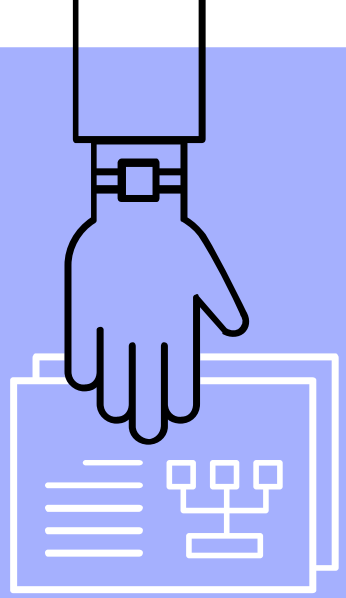
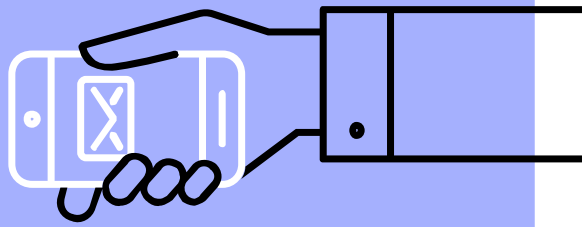
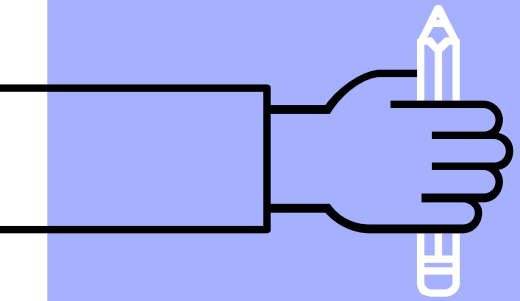
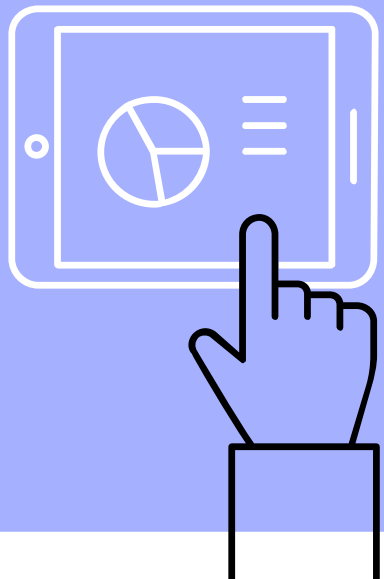
Getting Ready for the Undergrad Research Fair



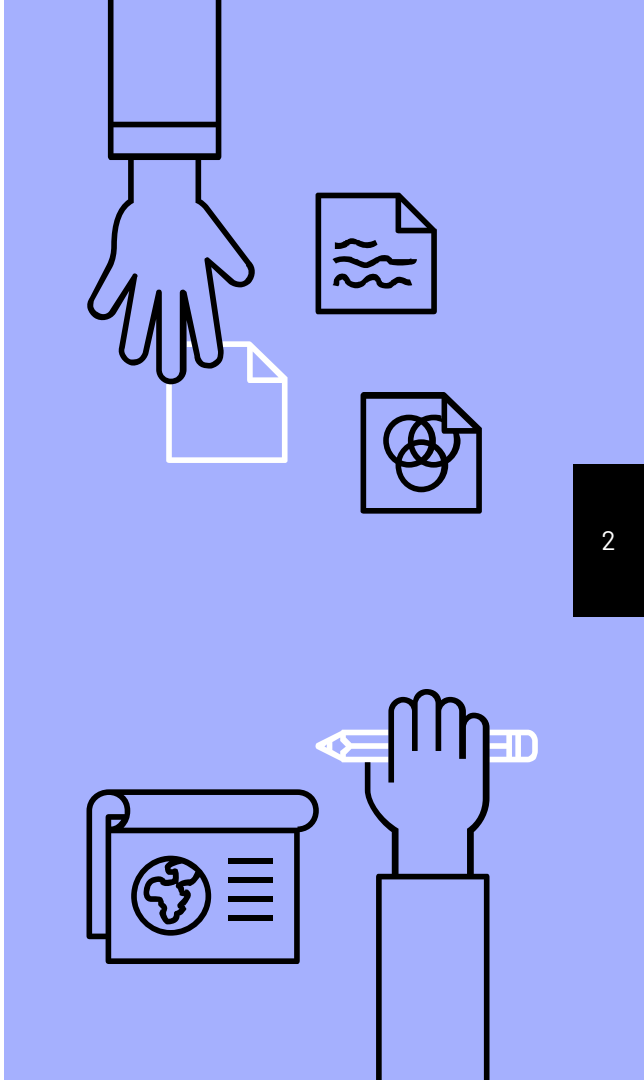






Agenda

- Introduction to the Fair & What to expect
- How to present
- How to design your poster

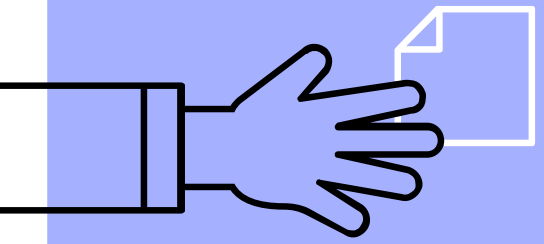


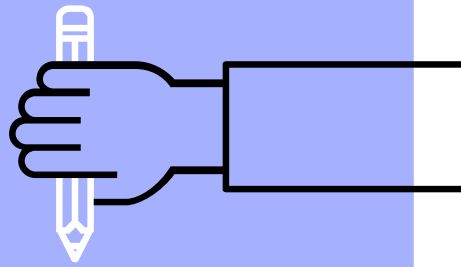
Learning Objectives

By the end of this session, students will be able to:

- Present their poster's key information in a few minutes
- Design their poster using PPT

1. INTRODUCTION TO THE FAIR & WHAT TO EXPECT





Why do it?

- Gain valuable experience
- Gain valuable academic skills
- Share your work
- York's e-journal

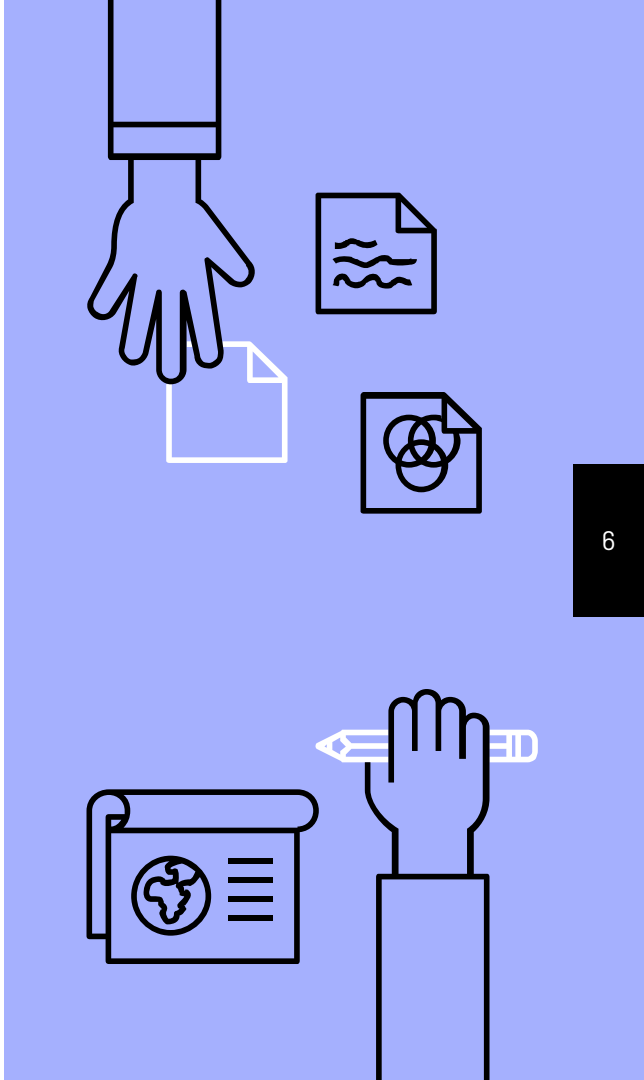
  Revue YOUR Review pub.
- The Certificate

The Fair Day

The atmosphere

Multidisciplinary topics

Presentation expectations



The atmosphere:

- Friendly
- Encouraging
- Professional / Conference
- Academic
- & Fun!

Multidisciplinary:

- No jargon
- Expert
- Know your audience
- No jargon - really

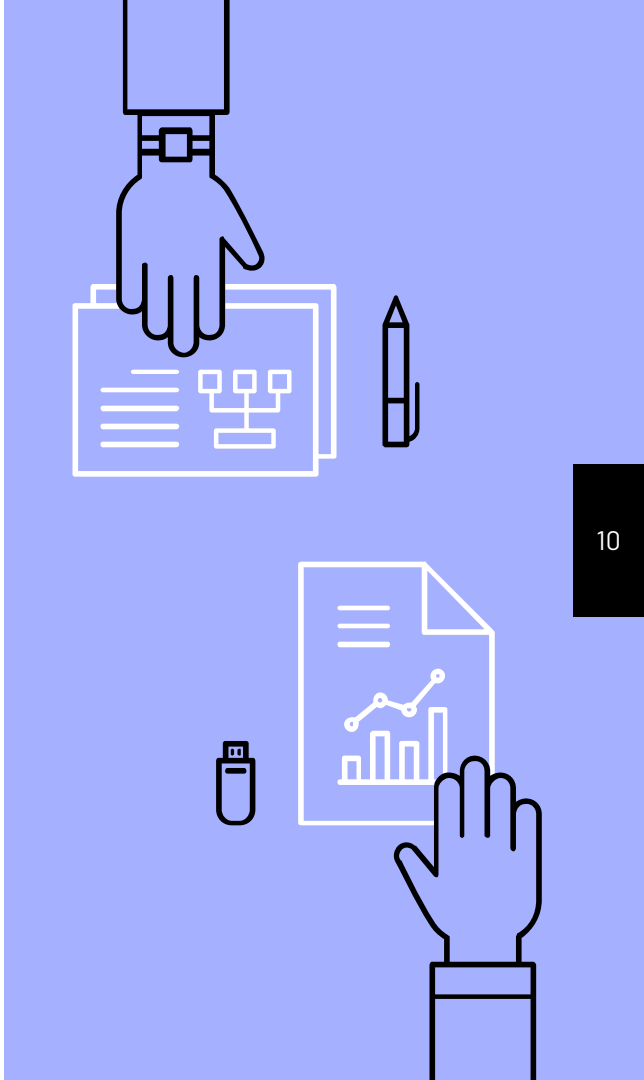
Presentations:

- The elevator speech
- Content
- Enthusiasm
- Voice projection
- Body Language
- Comfortable shoes :)
- Water.....

Let’s practice!

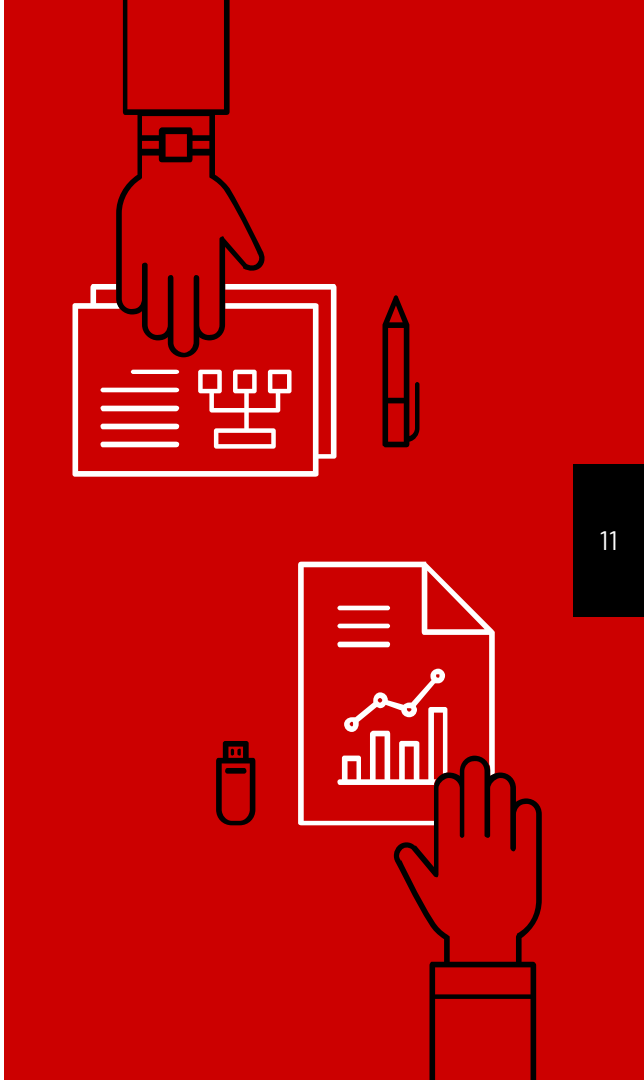
- Name
- Course
- Topic

What did you notice?

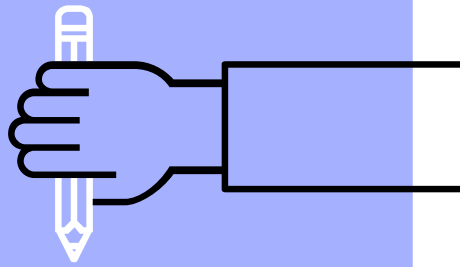


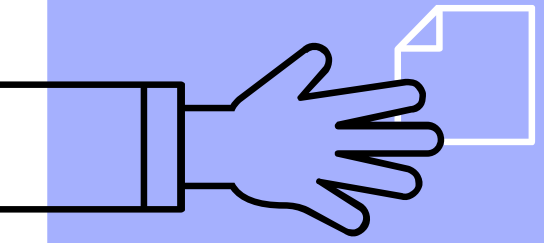
Remember.....

- **Posters due Feb 28 @ 12pm**
  - Know the specifications (next)
  - We will print the posters
- **Arrive at 10am on March 7th in the Collaboratory**
- Invite your professors, family and friends
- Prepare your presentation
- Photo waivers
- Have FUN



2.
HOW TO PRESENT





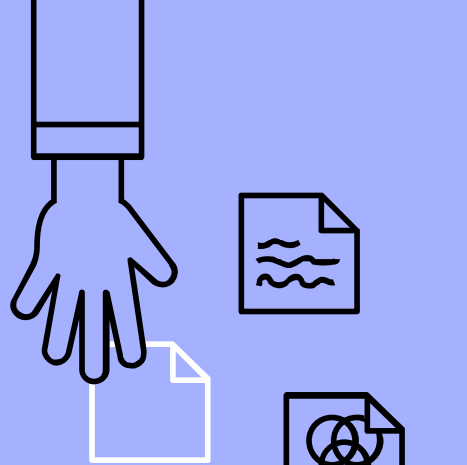
Length

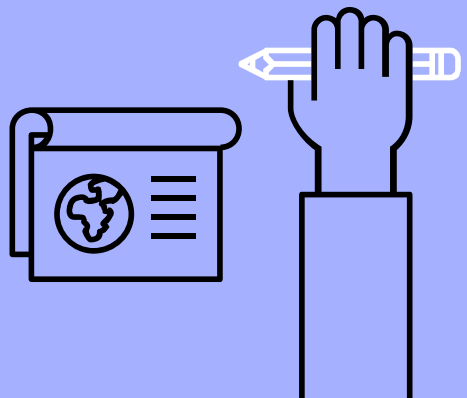
"Elevator speech"
1 - 2 minutes

Committee members
4 - 5 minutes

Content

- Research topic / question
- Method or approach
- Results / finding / conclusion
  - Summarize the main points
  - **Why is this important**
  - What is the takeaway





Audience

- Multidisciplinary
- Scholarly
- Community

- **Plain language!**

- The audience is actually on your side

Delivery & Body Language

Be knowledgeable

Be enthusiastic

Be natural

Be confident

Smile

Eye contact

Look approachable

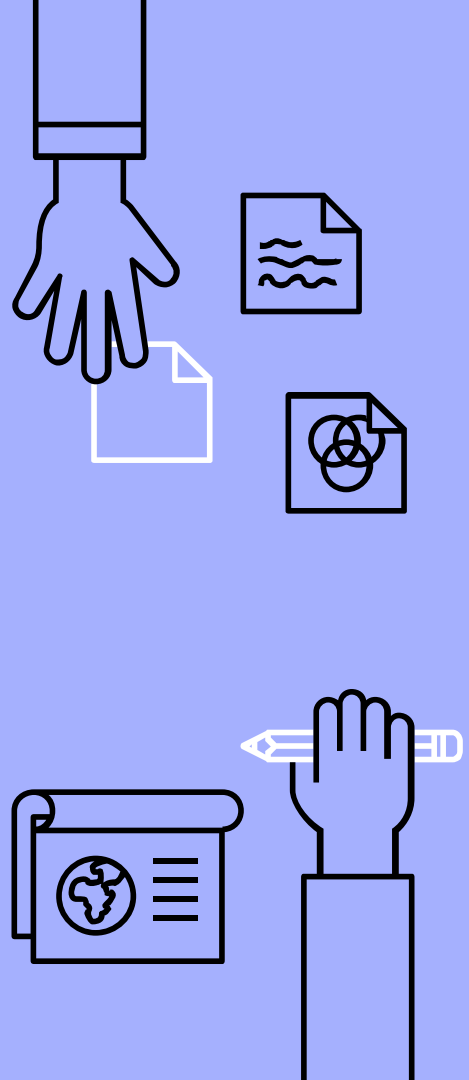
Include the audience

Engage your audience

Project your voice

Don’t rush

Breathe



Don’t worry be happy!

Practice

Time yourself

Have cue cards if needed

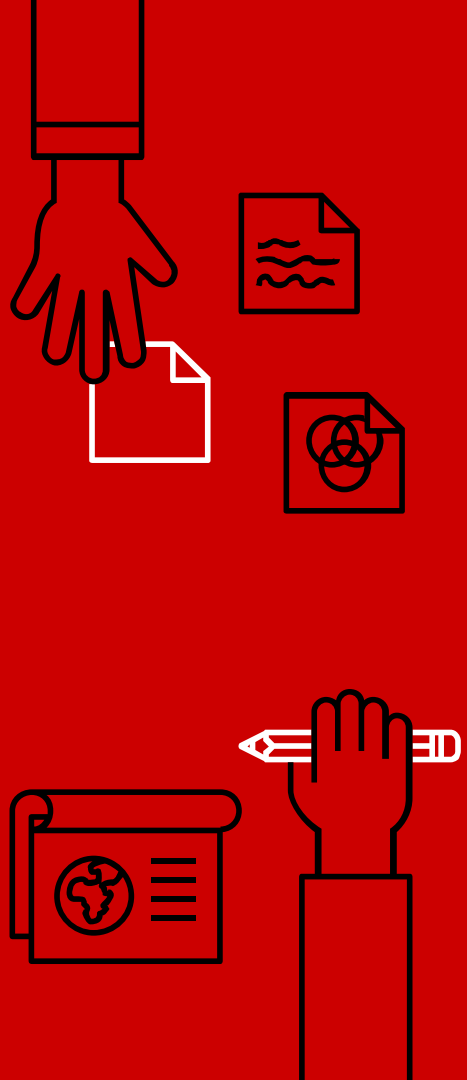
Casual comfortable business attire

Comfortable footwear

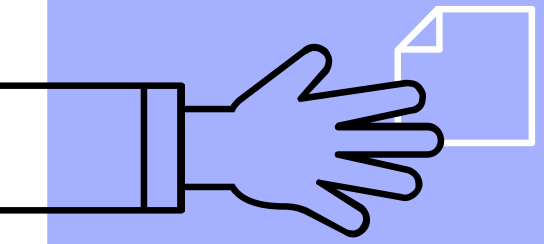
Talk to your neighbours at the Fair

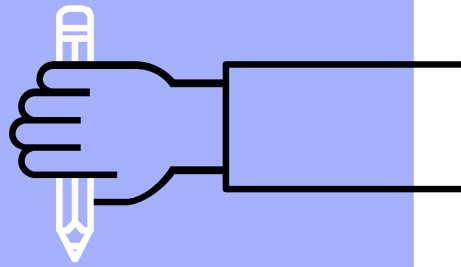
Be respectful → works both ways ….

This is an opportunity not a test



3.
HOW TO DESIGN YOUR POSTER





MacBeth

by William Shakespeare

A production by the Huron Park Secondary School Drama Club

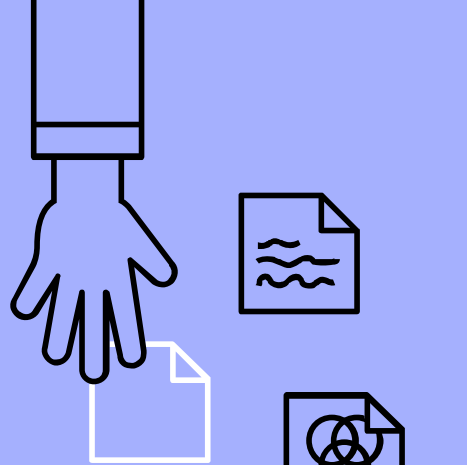
October 18-21	2 & 7pm
October 23-28	3 & 8pm

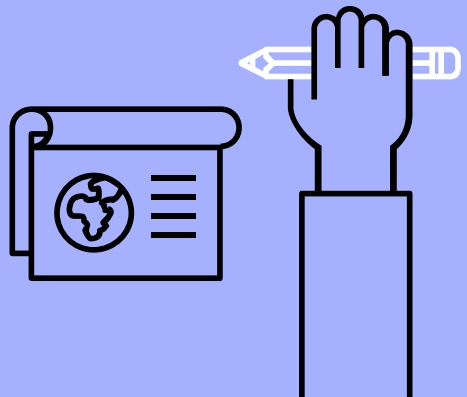
BUY TICKETS NOW!!!

http://www.hpticketsmacbethshow.com

Key Concepts for Poster Design

1. Well-organized with a logical visual flow
2. Create effective contrast
3. Embrace white space
4. Use easy to read fonts in appropriate sizes
5. Limit amount of text used



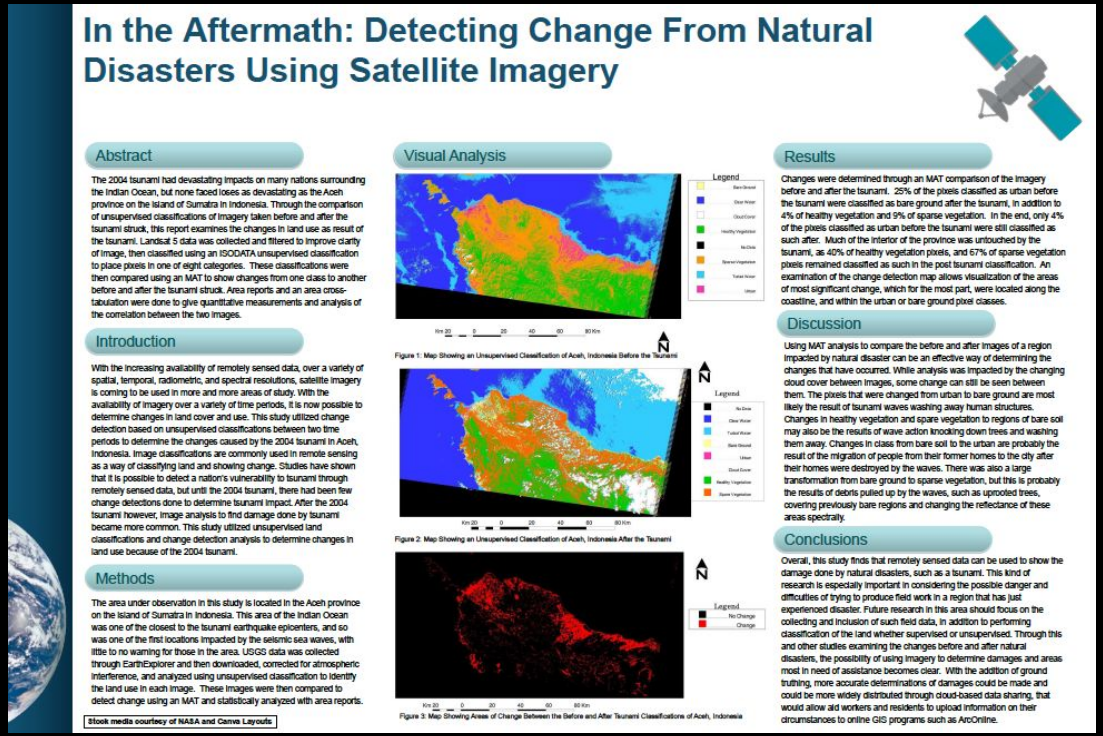


1. Well organized with a logical visual flow

- Visual elements align with each other & create sense of unity
- Core areas highlighted using clear left-to-right **OR** top-to-bottom flow

Photo by padrinan on Pixabay

Discuss: Logical flow? Organized design?



In the Aftermath: Detecting Change From Natural Disasters Using Satellite Imagery

Abstract

The 2004 tsunami had devastating impacts on many nations surrounding the Indian Ocean, but none faced loses as devastating as the Aceh province on the island of Sumatra in Indonesia. Through the comparison of unsupervised classifications of imagery taken before and after the tsunami struck, this report examines the changes in land use as result of the tsunami. Landsat 5 data was collected and filtered to improve clarity of image, then classified using an ISODATA unsupervised classification to place pixels in one of eight categories. These classifications were then compared using an MAT to show changes from one class to another before and after the tsunami struck. Area reports and an area cross-tabulation were done to give quantitative measurements and analysis of the correlation between the two images.

Introduction

With the increasing availability of remotely sensed data, over a variety of spatial, temporal, radiometric, and spectral resolutions, satellite imagery is coming to be used in more and more areas of study. With the availability of imagery over a variety of time periods, it is now possible to determine changes in land cover and use. This study utilized change detection based on unsupervised classifications between two time periods to determine the changes caused by the 2004 tsunami in Aceh, Indonesia. Image classifications are commonly used in remote sensing as a way of classifying land and showing change. Studies have shown that it is possible to detect a nation's vulnerability to tsunami through remotely sensed data, but until the 2004 tsunami, there had been few change detections done to determine tsunami impact. After the 2004 tsunami however, image analysis to find damage done by tsunami became more common. This study utilized unsupervised land classifications and change detection analysis to determine changes in land use because of the 2004 tsunami.

Methods

The area under observation in this study is located in the Aceh province on the island of Sumatra in Indonesia. This area of the Indian Ocean was one of the closest to the tsunami earthquake epicenters, and so was one of the first locations impacted by the seismic sea waves, with little to no warning for those in the area. USGS data was collected through EarthExplorer and then downloaded, corrected for atmospheric interference, and analyzed using unsupervised classification to identify the land use in each image. These images were then compared to detect change using an MAT and statistically analyzed with area reports.

Stock media courtesy of NASA and Canva Layouts

Visual Analysis

Figure 1: Map Showing an Unsupervised Classification of Aceh, Indonesia Before the Tsunami

Figure 2: Map Showing an Unsupervised Classification of Aceh, Indonesia After the Tsunami

Figure 3: Map Showing Areas of Change Between the Before and After Tsunami Classifications of Aceh, Indonesia

Results

Changes were determined through an MAT comparison of the imagery before and after the tsunami. 25% of the pixels classified as urban before the tsunami were classified as bare ground after the tsunami, in addition to 4% of healthy vegetation and 9% of sparse vegetation. In the end, only 4% of the pixels classified as urban before the tsunami were still classified as such after. Much of the interior of the province was untouched by the tsunami, as 40% of healthy vegetation pixels, and 67% of sparse vegetation pixels remained classified as such in the post tsunami classification. An examination of the change detection map allows visualization of the areas of most significant change, which for the most part, were located along the coastline, and within the urban or bare ground pixel classes.

Discussion

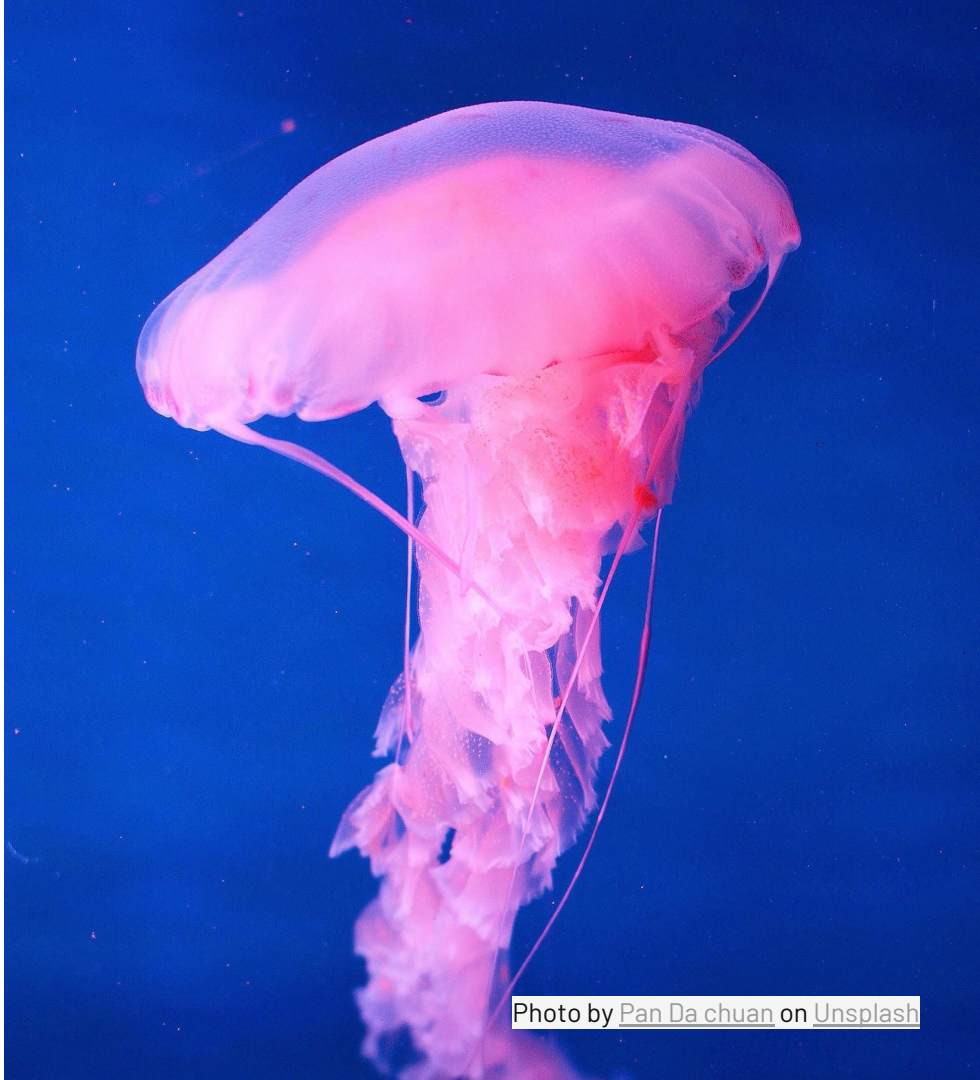
Using MAT analysis to compare the before and after images of a region impacted by natural disaster can be an effective way of determining the changes that have occurred. While analysis was impacted by the changing cloud cover between images, some change can still be seen between them. The pixels that were changed from urban to bare ground are most likely the result of tsunami waves washing away human structures. Changes in healthy vegetation and spare vegetation to regions of bare soil may also be the results of wave action knocking down trees and washing them away. Changes in class from bare soil to the urban are probably the result of the migration of people from their former homes to the city after their homes were destroyed by the waves. There was also a large transformation from bare ground to sparse vegetation, but this is probably the results of debris pulled up by the waves, such as uprooted trees, covering previously bare regions and changing the reflectance of these areas spectrally.

Conclusions

Overall, this study finds that remotely sensed data can be used to show the damage done by natural disasters, such as a tsunami. This kind of research is especially important in considering the possible danger and difficulties of trying to produce field work in a region that has just experienced disaster. Future research in this area should focus on the collecting and inclusion of such field data, in addition to performing classification of the land whether supervised or unsupervised. Through this and other studies examining the changes before and after natural disasters, the possibility of using imagery to determine damages and areas most in need of assistance becomes clear. With the addition of ground truthing, more accurate determinations of damages could be made and could be more widely distributed through cloud-based data sharing, that would allow aid workers and residents to upload information on their circumstances to online GIS programs such as ArcOnline.

2. Create effective contrast

- Contrast creates visual interest
- Needs to be strong to be effective (i.e. cannot contrast with similar colours)
- Don’t use contrast to create focus where it’s not needed



Discuss: Effective use of contrast?

Air Canada: Merger with Canadian Airlines

This essay examines the merger between two major Canadian aviation companies: Air Canada and Canadian Airlines and attempts to decipher it's effects. First, the historical environment is examined followed by the impact of the merger on Air Canada and the Canadian aviation industry. Alternatives to the merger are also described. It is concluded that the merger was not only beneficial but also necessary for Air Canada and the Canadian aviation industry.

Setting the Stage

- Air Canada was created as a subsidiary of the Canadian National Railways in 1937 and was privatized in 1989 as it continuously suffered financial losses.
- It's biggest competitor was Canadian Airlines.
- Due to the global financial difficulties in the aviation industry, Canadian Airlines reported potential closure in a year in summer of 1998.
- Canadian Airlines reluctantly merged with Air Canada in 1999.

A promotional poster for Air Canada, formerly known as TCA. (Vintage Airline Posters.net, n.d.)

Monopoly

- After the merger of Air Canada and Canadian Airlines, the Canadian aviation industry was effectively transformed from a duopoly to a monopoly.
- Bill C-26 was put into the effect to protect the public interest. One key amendment was "increase the authority of the Canadian Transportation Agency to review passenger fares and cargo rates on monopoly routes; to roll back any unreasonable fare, fare increase, cargo rate or cargo rate increase; and to order refunds if feasible".
- This allowed Air Canada to earn a profit while protecting the public and setting precedent.

Alternatives

- Two alternatives: No merger and a merger through Onex funded by American Airlines.
- No merger would have resulted in the loss 16 000 jobs and possibly more due to the failing health of Air Canada. As well, Air Canada would have become a monopoly with little to no legislation to protect the public.
- Merger through Onex and AMR would have resulted in a foreign duopoly which could have led to a worse economy, conflicts of interest, tension, and a dwindled sense of nationalism.

ONEX

Onex Corporation Logo (Wikipedia, n.d.)

Salvation

- The economy is better off due to the merger. The merger ensured that two of the largest aviation companies in Canada survived in some form and had they both continued on as they were, it would have led to certain annihilation of the aviation industry.
- While some have argued that the merger caused financial difficulties for Air Canada, an examination of the annual earnings proves otherwise.

The merger was largely beneficial and necessary for the betterment of Air Canada and the Canadian airline industry. This is primarily because the merger allowed Air Canada to become a monopoly within Canada with virtually no competitors while still protecting the public interest. As well, the alternatives to the merger, including no merger and the merger through Onex funded by American Airlines, were no better than the Air Canada merger. Last, the merger saved the aviation industry and Canadian Airlines.

3. Embrace white space

- It’s the area between design elements like text & images
- Can be any colour → it’s the negative space!
- Helps clarify & simplify poster

Learn more

Photo by Scott Webb on Unsplash

Discuss: Effective use of white space?

SEEKER

Learn about invasive species • Help researchers • Share your contributions

The Problem

Invasive species are a major economic and ecological threat, but not many people know what to do when they see an unknown species.

My research started with a literature review and a survey of members of the YorkU community to discover what they know about invasive species.

The ethics approved survey was provided to members of multiple York University faculties in an online format. I analyzed the data trends about respondents' knowledge and perception of invasive species.

Survey Results

Most respondents could not give a clear definition of invasive species. While 79% have heard of the term, only 50% of respondents said they had actually seen an invasive species in their neighbourhood.

Graph 1 - Have you ever seen an invasive species in your neighborhood?

Respondents could not agree on a specific time to learn about invasive species, but leaned towards elementary to high school.

Graph 2 - When do you think invasive species should be learned about?

Earlier than Elementary	1
Elementary School	8
Junior School	3
Highschool	8
Immediately	6
When they're a problem	6
When you're interested	2

My Solution

A Citizen Science Seeker app designed to bridge the knowledge gap, and create an interactive flow of knowledge between citizens, researchers, and government.

Seeker App informs citizens about the issues surrounding invasive species. It helps researchers by crowd-sourcing new observations and data collection. New perspectives and trends emerge to help the government develop evidence-based policies for dealing with invasive species.

App Development

The basic guiding design principles were to create an easily usable and informative tool to help the general public engage in Citizen Science. Seeker app was designed to be a seamless integration of learning, discovery, and engagement through reporting.

It went through multiple iterations and user testing sessions, to find the optimal way of displaying information on such a niche subject.

I had to keep in mind that most users would not be constantly thinking about invasive species, so the points system was embedded to gamify and reward users for helping with research.

Next Steps

The Seeker app requires back-end coding and support. During Reading Week 2016, we pitched the Seeker app at the York University Libraries Hackfest. A team of 8 computer science students developed a prototype Open Access web-based app to catch first-sightings before new species are able to establish themselves at the invasive level.

User Interface

Fig 1 & 2 - Home and Menu Screen
Provides latest news, sightings, and reports. The home screen is easy to navigate and offers the user a variety of ways to discover and learn.

Fig 3 & 4 - Species and Reports Screen
Users can take a photo to help identify species and make reports. They can track their reports and see their contributions overall.

Fig 5 & 6 - Map View and Profile Screen
Shows geographical plot of reports. Points, titles and badges are tracked, encouraging users to participate for rewards on top of good citizen science.

4. Use easy to read fonts in appropriate sizes

- Don’t use too many fonts!
  - 1-2 fonts preferred
- Body text should be between 24-34 pt; Titles much larger
- Create contrast with size
- Avoid underlining & *italics*

Learn more

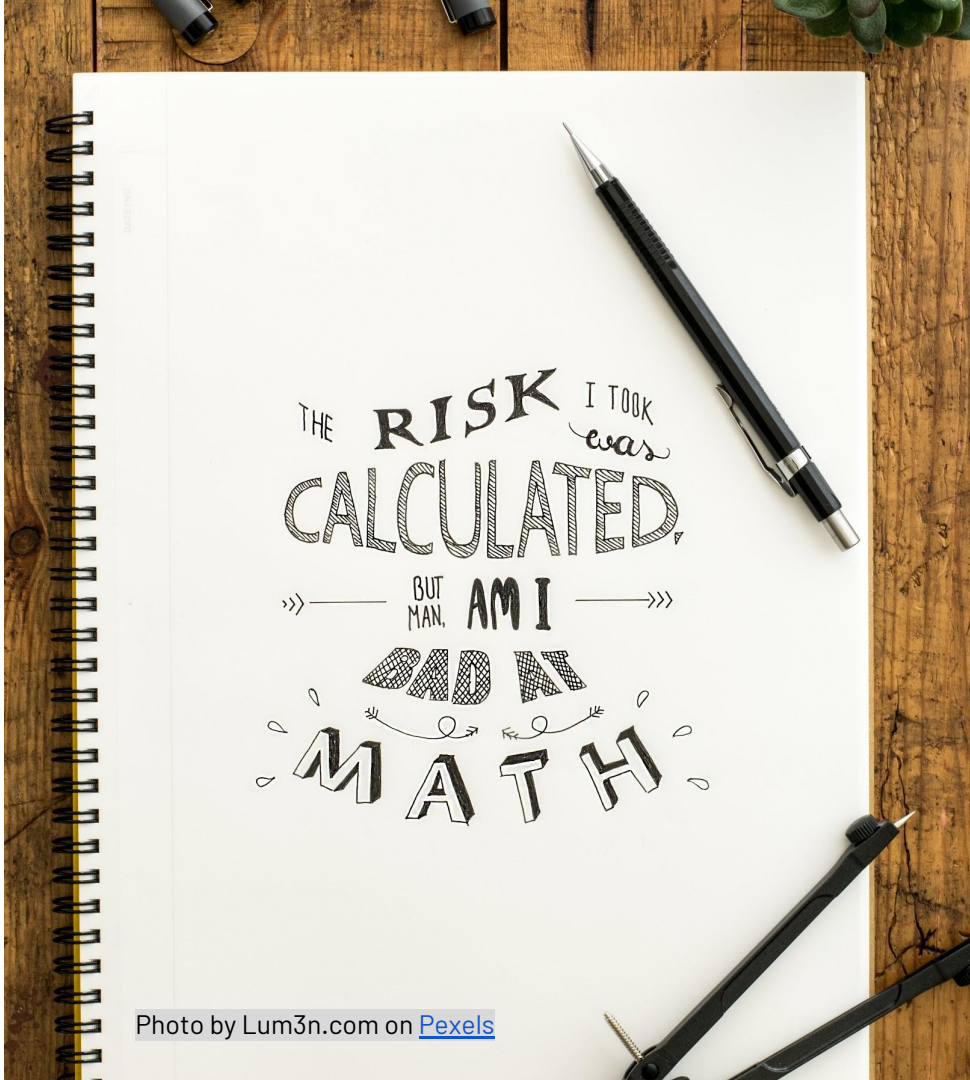
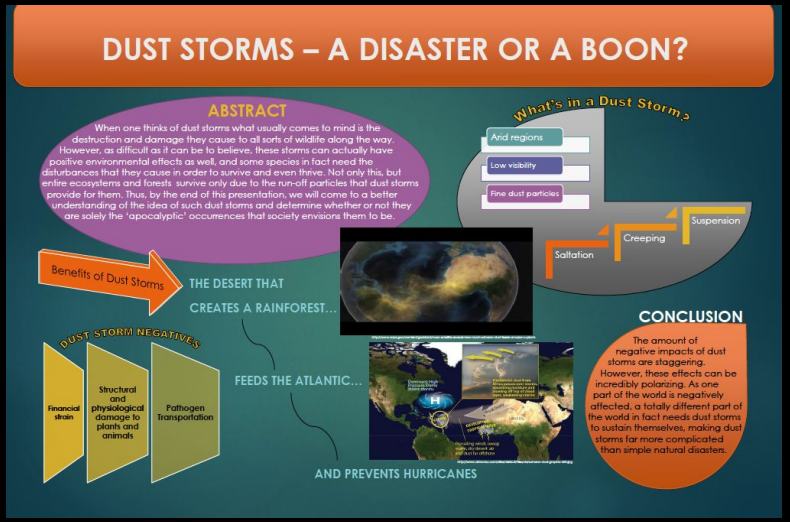


Photo by Lum3n.com on Pexels

Discuss: Effective use of fonts?



5. Limit amount of text used

- Keep it short & sweet!
- Don’t copy & paste essay word-for-word
- Making the text succinct allows for images & sufficient white space

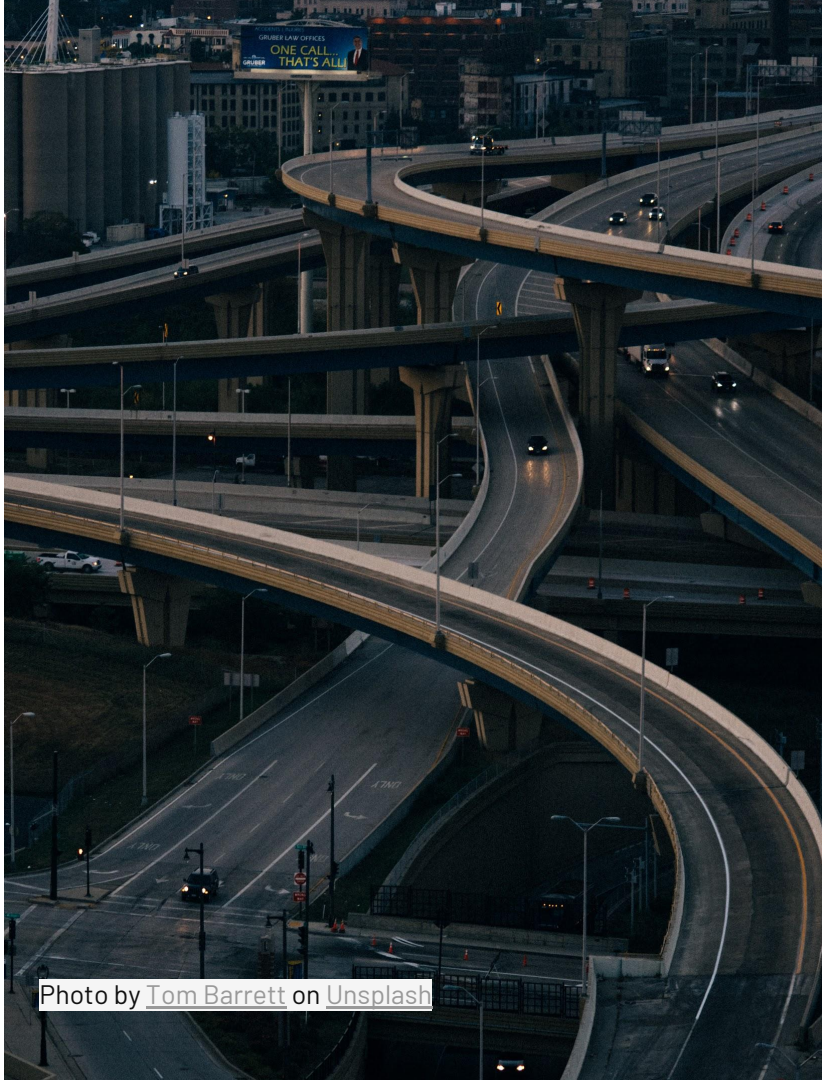


Photo by Tom Barrett on Unsplash

Discuss: Too much text?

“Train de Nuit”:

An Analysis of Sensory Engagement in Commercials

Abstract

Contemporary advertising goes beyond communicating product details; modern-day advertising conveys a sensory product experience. One such advertisement is Audrey Tautou's commercial for Coco Chanel No. 5, a premium perfume, titled “Train de Nuit” (French for a night train). Although commercials are sometimes perceived as flat mediums (offering only visuals and sound), the Chanel No. 5 commercial challenges this notion by engaging with several senses. In particular, the Chanel No. 5 commercial engages with the (1) haptics and (2) chronoception (3) sense of place. Applying the concept of haptic visuality termed by Marks, the vestibular, kinesthetic, cutaneous, and tactile senses are triggered. Haptic senses are also stimulated through a combination of the camera angles, movement of the characters, and the setting. Next, chronoception is disoriented in the commercial through the rapidity of its pace, producing captive viewers. Finally, the sense of place is triggered by filming in Istanbul, to build emotional resonance with the target market.

Summary of Commercial

In the commercial, the main protagonist (Tautou) takes a night train to Istanbul. During the night, she meets a handsome man who is attracted to the scent of her perfume (hereto referred to as Davenport, after the model who plays the role). She falls asleep on the train and then awakes, missing an encounter with Davenport. She gets off the train at Istanbul and boards a ship. While taking pictures on the ship, she again sees Davenport. He is on another ship, so the two are not able to meet. The commercial closes with Tautou walking into the Haydarpaşa Terminal, and Davenport following her. Davenport embraces her, and the two are finally reunited.

Ref: Youtube

Research Question: How does the Chanel advertisement “Train de Nuit” challenge the conventional 5 senses model?

Methodology

To answer this question, the commercial was viewed multiple times and analyzed. Research was conducted regarding senses and capitalism to aid the analysis.

RELATIONSHIP WITH CAPITALISM

Chanel commissioned the advertisement to refresh their brand and combat mundanity and repetition (in order to be relevant in the cultural economy, as described by Appadurai). The commercial was commissioned in the form of a short film.

“Train de Nuit” provides the viewer with an engaging sensorial experience. The engagement of multiple senses for capitalistic purposes is referred to by Howes as the sensual logic of late capitalism or hyperesthesia. In “Train de Nuit”, the viewer is purposefully overwhelmed with information to encourage consumption of products.

The commercial was released in May of 2008, and would be viewed only during a time of leisure (that is, watching television or watching videos online). This suggests that in post-modern society, even leisure activities require stimulation of multiple senses.

A paradox exists between the brand of Coco Chanel (which is a premium, exclusive brand), and the selling of a mass produced product. Chanel counteracts this perceived loss in value by releasing advertisements that are categorized as art, rather than the common commercial (as art is perceived as more socially valuable than a commercial).

HAPTICS

One of the many senses engaged in “Train de Nuit” is the haptic sense. If one looks beyond the narrow 5 senses model, haptics can be subdivided into many categories such the vestibular sense (relating to balance), kinesthetic sense (relating to motion) and cutaneous sense (relating to pressure and temperature).

“Train de Nuit” stimulates the vestibular sense through camera angles and frame motions. Sharp movements of the camera are purposefully employed in the commercial to be disorienting and make the viewer feel slightly off-balance.

Next, the kinesthetic sense is emphasized by actress Tautou's performance. By applying the concept of embodied simulation, which occurs when the viewer's body fuses with the actress's body, Tautou's movements enhance the kinesthetic sense. Tautou actively moves in the advertisement, causing the viewer to imagine their own bodies in motion.

The cutaneous sense is triggered several times in the commercial. A useful concept is that of haptic visuality, which is when eyes act as conduits for the haptic sense through texture and depth observation. The props in the commercial enhance the cutaneous sense through haptic visuality (such as soft pillows).

CHRONOCEPTION

Chronoception refers to one's sense of time. There are several instances of rapid chronoception in “Train de Nuit”. The most noticeable is when Tautou and Davenport meet for the first time on the train, and the window changes from sunset to midnight in the span of seconds. From a marketing perspective, rapid chronoception increases captivation and engagement. By disorientating the viewer's chronoception, the commercial seem shorter in duration, producing a captive body that is more susceptible to consumptive messages.

SENSE OF PLACE

The final sense engaged in “Train de Nuit” is the sense of place. In “Train de Nuit”, the sense of place is triggered by visible signs of Tautou's travel to Istanbul. Places are imbued with significant social meaning, and especially relate to memories.

The location of Istanbul triggers associations with its media representation. For example, Istanbul is often portrayed in films as a place of exoticism, travel, and mystery. Such a view is reductionist. Nonetheless, Istanbul prompts an emotional response (by triggering memory of media content), increasing the sensory engagement of the commercial.

CONCLUSION

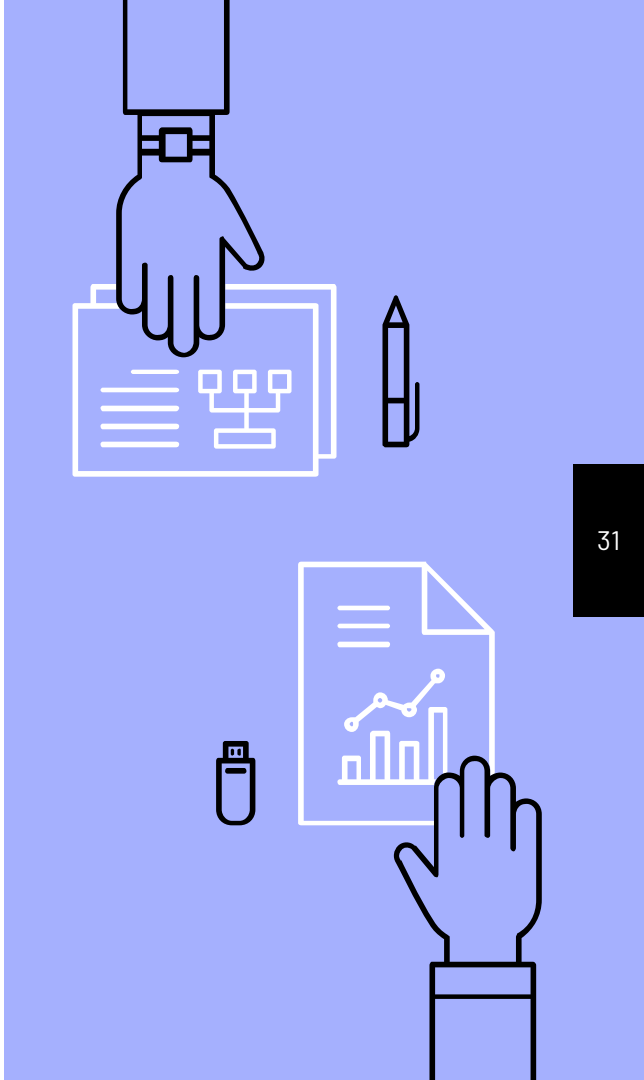
Although commercials are sometimes perceived as flat mediums (offering only visuals and sound), the Chanel No. 5 commercial challenges this notion by engaging with several senses. If one looks beyond the 5 senses model (which postulates that all human being have only five distinct senses – that of touch, smell, taste, sight, and sound), several more nuanced senses are engaged in this commercial. At the macro-level, this means that capitalism, consumer engagement, and sensory engagement are intrinsically linked. In modern-day capitalistic society, consumer expectations have shifted from a focus on the product to a focus on the product sensory engagement.

Ref: Amazon

What sections are required?

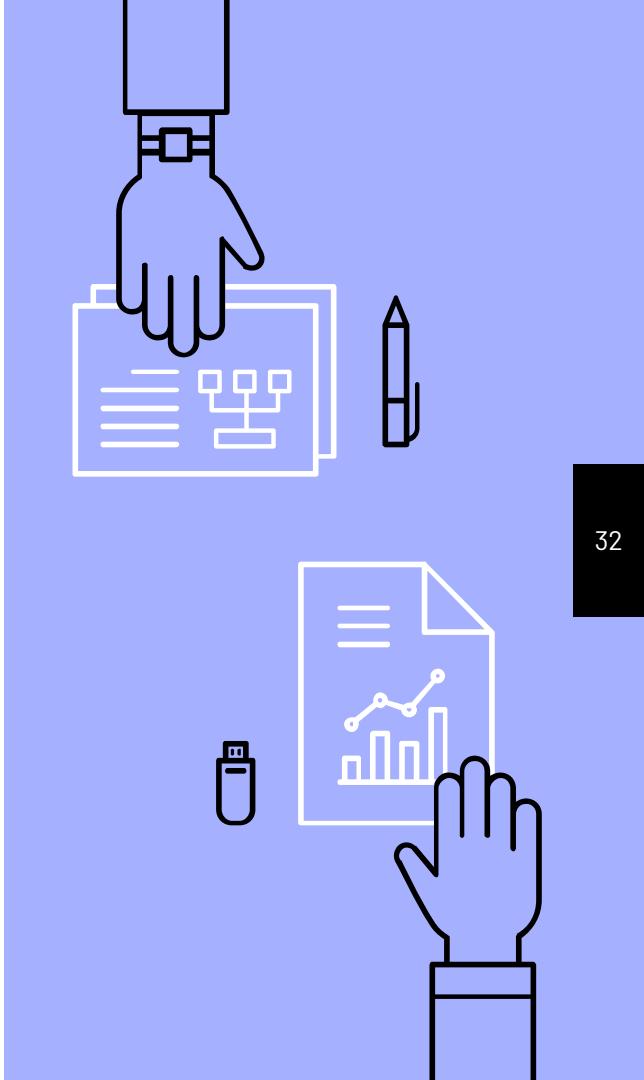
Required Sections: Part One

- **Poster Title**
  - Catchy & meaningful
- **Presenter name(s), faculty associated with course, & course code**
  - Omit student #, email & phone #
- **Abstract**
  - Succinct summary of research project
- **Research question, thesis statement, or hypothesis**
  - One clear, brief line



Required Sections: Part Two

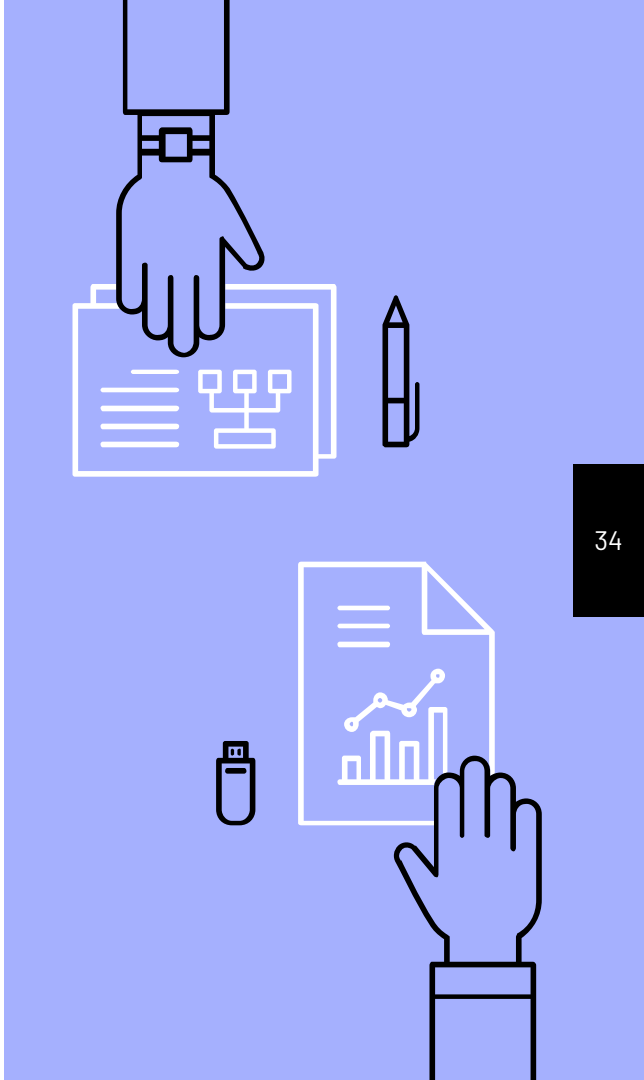
- **Method, Methodology, or Approach**
  - Short description of how you conducted the research
- **Results**
  - Research outcomes (qualitative, quantitative); Use images, graphics, graphs here
- **Discussion, Implications, or Conclusion**
  - Summarize most intriguing / important findings; Potential areas for future research



What else?

Other considerations

- **Images on poster**
  - Provide short citation, such as:
    - Photo by John Doe on Unsplash
    - Use Creative Commons Zero works - learn more
- **Bibliography / References**
  - Print as separate document & attach to corner of poster
- **Omit the following from poster**
  - The York University logo



Pulling it all together…

What is the effect of herbivore saliva on the toxicity of fungal endophytes?

OR: How does simulated herbivory (mechanical defoliation & saliva application) affect the impact of the fungal endophyte, *Epichloe uncinata*, of Meadow fescue, *Schedonorus pratensis*, on the growth and survival of the house cricket, *Acheta domesticus*? A Bioassay

Abstract

My research investigated 1) the effect of endophyte infection status (E+ and E-), on the survival and weight of an insect herbivore, the house cricket, *Acheta domesticus* and 2) the impact of simulated herbivory, including both defoliation and herbivore saliva application on endophyte functioning, measured via a bioassay with house crickets, *Acheta domesticus*.

Introduction

What are endophytes?

- Endophytes are microorganisms living inside plants (Clay, 1998).
- Systemic endophytes are found throughout the host plant
- I studied the systemic fungal endophyte *Epichloe uncinata*, of Meadow fescue, *Schedonorus pratensis*
- Endophyte grasses are more robust and successful thanks endophyte uninfected grasses

Alkaloids

- Grass endophytes produce diverse alkaloids (Clay, 1988)
- Infected meadow fescue contains high levels of lolines (Justus et al. 1997)
- Lolines are are neurotoxic to insect herbivores
- Lolines decrease environmental stressors in the host plant

Defoliation

- Endophytes increase re-growth rate in clipped grasses (e.g Belesky, 1996).
- Clipping E+ grasses results in an increase in alkaloid levels (Bazely et al. 1997).

Hypothesis

E+ treatments will affect the survival, consumption and weight of *Acheta domesticus*	Grass diets involving defoliation treatments will affect the survival, consumption and weight of *Acheta domesticus*	Grass diets involving saliva application treatments will affect the survival, consumption and weight of *Acheta domesticus*.

Methods

Generating endophyte-infected and uninfected grass plants for the experiment

Obtaining Herbivore Saliva

Herbivore saliva has the ability to combat alkaloids produced by endophytes (Tanemitzap et al. 2014)

Bioassay to determine the effects of simulated herbivory on endophyte and host grass response

Statistical analysis

All statistical analyses were conducted on SPSS version 20

I used a three way ANOVA for data analysis

Grass Diet Treatments

Treatment combination	Grass genotype endophyte status	Grass genotype endophyte status
Cut + Saliva	Infected	Uninfected
Uncut + Saliva	Infected	Uninfected
Cut + Water (No Saliva)	Infected	Uninfected
UnCut + Distilled Water (No Saliva)	Infected	Uninfected

- 6 genotypes of *Schedonorus pratensi*
- 2*2*2 = 8 treatment combination
- Domestic cow, *Bos taurus* saliva was used

Bioassay

- n=120
- The crickets were weighed on the first day, and every second day
- Fed between 0.03 - 0.10 grams of grass every second day

Results

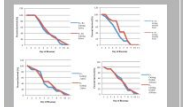


Figure 1: Percent survival of house crickets 8 different grass diets. The grass diets were paired based on the same cutting and saliva treatments. A: Compares E+ and E- for No Cutting and Saliva, B: Compares E+ and E- for No Cutting and Distilled Water, C: Compares E+ and E- for Cutting and Saliva, D: Compares E+ and E- for Cutting and Distilled Water.

Figure 2: A three-way anova for cricket consumption with three independent variables: presence of endophyte, application of saliva and cutting. The highlighted rows are the factors that were statistically significant.

Tests of Between-Subjects Effects

Dependent Variable: Consumption

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.005[a]	7	8.463E-5	2.663	.014
Intercept	.003	1	.003	79.047	.000
Endophyte	.000	1	.000	4.641	.033
Saliva	5.800E-6	1	5.800E-6	.183	.670
Cutting	4.400E-7	1	4.400E-7	.014	.907
Endophyte * Saliva	1.121E-5	1	1.121E-5	.353	.554
Endophyte * Cutting	3.402E-5	1	3.402E-5	1.071	.303
Saliva * Cutting	.000	1	.000	11.294	.001
Endophyte * Saliva * Cutting	5.925E-5	1	5.925E-5	1.865	.175
Error	.003	108	3.177E-5		
Total	.006	116			
Corrected Total	.006	115			

a. R Squared = .147 (Adjusted R Squared = .092)

Conclusion

- E+ diets significantly reduced the mean daily consumption of grass
- There was a trend (ns) to lower percent survival of the crickets fed E+ diets
- Significant effect of cutting on egestion
- significant saliva*cutting choice on consumption
- There is clear evidence of subtle saliva effects on dietary intake
- The mean cricket egestion (poop) was lower in the cut grass diets.
- Raising the question: why does cut grass cause constipation?

HOW to start

A list of tips & resources to make designing your poster simpler

Make a plan

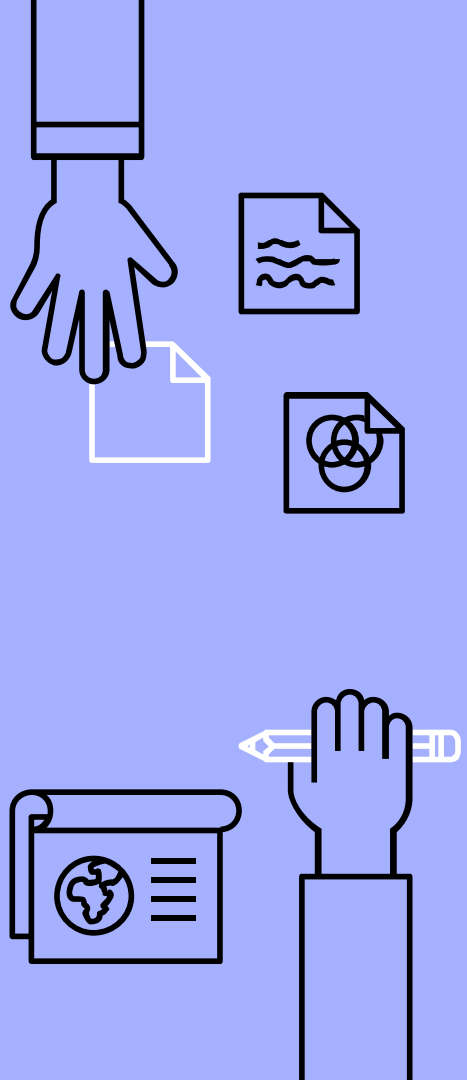
Sketch out design on paper first
before going straight to PPT

Photo by William Iven on Unsplash

Test your design

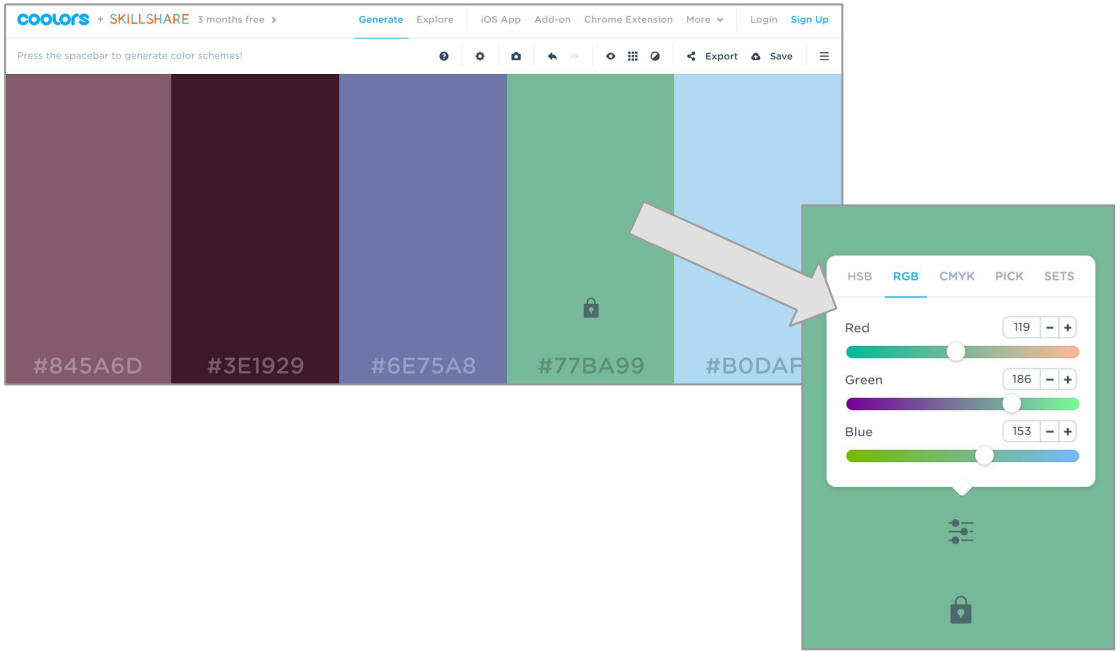
Use Lorem Ipsum to block out where your text will go

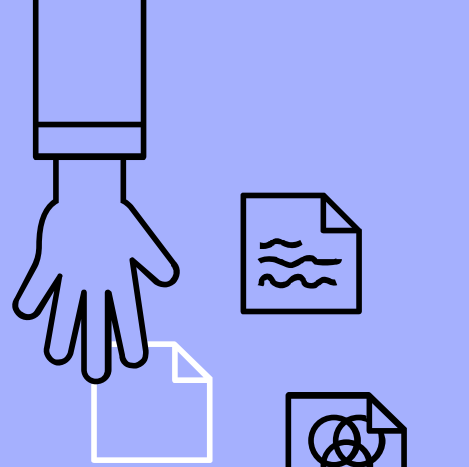
Image by tswedensky on Pixabay

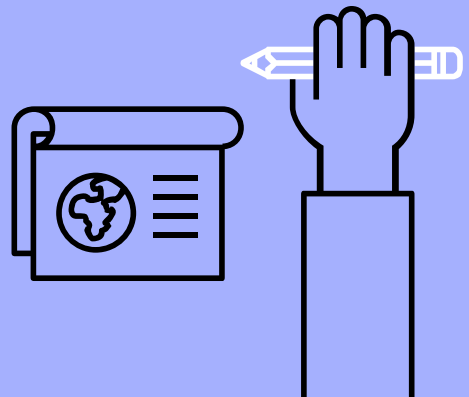


Pick a palette

Choose a colour palette that works for your design







Find some images

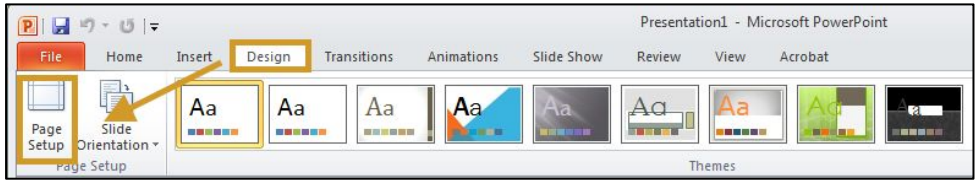
Use Creative Commons Zero images, photos, & artwork. (1) The Stocks; (2) Creative Commons Image Search

Photo by MikeBird on Pixabay

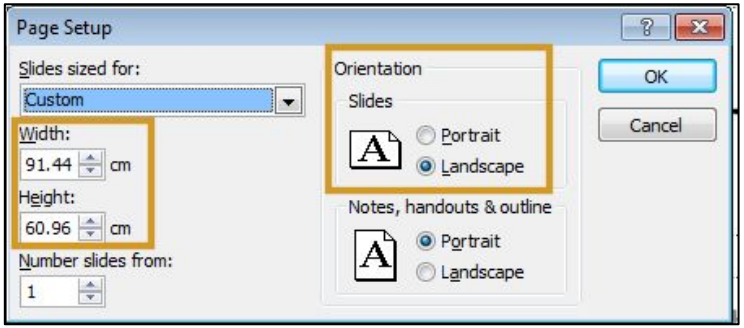
Set your poster size in PPT

Windows Instructions (MS PPT 2010 version)

1) Open PPT, click Design tab, & click Page Setup



2) Change size to 60.96 cm by 91.44 cm (24 inches by 36 inches) & select 'Landscape'

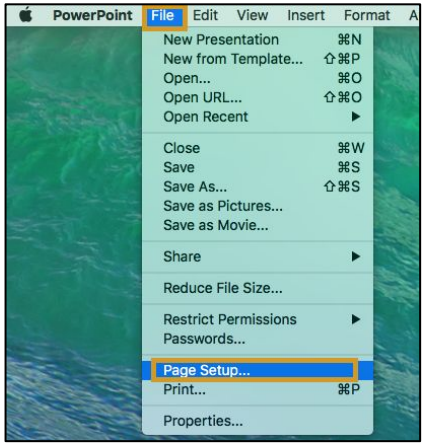


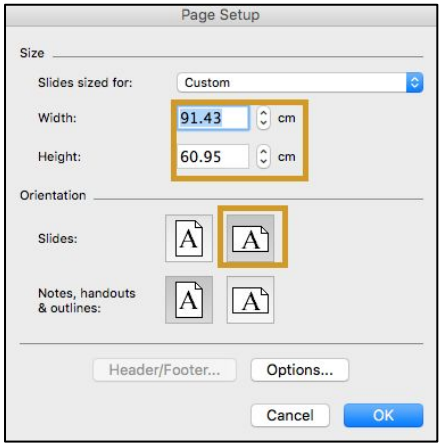
Set your poster size in PPT

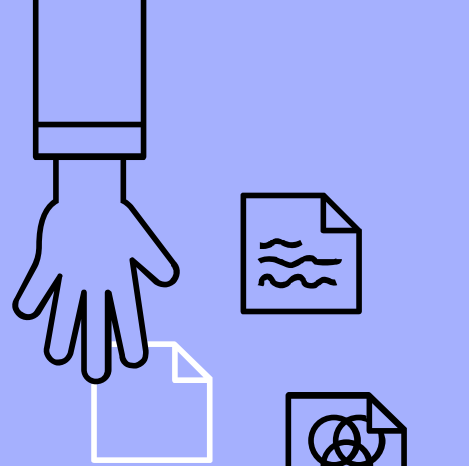
Mac Instructions (PPT for Mac 2011 version)

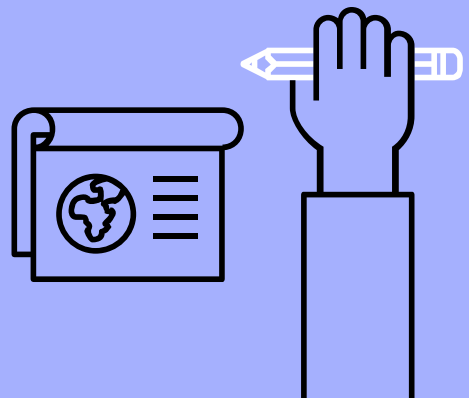
1) Open PPT, click Design tab, & click Page Setup

2) Change size to 60.96 cm by 91.44 cm (24 inches by 36 inches) & select 'Landscape'









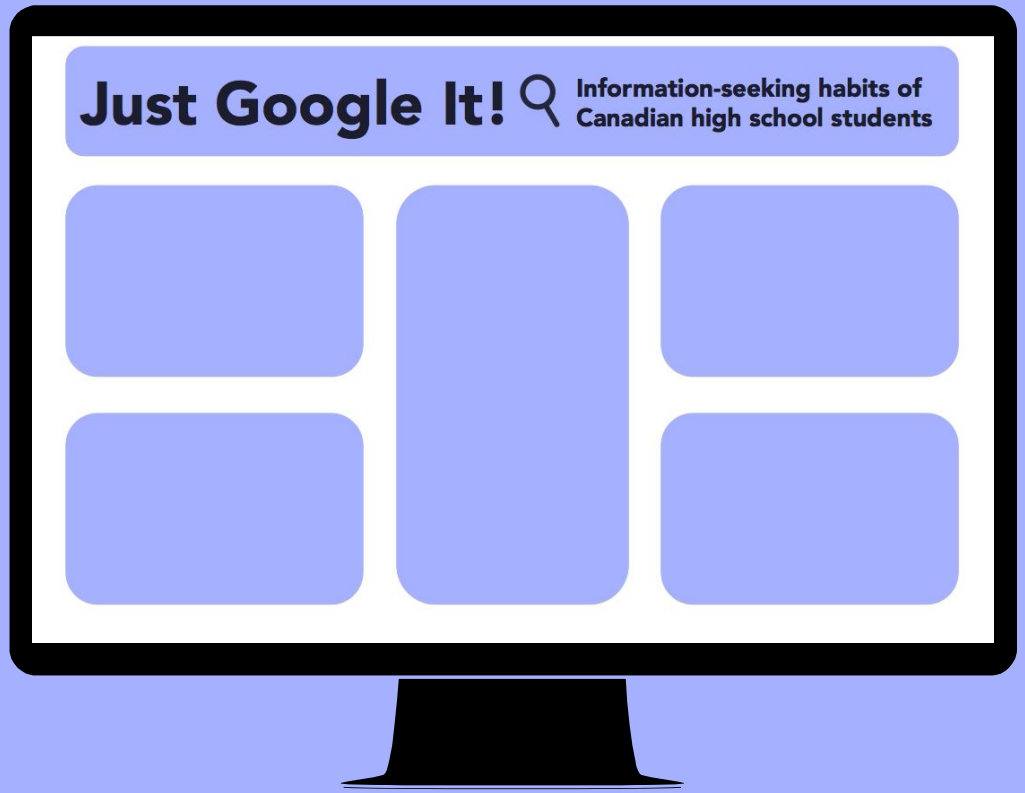
YOUR TURN TO CREATE

- Start a PPT design for your poster

OR

- Design a poster for this news story: [New study claims eating ice cream for breakfast makes your smarter]

Short URL:
http://bit.ly/icecream80



THANKS!

Any questions?

CREDITS

Special thanks to all the people who made and released these awesome resources for free:

- Presentation template by SlidesCarnival
- Photographs by Unsplash