
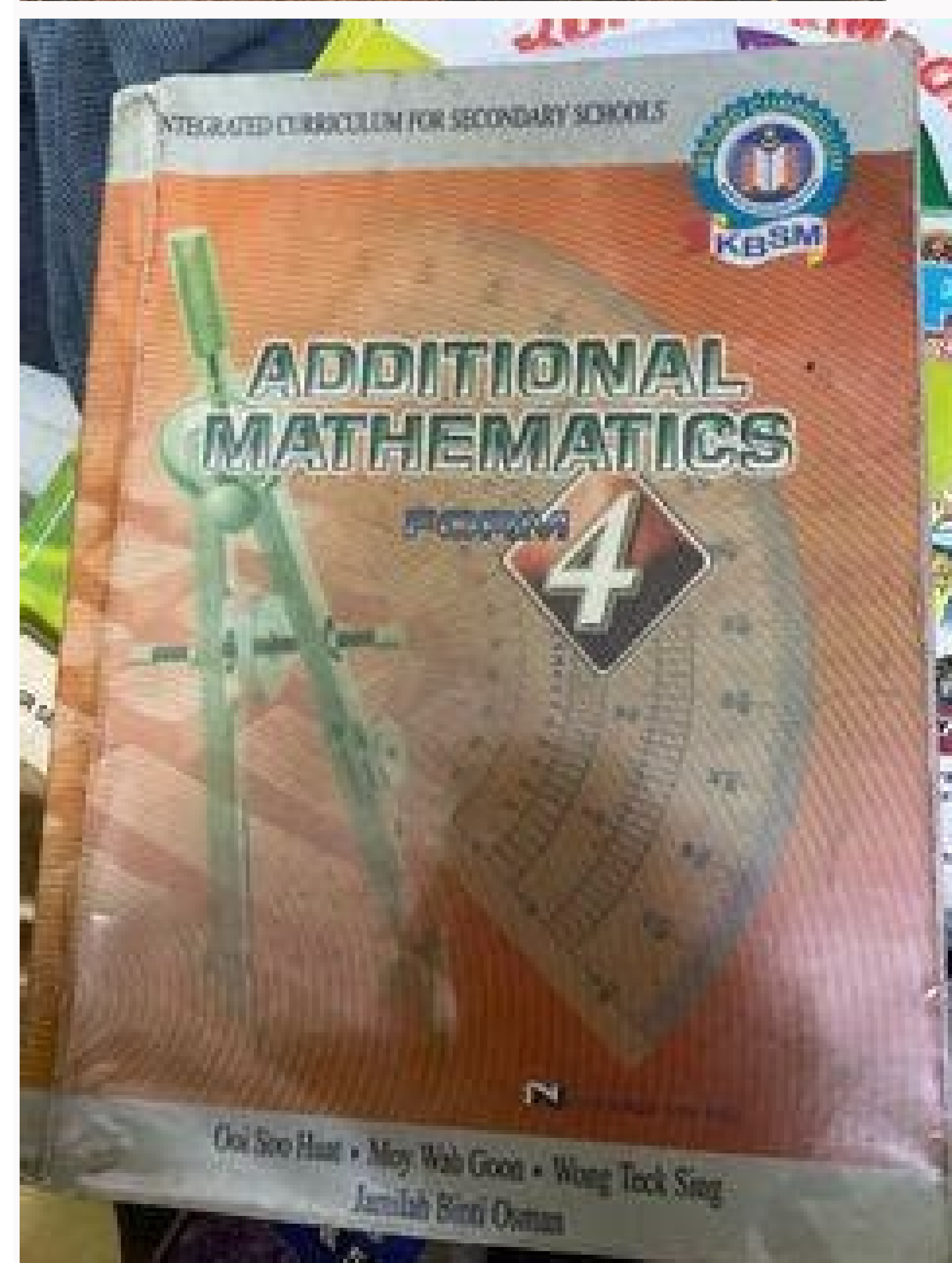
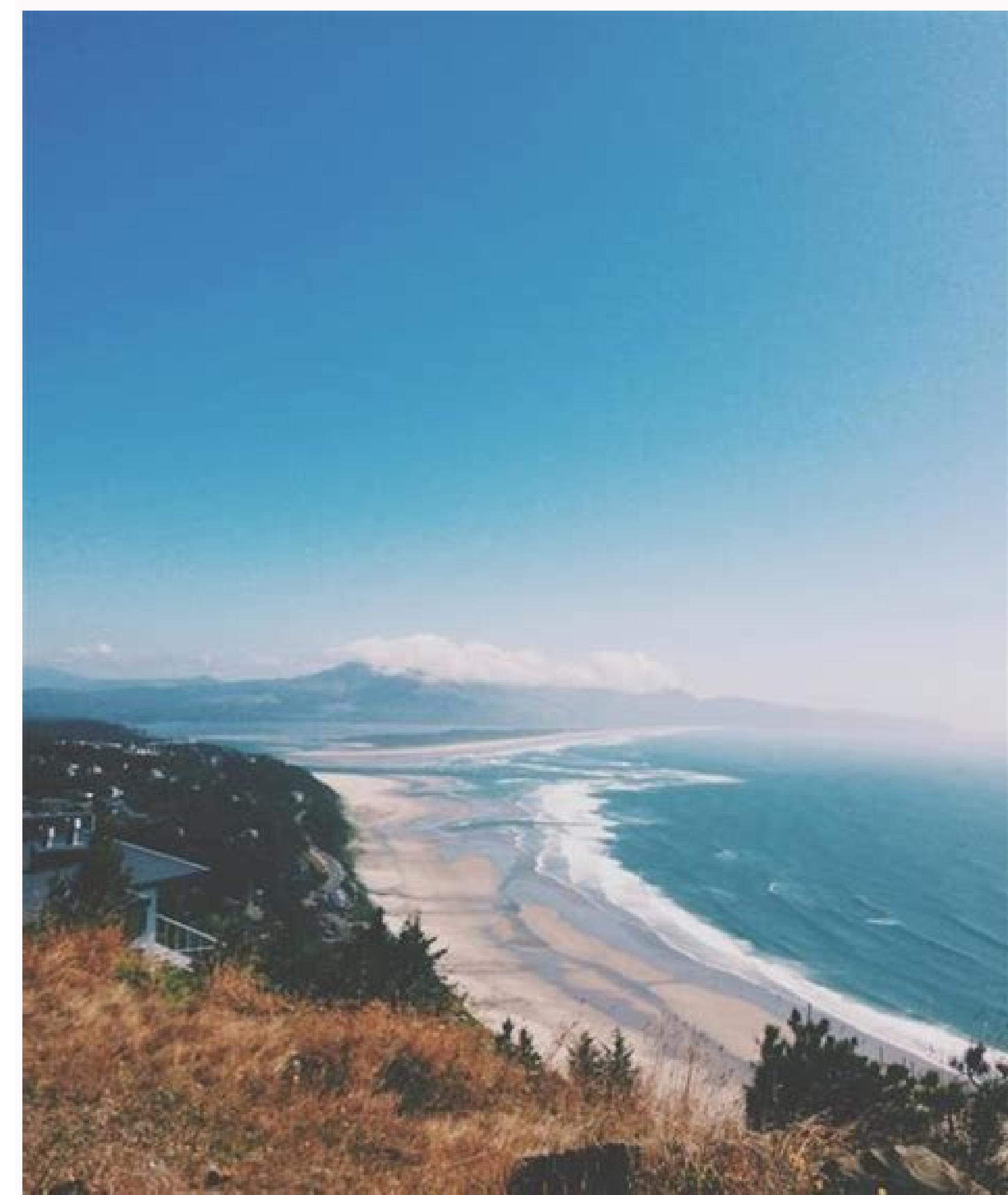


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### Overview of the course

- Population – sample
- 1. Exploring data
- 2. Modelling data
- 3. Sampling data
- 4. Decision with data

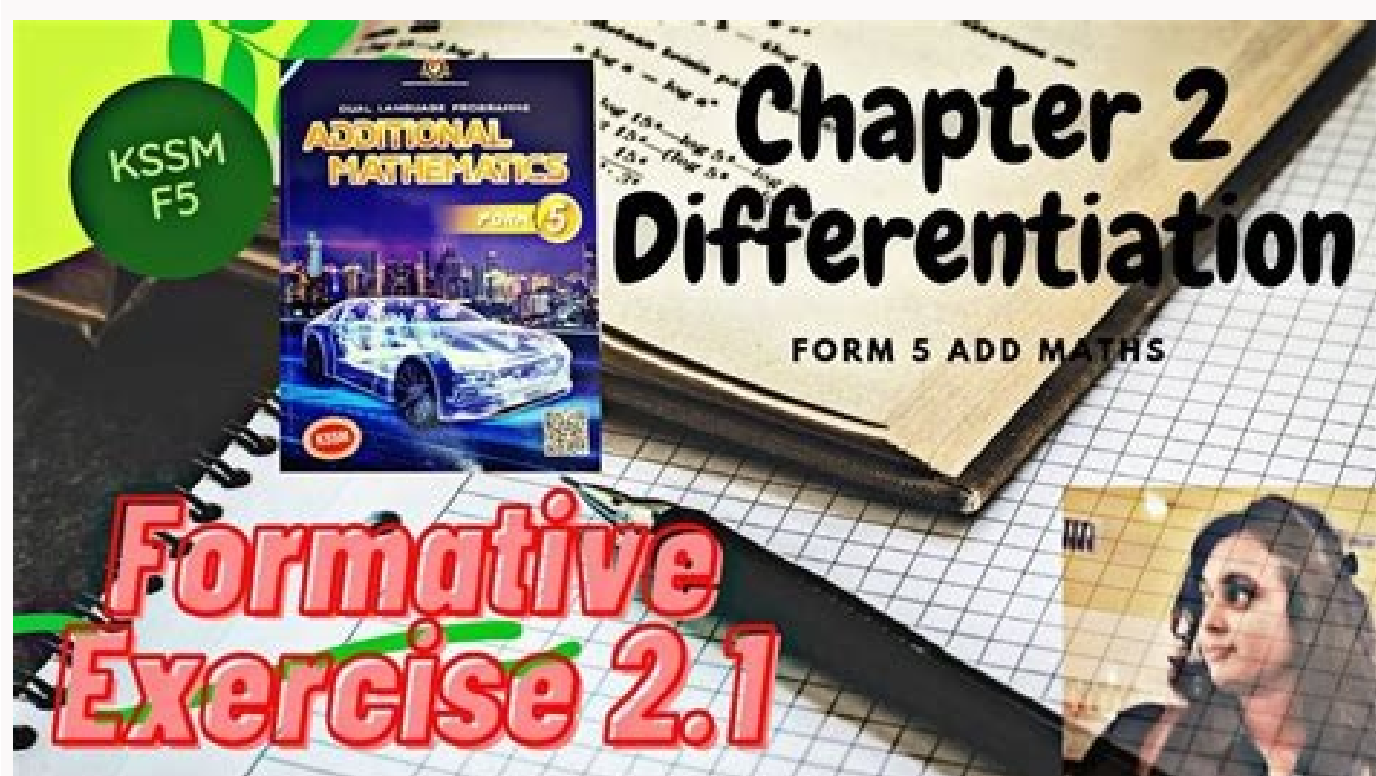
### Module 1 - Exploring Data

- Design of Experiments - where did the data come from and can we make reliable conclusions?
- Data and graphical summaries - what type of data do we have and how can we visualise it?
- Numerical summaries - what are the main features of the data?

1. Controlled experiments			
Data story	<ul style="list-style-type: none"><li>• Does an anti-acne drug cause depression?</li><li>• Roaccutane - a drug prescribed for acne</li><li>• There is no evidence that Roaccutane is linked to suicide but it was warned and cautioned for severe acne</li><li>• Effecting 1 in 1000 people - "some people have thoughts about hurting themselves or ending their own lives (suicidal thoughts), have tried to end their lives (attempted suicide)... " - this is in the patient leaflet</li><li>• Roche: "A retrospective study in 2020 didn't establish a link between isotretinoin and observed increased risk of suicide" and "Additionally, the MHRA concluded in 2014, that whilst a causal link cannot be ruled out, it was not possible to identify a clear increase in the risk of psychiatric disorders"</li><li>• Effects on sex lives - e.g. erectile dysfunction</li><li>• 60 serious incidents, 25 suicides, and overall 31 deaths (Channel 4, 2019)</li></ul>		
Domain knowledge	<ul style="list-style-type: none"><li>• Domain knowledge is background context information that helps you to understand the data</li><li>• Research and read about it - research papers and reports, textbook, reliable online websites</li><li>• Compare</li><li>• Raise questions</li><li>• Statistics</li></ul>		
Types of data	<table border="1"><tr><td>Problematic</td><td><ul style="list-style-type: none"><li>• A personal testimony or observation can only suggest a more generalised finding</li><li>• The sources behind media article are often poorly cited</li></ul></td></tr></table>	Problematic	<ul style="list-style-type: none"><li>• A personal testimony or observation can only suggest a more generalised finding</li><li>• The sources behind media article are often poorly cited</li></ul>
Problematic	<ul style="list-style-type: none"><li>• A personal testimony or observation can only suggest a more generalised finding</li><li>• The sources behind media article are often poorly cited</li></ul>		

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FANRICRO ECONANIC WORLD, GLOBAL CITY FUTURE COUNCIL AND URBANIZATION 2019-2020 TERM: April 2020 Calls, City Contribution. 107. Every preventive and contemporary measure requires resources and has a fiscal aspect. 337. 89. The recent launch of Green The Social Investment Fund (GSIF) in 2020 Black enhances CEB's ability to support the climatic and environmental sustainability components in the investment projects he finances. 25. 340. 269. This initiative will serve as a hub of best pron And present guidelines for US cities access and track federal programs and financing mechanisms to support their recovery from cities covid-19388.C40 established a recovery task. From global mayors Covid-19 to boost a recovery that improves the publicity, reduces the reduction inequality and addresses the climatic crisis. 222.https://www.nytimes.com/2020/05/05/health/coronavirus-children-transmission-sochool.html 223. In July, the principles were the principles . More detailed on the C40 mayors' agenda for a fair and fair recovery: describing measures focused on the creation of green jobs, investing in crucial pills, protecting mass transport, supporting essential workers and Return spaces for people and nature391. 347. 122. 362. https://Woohoo.c or on Lu.bel. Sudden/News/1/0/Archive 342. 342. 234. 242. 247. 284. 254. 85. 286. 169. 153. They have developed a collaborative online platform that offers access to knowledge, strategies and actionable plans implemented by local and regional governments around the globe. 288. 278. 283. 393. In addition, Core Cities UK has collected best practices from its network grouped according to 5 key policy areas: culture and community; transport and infrastructure; jobs, business and financial support; housing and homelessness; and public health395.The Council of Europe Bank (CEB) provides flexible and timely financing to help cities in its member countries implement their COVID-19 recovery strategies and strengthen overall resilience, in line with its core mandate to promote social cohesion and help build thriving and resilient communities396.Å Å CEBeÅÅÅs capacity to swiftly deploy its support can enable cities and municipal companies to counter the financial impact of the COVID-19 pandemic and thus ensure continuity of their planned infrastructure investment programmes397. 409. 149. 358. 228. Explainers-52575313 225. 60. 8. News tank cities (2020). Å il de France: 31% utilisent moins oå' Mayan », news tank cites (09.07.2020) 65. 323. Rie of virtual intercourse on spectaphic themes related to the role of the rendering of public servants between cities and partners394. CORE CITIES UK The program å € ostrengthening The Corean efforts to protect the 26% from the UK economy that the city's regiars are already offering; safeguard the economies of surrounding cities and cities; and build the strongest possible recovery. This declaration insists that the recovery is not a return to the business as usual, which was underway for 3rd of overheating, and emphasizes the importance of adhering to the



ability and public Scientific experience, guaranteeing public servants, addressing equity, and seeking solutions to mitigate and adapt the crisis390. 270. The task will explore the forms of recovery with covid-19 economic to take people back to work. At the same time as ensuring slummy breakage not become an even greater crisis for the global economy and the lives and life of communities around the world. 244.A UNESCO also organized a webinar re and published better and recommendations for students, teachers, parents and contained containers on topics such as education at home, teaching the distance and culture412. United cities and local governments (UCLG) is currently focusing on sharing. siacof. siacof. sedadroitUA ed laboG edeR a moc ofÁÁAarohaloc me 133. 230. 185. 237. 214. 335. 86. 377. 110. 390. 380. 364. 407. 333. 82. Let us know! Here you can also share your thoughts and ideas about updates to LiveJournal Your request has been filed. Eurocities (2020). eÁÁÁPolicy note: Overview of social measures in cities to respond to COVID-19 crisisÁÁÁ. policy note updated on 1 July 2020. 92. 339. To finance their epidemic response, local governments rely on three major sources: own revenues, intergovernmental transfers and sub-national borrowing. eÁÁÁCitizens can have all their needs metÁÁÁBe they for work, shopping, health, or cultureÁÁÁÁÁwithin 15 minutes of their doorstepÁÁÁ. 374. Several National URBACK Points are actively engaging their cities in gathering more information about this topic and feeding this page. The UNCDF aims to provide guidance to local governments on immediate responses and provide key dimensions of successful responses.The United Nations Environment Programme (UNEP), alongside several partners in the Sustainable Infrastructure Partnership (SIP), developed a set of ten principles for post-COVID-19 recovery focusing on investing in sustainable and resilient 10. . gob.ar/sites/gcaba/files/lineas\_de\_credito.pdf 262. . FR/Pages/Coronavirus-Les-Mesures-Prises-Par-La-Ville-7672-265. This is done working on the financial resilience of the local government, bringing together major catalytic projects across cities that can act as a stimulus to the regional and national economy and re-imagining the future of cities. More information available at 11. GSFIF provides subsidies with the aim of promoting environmental sustainability, expanding decarbonization and making CEP-funded social infrastructure resilient for climate change, while climate action and other environmental sustainability measures more accessible and accessible to vulnerable groups. . org/press\_releases/taskforce-principles 106. 371. GRNC also launched an open, participative and collaborative platform, in which cities could exchange knowledge and learning and identify key actions and initiatives to address the crisis and the future testing of their systems in the face of global challenges407. OECD (2020) COVID-19: Impact on cultural and creative sectors, responses and policy opportunities (hereinafter). Eurocities also released a preliminary overview of measures to mitigate the socioeconomic impact of COVID-19401. . 188. . org/cf/brochure-oecd-principles-urban-policy.pdf 217. You can track the progress of your order: if you have any other questions or comments, you can add them to that request at any time. update 309. https://www.google.com/url? q = https://drive.google.com/file/D1DOKZEPH0E021B7EWF\_VT89DZABK86M/VIEW & SA = D & UST =311. Resilience directors and other leading urban policy makers regularly. pihrsredael ytic dna htiaeh cilbup ni strepxe gninevnoc yltraivir si seiporhtnalihP grebmoolEboloq eht srorca s sensopser eviticelloc eparuocne dna scenieirpxe dnah-tsrif celloc snoitca eseht ,evitaitni DCEO eht ekil .91-DIVOC morf revocer yehrt sa seimoncoe lacol trenliser-etamic dna elbianatsiS erom dliub seistic pleh nac fise eht .214 55903/Edon/rf/gru.glcu.glcu.glcu .91-DIVOC Morf Yrevocr Cimonoe elbatue . yhhh rhhths nilllar 11 11 .282 ylati#91-DIGOC-TNELAC-TNELAM-Etsgaum-Lapicnum/Lapicnum/La.sulprca.www/:sptth 431 5087-Sirap-Lesnoc-Lesnoc-ne-Nwww/segap //sptth .311 weiv/5ma\_TVb5gzaKmCQL-ZifUNufyvHk9FRv1/d/eli/f/moc.elgoog.evird//sptth .egnahc etamic no tnemeergA sirAP eht dna tnempolevE elbianatsiS rof adnegA 0302 eht htiw dengila si taht gnninalp cigetarts htiw trats ot yrevocer 91 -divoc-tsotP Rof Gnidneps Erutcurtsarfnf Noisycied Rof SelpicnirP Eht.segacak pulguls na yrevocer 91-Divoc-tsop Rof Gnidneps Erutcurtsarfnf Noisiskam Noisiced in Edivrtp áêárevocer Rof SelpicnirPáêáê»»»» Eht .Edatrne .iod:/Sptth ,Sirap ,Gnahsilbup ,I Eussi 0202 est Lov .kooltou cimonoe dceo .,0 /sellif/metsys/ti.if.if.if.enw/w/sptth .942 llnth.956541700202-SAID-SAID SE.SERPAPORRUE.SPPTH .áêáêÁêegmahc MrT-gonol esylatic rom snoinvretini Elbialacs DNA .tsoo-Wol .mret-trohs Gnidliuhhr Et horpped del-Nnetic I scenieirpxe in the Sitrepce Rieht Erahs Ot Seires Siht 174. The United Nations Capital Development Fund (UNCDF) launched an initiative on local government finances for the CoVid-19 responses. . gob.mx/pages/covid19/365. . fr/politique/plan-deconfinement-d-anne-hidalgo-seuls-15-ds-oliers-Parisiens-digo-Leur-Rentree-LE-14-MA-04-05-2020-9310747.PHP 349. 79. 378. .ly/3ifixiv 344. 207. In addition, ECB funding aims to mitigate the social and economic impact of low-income covid-19 pandemic in low-income, marginalized and vulnerable groups such as elderly, migrants and refugees. CEB also launched a series of dialogues with the mayors of several European cities - such as Helsinki, Turku, Tirana and Genoa - highlight the measures they are taking to increase resilience for future shocks and ensure that CoVid-19 recovery is socially inclusive and Green399. Eurocities are compiling examples of city actions on their web page dedicated to CRISIS400 COVID-19. 34. In order to avoid future crises, the principles recommend that the infrastructure ensure resilience through integrated system-level planning and internal flexibility and redundancy414. When cities gather a CoVID-19 : Local government response and resource bank for local government leaders415. More than 600 initiatives were sent to the platform of 32 countries and 97 cities. . nl/initiatieven.47. They are seeking to share a number of experiences from around the world, demonstrating how people are accessing Information411.unesco launched a story request to collect information about local interventions to address the vulnerability of specific groups that have limited access to the services provided in response to pandemic and city-level initiatives that are specifically conducted to combat discrimination and stigmatism in all their forms. . lg.jp/english/ 190. . org/en/content/coronavirus-impact-on-homeless-population/ 298. google.com/munlima. gob.pe/coronavirus-lima 361 . corecities. with/cities-take-action-covid-19 400. . Gob. PE/Coronavirus-lima 279. 373. . org/covid19 417. As a group, including cities of England and returned administrations, provides a network across the UK that can now act to create immediate and responsible impact on the ground. 285. . mx/24-06-2020/3811072; 148. 143. 140. . lg.jp/ 264. . Yokohama. lg.jp/ 329. The initiative aims to identify mechanisms for partners to connect and exchange solutions more regularly in relation to the Covid-19 response. This curated list of examples, resources and city comments should provide useful information to local governments and is organized in five sections: tools and data resources. resources for the local government; local actions; OP-Eds and specific comments for the local government; and COVID-19 guidelines and updates. The World Economic Forum (WEF), acting as a partner of the World Health Organization (WHO), is mobilizing the parties met met m©Abmat 0302 lacol. 71 .91-divoc t© artnoc atul an aicmÁÁsisbus ed soiem e sadiw regetorp arap the Local 2030 Spotlight Series to facilitate the experience and sharing of knowledge among stakeholders in the local response to the COVID-19 crisis through short videos. . ibb.gov.tr 338. . org/item/20200504154215-ne8if 209. 314. . roma.it/web/it/notizia.page?contentId=NW5568831 293. A debate is held every week in this forum to discuss the different points and discussion is currently changing to how cities will be dealing with the recovery process. It has an ordered grid detailing the political decisions and actions that city leaders in all the United States are doing to contain the spread of the virus and respond to the impact of the community. In the short term, the organization is drawing up some detailed proposals on how recovery can happen by sector in cities and their ecological systems. 351. . vancouver.ca 353. . with/champion-mayors/webinar-covid-incities 102. . Yokohama. (i) the Commission's proposal for a Council Directive on the approximation of the laws of the Member States relating to turnover taxes. pt/covid-19-measures-and-informs/upload 266. . pt/covid-19-measures-of-municipio 267. 268. . Metro. Tokyo. lg.jp/en 350Answer417. The aim of this initiative is to help cities navigate the current crisis and implement appropriate responses. . org/recovery 125. . bel.tr/sayfa/32638/estilik-evde-baslar 348. . Orgo. American cities. org/study-measures-to-survey-la-crisis-del-coronavirus/ 252. . gob.ar/coronavirus 368. . org/tools-resources 408. . cfm?id=338435 317. -in-hotel-salas/303. 112. . kk.dk/business-coronainfo 297. http:// www. Leparisien.fr/politique/plan-de-confinement-d-anne-hidalgo-seuls-15-des-ecoliers-parisiens-feront-leur-rentree-le-14-mai-04-05-2020-8310747.php 226 . . Eng 2011. oecd.org/gender/data/ 346. Send a Another Report Next feedback form Several global institutions have launched initiatives to facilitate the sharing of best practices among cities. Projects that benefit from the fund resources will have to demonstrate their positive impact on climate, social and environmental398. This note was drafted by a core OECD team composed of SooJin Kim, Tadashi Matsumoto, Kate Brooks, Oriana Romano, Eلسا Elliott Alonso and Lucie Charles, with inputs from Aline Matta, Kenza Khachani, Camille Viros, Kiara Fritz, Oscar Huerta Melchor, Atsuhito Oshima, Jonathan Crook, Elvira Shaikova This virtual spaceWhat cities are doing with specific initiatives or plans to combat covid-19 outbreak393. 186. The WEF strategic intelligence tool now features a break in the covid19 that is accessible even for those who are not registered on the platform416. Each entry, grouped according to one of several key categories (e.g. culture, economy), provides a brief summary of the city's action, followed by a link to a more detailed description on the city's website (or another dedicated). 63. 405. https:// coronavirus. dc.gov/respoude 183. . com/legalnews/chicago-city-council-introduces-covid-18375/ 330. 45. In June 2020, the network cities issued a joint statement entitled "EU recovery powered by cities", calling the European Commission to involve more cities in EU recovery programmes and direct access to cities to European funding402. The European Commission 'TM' s Intelligent Cities Challenge has launched a wider support package for CoVID-19403 to facilitate learning and sharing best practices in effective interventions led by the city of European and global cities. Along with the partners at John Hopkins Bloomberg Public Health School and the Bloomberg Harvard City Leadership Initiative, Bloomberg Philanthropies launched a new support program to help American mayors respond to the rapidly evolving corona virus crisis. The members of the Task Force are: President of the Prefect of the Task Force of Milan, Italy, Giuseppe Sala; Mayor of Freetown, Sierra Leone, Yvonne Akí Sawyer; Hong Kong Environment Secretary, China, KS Wong; Mayor of Lisbon, Portugal, Fernando Medina; Mayor of Rotterdam, Netherlands, Ahmed Orređaleb;from Medellá F n, Colonia, Daniel Quintero Calle; Lord Mayor of Melbourne, Austrá\*, Sally Capp; Mayor of Monträ © , Canadian, Valá © Rie Rie Mayor of New Orleans, USA, Latoya Cantrell; Mayor of Seattle, USA, Jenny Durkan; Mayor of Seoul, south, Won-Son Park389. The European Territorial Cooperation Program (Urban) is currently collecting and mapping all the pandemic answers in European cities404. 108. 363. 99. hits: //urbanresilience.eu/ 99. https://urbanresilience.eu/ 99. www.intelligentcitieschallenge.eu/covid-19-webinars 404. ofs -EmiBrace-The-Cultura Vir- (1)/382. Fan \* Live Learning Experience413 was organized for mayors to exchange-chavoment issues arising from pandemic, as solutions for people without -Tot, the continuity of transport so that People can reach hospitals and other essential services and digital divisions insofar as it affects children and their education. 1. 118. The city's global platform has already collected more than 295 city experiences worldwide. Eurociudades (2020), e Ády Ády "Polcy Note: General View of the city's measurements to mitigate the socioeconomic impact of COVID-19.Note updated on July 1, 2020. They can send their action to be included in the tracker, which will be updated daily to reflect the crisis's crisp. This planning, observes the principles, must consider the systemic vories between the sectors and the space and the time. 343. E o and foods and foods, programs will be highlighted to give the downtime information on emerging practices and what is working in cities386. 385.https:// www.nlc.org/program-initiative/covid-19-local-action-tacker 387. /239. /239. 360. In partnership with the city's National Transport Association, Bloomberg Philanthropies also launched the Transport Response Center to provide virtual guidance and mayor and function city transport rivers to mitigate the inn the COVID -related challenges and in the long -term plan, facing the pilling transport. § § The initiative of fiscal tracking of the city and federal reimbursement. In addition, the C40 has shared the best practices of its cities in covid-19-related tathopics, such as mitigating socio-economic impacts and prioritizing reactive and long-term responses392.Cities for Global Health, led by subway, is part of the "live learning experience: in addition to the immediate response to the outbreak," developed by UCLG and supported by Un-Habitat. In partnership with the National Cities League, Bloomberg Philanthropies launched COVID-19: Action Tracker385. There is also a debate on immigration and the rights of migrants and food security, as well as access to culture, as a solution to the support of culture workers and citizen services you. 280. 280.

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