



SCH4U
ORGANIC CHEMISTRY

GOOD COFFEE ACTIVITY

Rise and shine! It's time to investigate
the history, and structure and function
of coffee!

MIMI TSIRKIN



CURRICULUM EXPECTATIONS

B1. ASSESS THE SOCIAL AND ENVIRONMENTAL IMPACT OF ORGANIC COMPOUNDS USED IN EVERYDAY LIFE,

B3. DEMONSTRATE AN UNDERSTANDING OF THE STRUCTURE, PROPERTIES, AND CHEMICAL BEHAVIOUR OF COMPOUNDS WITHIN EACH CLASS OF ORGANIC COMPOUNDS.





WHO DOESN'T LOVE COFFEE?

"I am a coffee fanatic.
Once you go to proper
coffee, you can't go back.
You cannot go back."

- Hugh Laurie

INDIVIDUAL



ACTIVITY:

Are you a coffee drinker? **Why or why not?** If you do not drink coffee, find someone who does and **ask them why they drink it,** and to **describe how it makes them feel.** Take note of **where their coffee comes from** (e.g. Starbucks, Tim Hortons, local cafe?). Record your results.

G R O U P

*Using your
iPads, as a
group, find out
the various
uses for
~caffeine~*

SCH4U: ORGANIC CHEMISTRY

PAIRS



IF CAFFEINE IS TOXIC AT A DOSE OF 10 GRAMS, HOW MANY CUPS OF COFFEE WOULD YOU HAVE TO DRINK FOR IT TO FATAL? HOW DOES THIS NUMBER CHANGE WITH DIFFERENT COFFEE ORDERS (LATTE, MOCHA, BLACK, ICE CAP, ETC.)?

INDIVIDUAL

Caffeine

Theophylline

Theobromine

Draw the molecular structure of the following molecules in your notebooks/ iPads

**MOLECULAR
STRUCTURE**

INDIVIDUAL

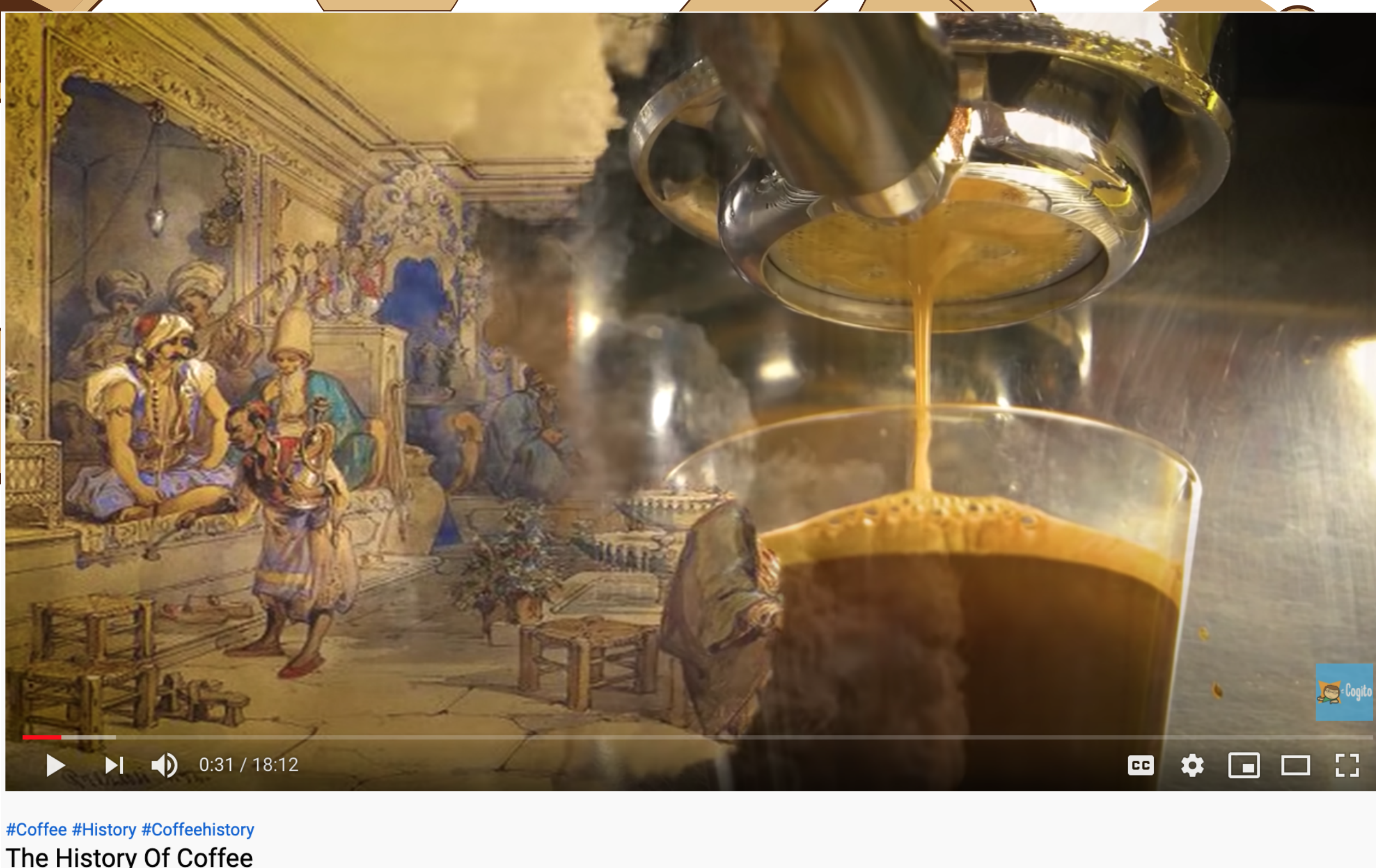
Caffeine

Theophylline

Theobromine

Where (in everyday life) do we find such molecules? Do you use any of these substances in your everyday life? Why or why not?

G R O U P



Watch the following videos with your groups. Find a third video to share with the class and add it to the classroom FlipGrid (ensure no copies!)

TEACHER

A similar pattern of exploitation of people and the environment occurred in most of the coffee-growing countries of Central America. Starting in the last decades of the nineteenth century, the indigenous Mayan people in Guatemala, El Salvador, Nicaragua, and Mexico were systematically forced from their lands as coffee monoculture spread up the hillsides, which offered perfect conditions for cultivation of the coffee shrub. Labor was provided through coercion of the displaced population; men, women, and children worked long hours for a pittance and, as forced laborers, had few rights. The elite—the coffee plantation owners—controlled the wealth of the state and directed government policies in the pursuit of profit, fomenting decades of bitterness over social inequality. The history of political unrest and violent revolution in these countries is partly a legacy of people's desire for coffee.

**EXERPT FROM: LE COUTEUR, P., &
BURRESON, J. (2004). NAPOLEON'S
BUTTONS: 17 MOLECULES THAT
CHANGED HISTORY. PENGUIN.**

PAIRS

DISCUSS SIMILARITIES AND
DIFFERENCE BETWEEN CANADIAN
EXPLOITATION OF INDIGENOUS
COMMUNITIES IN SEARCH OF
PRECIOUS CHEMICAL
COMPOUNDS



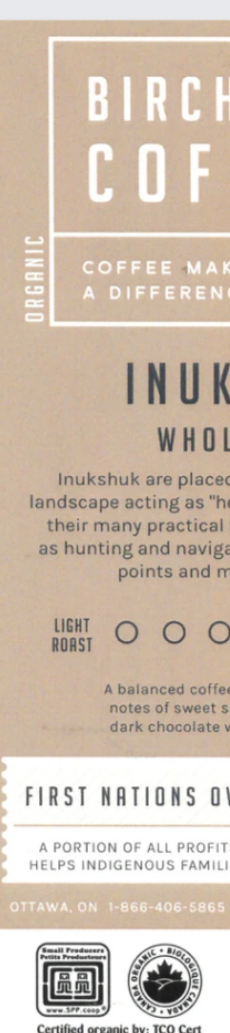
GROUPS

NEWS

1. Listen to the audio playing on the Birch Bark Coffee website
2. Explore their site and their initiative for Indigenous communities
3. Read the article 'It's Just Not Right' by CBC News

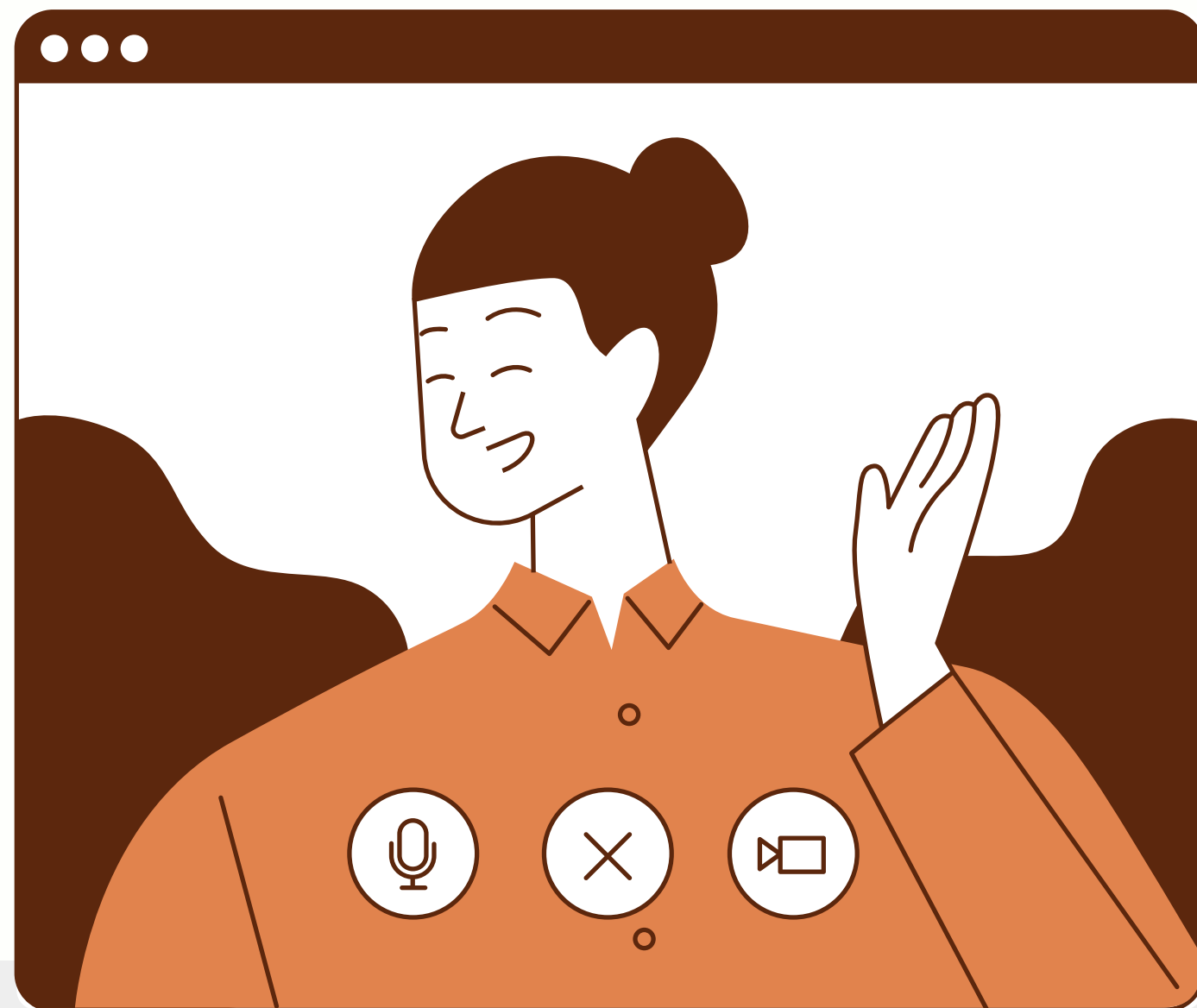


Discuss your thoughts with your group



C L A S S

We will be hearing from *Just Us* – Canada's 1st Fair Trade Coffee Roaster!



Our Values

At Just Us! we stand for justice. We are not just a coffee company, but a social enterprise using coffee as a vehicle for change. We work directly with our producer-partners to work out a truly fair price based on each co-op's true cost of production along with social premiums above the fair trade minimum price. We believe in a global community and respecting all individuals as well as the Earth we reside on.

[Read More >](#)

PREPARE SOME QUESTIONS
TO ASK THE EXPERTS!

FIELD TRIP

VISIT YOUR LOCAL COFFEE SHOP!

**AS A TREAT FOR COMPLETING ALL THE
ACTIVITIES - TOMORROW THE CLASS
WILL VISIT 3 COFFEE SHOPS TO TASTE
THE DIFFERENCES FOR OURSELVES
(DRINKING COFFEE NOT MANDATORY)**



HOMEWORK



ACTIVITY:

Watch this video on Youtube.



Follow-up with the person you interviewed (write a reflection if you were the coffee drinker) and explain what happens when you drink coffee? Should you change your habits or intake?