-43b7-ada9-4b5f4a6c3115%40sessionmgr120&hid=124&bdata=JnNpdGU9ZWhvc3QtY2Fu#AN=114148066&db=rch

11. Through mercury contamination, Inuit Communities are experiencing higher levels of health problems.
 Why and what have the effects been on the health of the Inuit?

* STUDY FINDS MERCURY, PCBS MAY BE AFFECTING INUIT BABIES
<http://search.ebscohost.com/login.aspx?direct=true&db=rch&AN=Q4K136558169703&site=src-live>

12. High levels of toxins such as mercury and DDT are found in polar bears and other animals in the Arctic
 north, thousands of miles away from pollution sources. Find out how they got there according to the
 following article.

* **Scientists put the blame on birds for toxins in Arctic animals** <http://web.ebscohost.com/src/detail?vid=3&hid=4&sid=1c8215d1-a3e4-484c-ae0f-d9b9de0f4eb0%40sessionmgr8&bdata=JmFtcDtsYW5nPWVuLWNhJnNpdGU9c3JjLWNhbg%3d%3d#db=mih&AN=J0E294114474605>

13. Birds in Alaska are also being affected by bioaccumulation as a result of PCB’s and other chemicals.



* **DEFORMED BEAKS ON THE RISE**<http://search.ebscohost.com/login.aspx?direct=true&db=rch&AN=58599779&lang=en-ca&site=src-can>

**14. A nicotine planted-based insecticide is used to coat most seeds planted world-wide. Unfortunately
 scientists are noticing that organisms up the food chain are starting to be affected. How so?**

* Popular Pesticides Linked to Drops in Bird Populations
<http://www.smithsonianmag.com/science-nature/popular-pesticides-linked-drops-bird-population-180951971/?no-ist>

15. Many cosmestic products are advertising that they are “natural.” Why should consumers be aware of?

* BEAUTY AND THE TOXIC BEAST

<http://web.a.ebscohost.com/ehost/detail/detail?vid=7&sid=ce630489-119e-4ddf-b3db-0c0786beb8cf%40sessionmgr4008&hid=4107&bdata=JnNpdGU9ZWhvc3QtY2Fu#AN=84769903&db=rch>

16. Sunscreens and insect repellants are recommended. Unfortunately now some scientists are warning
 about the ingredients in some of these products. What is the best course of action?

* ARE SUNSCREENS AND INSECT REPELLANTS DANGEROUS? (SCIENCE IN CONTEXT)

<http://ic.galegroup.com/ic/scic/MagazinesDetailsPage/MagazinesDetailsWindow?disableHighlighting=false&displayGroupName=Magazines&currPage=&scanId=&query=&source=&prodId=SCIC&search_within_results=&p=SCIC&mode=view&catId=&u=43psss&limiter=&display-query=&displayGroups=&contentModules=&action=e&sortBy=&documentId=GALE%7CA181752725&windowstate=normal&activityType=&failOverType=&commentary>=