

Coronavirus unit study:



Yesterday I shared on Instagram that I was working on a unit study on the Coronavirus whilst waiting for my car to be repaired and many of you messaged me asking if I would share it with you guys, so here it is!

In the last few years, we have been home educating almost entirely using unit studies. We rotate through Science, History, Geography, etc. For example, last summer, we spent 3 months learning about Ancient Greece. Right now we are focusing on science and learning about the human body. I have two daughters, 8 and 12, and we do the majority of our work together, and then I might work one-on-one with the eldest, or ask her to do some more in-depth work independently.

We are pretty open with our kids and have therefore been discussing the Coronavirus in front of, and with, them. They see newspaper headlines and hear things from other family members and friends about it and not all of it is accurate. So I decided to make a unit study out of it, and instead of covering just science, like some of our previous unit studies, I thought it would be better to cover all the subjects through this topic that is currently consuming so much of our time and attention anyway.

A lot of what I share below is mainly discussion-based. I've found that that is the best way my kids can truly immerse themselves in the topic, but you can ask them to write things down for record-keeping purposes if you wish to. I usually just write up a short summary in my homeschool planner at the end of the day and include:

- what we discussed that day,
- which books we read,
- documentaries/YouTube videos/News reports we watched,
- new words we learned,
- any thoughtful insights they shared with me,
- any new questions we still have that we need to look up the following day, etc.

I know that some of you may think that this is an odd topic to teach children about as it is pretty scary stuff, and is making even adults anxious, and if that's the case, or you have a child whose anxiety would increase by doing this unit study, then, of course, I completely understand that. In our home, we have found that the best way to dispel fear is by arming ourselves with knowledge. And so it is with that mood that I compiled this unit study.

It covers topics for various ages, and you will know best what your child is capable of, both, skills-wise, and emotionally. Please don't feel you need to do every single thing off the list. I certainly won't be! Pick one or two from each subject and go from there. We typically spend about a month on each unit study but depending on the children's interest levels, we may park ourselves there for months on end, or we may move on after a few days. As long as they are interested in learning, we stick with the topic.

As a disclaimer, I would like to say that whilst I have provided some useful links for some topics, I have not provided the answers to every question. I do not *have* the answers to every question. If you are new to home educating because of COVID-19, welcome! This is what the majority of home educating looks like - learning **alongside** your children. If they ask you questions you don't have the answers to, say "That's a really great question and I would love to find out too. Let's look that up together."

If the discussion and research lead to other things, follow those rabbit holes, and count it as learning, because it is. It all counts!

How do you start? I would suggest reading through the whole unit study, and highlighting a few things from each subject that sound interesting to you. I would also suggest you watch the linked videos, or read the linked articles beforehand. Then, introduce the topic to your children with something that will catch their attention and continue from there.

I hope you find something here that is helpful. I would love it if you left me a comment below, and tagged me on Instagram (@daksina or @daksinabasia), to let me know if you did.

Please share this unit study with friends who may be interested, or have found themselves also unexpectedly home educating right now.

MATHS:

<https://covid19info.live>

Use the above website to look at the charts and graphs.

Look at how graphs can be used to show different information, eg. Cumulative vs. Daily numbers.

What does Cumulative mean?

Discuss various ways data can be presented, eg. Pie charts, bar graphs, etc.

<https://www.bbc.co.uk/bitesize/guides/zrg4jxs/revision/1>

How do we choose the most appropriate way to present data?

<https://chartio.com/learn/charts/what-is-the-difference-between-a-pie-chart-and-a-bar-chart/>

Compare Infection rates between two or more countries/continents. Present this information using one of the above-mentioned charts/graphs.

Compare Mortality rates between two or more countries/continents.

Compare Mortality rates between different age groups. What can we conclude from that?

What are Percentages? Which symbol do we use for it?

<https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-percent-problems/v/finding-percentages-example>

Use the above website (<https://covid19info.live>) to look at how percentages are calculated using the number of confirmed cases, recovered cases, and deaths.

Practice calculating percentages:

<https://www.math-salamanders.com/uk-percentage-worksheets.html>

What is a billion? Compare it to a million.

Use the following video to visualise and discuss how many people there are in the world:

https://www.youtube.com/watch?v=_3VFmmqFCoM

Use the following video to visualise how much 1 billion pounds is. Then, discuss what that means in the context of how much money the worldwide/UK economy is losing due to COVID-19.

<https://www.youtube.com/watch?v=okS1JT0iodo>

Look at a variety of foreign currencies and value them against the pound (or your local currency).

Why does the value of currencies go up and down? For example, one day you can get \$1.50 for £1.00, and the next day that might change to \$1.34 for £1.00. Use the internet or YouTube to help you understand.

How are statistics collected and how reliable are they? Can we accurately calculate how many people actually have COVID-19 if we are not all being tested?

What are the limitations of collecting statistics on something like this? For example, under-reporting and under-testing mean the statistics might be skewed.

ENQUIRY:

For this section, you can do it a few different ways:

- 1. Choose one topic together and thoroughly research it. They help your children write an essay, a news report, a letter to a friend/family in another country, and a leaflet. They will present the same information using different writing styles - informative, journalistic, informal, etc. Or,*
- 2. Choose one topic per style of writing. For example, ask them to write a newspaper article on the first question, create an informative poster about how we can stay safe, or a mini dictionary using the vocabulary/spelling list.*
- 3. Pick any question/discussion point from any of the subjects and write about it using any of the writing styles.*

**If you decide to do more than one writing project, only work on one project per week.*

What are some other disasters you have heard or read about in 2020 and how does COVID-19 compare to them in terms of how widespread it is, how many people are being affected, how many people have died, etc.?

What are the effects of COVID-19 on health/economics/travel/businesses/trade/stock markets/emergency services/socialising, etc?

Compare newspaper headlines in the UK, and also UK headlines with headlines from around the world. How do they differ?

What is sensationalism?

What is bias?

What is social distancing?

Journal about how this has affected you personally.

Keep a list of new words you come across and write down their definitions. You can do this on post-it notes and stick them all over the house or on a learning wall.

What are acronyms? Keep a list of ones you come across. Create your own.

SCIENCE:

What is a virus?

<https://www.youtube.com/watch?v=YS7vsBgWszl>

<https://www.khanacademy.org/science/biology/biology-of-viruses/virus-biology/v/viruses>

What is Coronavirus and what are the symptoms?

<https://www.bbc.co.uk/newsround/51861089>

<https://www.youtube.com/watch?v=R-JbDMYmAQM>

Is it the same as seasonal influenza or different? How are they similar/different?

What does COVID-19 stand for? How are infectious diseases given names?

What does airborne mean?

What does contagious mean?

What is the difference between infectious and contagious?

How do germs get inside our bodies?

<https://mysterydoug.com/mysteries/germs>

How does COVID-19 spread?

Does climate/weather play a role in how quickly the virus spreads?

Who is most at risk of being infected? Who is most at risk of dying, and why?

What is the role of your immune system?

Study the respiratory system.

What does “compromised immune system” mean?

What are some things we can do to keep ourselves fit and healthy?

What precautionary measures should we personally take to prevent the spread of this virus?

<https://youtu.be/dSQztKXR6k0>

What safety measures have the government put in place (eg.social distancing, closing schools, etc.)? Why do you think these will help contain the virus?

What does WHO stand for? What do they do, and what is their role, especially in this pandemic?

How is someone tested for coronavirus? Why isn't everyone exhibiting symptoms tested?

What should we do if we or someone in our family becomes sick with the virus?

Is there currently any treatment available for COVID-19?

What kind of precautions do paramedics, doctors, and nurses have to take to ensure they are protecting themselves from the virus when treating patients?

What is PPE? When else would people need PPE?

https://en.wikipedia.org/wiki/Personal_protective_equipment

What are vaccinations/immunisations, and what role do they play in our lives?

What are the pros and cons of vaccinations?

What is "herd immunity"?

What do these terms mean? Endemic, Epidemic, Pandemic.

<https://www.youtube.com/watch?v=CUI87kYHT3I>

Compare COVID-19 to MARS & SARS (other viruses).

Ebola, swine flu, HIV/Aids are other viruses borne by animals. How are they transmitted to humans?

Can we stop the next virus? How?

Why do you think COVID-19 has infected only a very small number of children or young adults so far?

What is cross-protection?

What are the fatality rates for men vs. women? What are some possible explanations for this? (eg. one theory is that men in China smoke more than women, therefore they are more at risk of having weakened respiratory systems and this made them more vulnerable to COVID-19).

What questions are scientists still trying to find answers to about this virus? (You could discuss the baby in London that was born with COVID-19. Doctors and scientists are trying to figure out whether the baby got the virus whilst in the womb, or whether she caught it coming out of the birth canal).

What are some of the environmental effects of people not flying as much?

What are some of the effects of China stopping work at their factories?

Satellite images from the European Space Agency and NASA show a dramatic reduction in the amount of harmful greenhouse gas emissions in the atmosphere:

https://www.space.com/coronavirus-changes-pollution-over-china.html?_gl=1*9op3q8*_ga*YW1wLURQbXNzYUNHRHBCVjhFS3dDSWhKZDBVSWlrMklrSERFSWxLMHY0dGdLVjE3T1ILT25RTU5DM3BaaWdwd0FxUEc

Researchers say in places like China the reduction in air pollution has led to fewer premature deaths from breathing toxic air:

<https://www.google.co.uk/amp/s/amp.cnn.com/cnn/2020/03/16/asia/china-pollution-coronavirus-hnk-intl/index.html>

Compare photos of the canals in Venice before and after the lockdown. They are so clean that you can straight through them and even the swans have returned!

Using the previous few points, discuss whether there are any positive things that have happened as a result of this pandemic?

GEOGRAPHY:

Look at a map of the world. Colour it in and label it with the continents and/or countries.

Where did COVID-19 originate? Locate this place on a map/globe.

Track the virus on a map as it spread from country to country.

Compare different climates and COVID-19 infection rates by the weather. What can you conclude from that?

Is it slower to spread in warmer, dryer climates?

Why is there a higher mortality rate in Italy compared to the rest of Europe? (Some say it's due to Italy having a larger number of elderly people).

Examine possible ways COVID-19 spread to the whole world, jumping from continent to continent.

Which fruits, vegetables, and other foods and drinks are not produced by your country? Where do they come from? Locate those places on a map/globe.

How do fruit and vegetables stay fresh whilst being imported/exported?

Look for things in your house that were made in another country? What kind of products do you have and where were they made? For example, where were your clothes made? What about your mobile phone or toys? Lots of things are made in China and India. Can you find one thing from every continent?

What do the terms import and export mean?

What are some things made in your country that are exported? Where do they go? What methods of transportation are used to export them? How long does it take for them to reach their destination?

What would happen if all trade is stopped between countries as a result of COVID-19? What would you miss the most?

HISTORY:

Britain is facing the biggest shutdown of normal life probably since the Second World War. What was life like for people in those days?

Compare that to what it might look like for us if social distancing/self-quarantining continues indefinitely?

What was the cause of the shutdown then and what is the cause of it now?

With so much inaccurate and conflicting reporting about COVID-19, how will history remember this pandemic?

Infectious diseases have had major impacts on human history. Which other infectious diseases have you heard/read about?

<https://www.youtube.com/watch?v=oJcmxyTltlk>

How do you think COVID-19 will compare to one of the diseases mentioned in the video above?

Compare the differences in medical care, then and now.

How did we count before numbers existed?

Look at the history of numbers. Which do we still use today? (eg. Roman numerals on clocks).

How was trade done before cargo planes existed?

SOCIAL/ETHICAL:

When discussing these questions, ask your children what they think before sharing your thoughts. Oftentimes they will happily go along with the adult's opinion, especially if it something they haven't previously given much thought to. Allow them to develop their own opinions and critical thinking skills. Play devil's advocate and ask them to consider the other perspective as well, even if you don't agree with it yourself. We tend to have strong opinions and principles when we have thought things through ourselves, rather than just adopted the principles of others.

What are some of the positive and negative things this pandemic has highlighted about our society?

Have you read/heard any stories of people helping and supporting others during this global crisis? Look up some ways people are helping - big and small acts of kindness (eg. donations to charities, shopping for others, checking in on neighbours via FaceTime, social distancing, etc.)

What impact could social distancing/self quarantining have on people who live alone?

What are some ways we can help elderly people, neighbours, and others in general during this time?

What is racism?

What is Xenophobia?

What causes people to treat others differently?

Is it acceptable to say hurtful and untrue things about others? What if the hurtful things are true, can we say them then?

Some people blame the Chinese as a result of this pandemic. Why do you think this is? Do you think they are right? Does proportioning blame help anyone?

What are the emergency services and the NHS? What is their role?

How do we make an emergency call if we need to?

When should we not call 999?

What impact is COVID-19 having on hospitals?

What financial impact is it having on big as well as small, local businesses?

What are some reliable sources of factual information on COVID-19?

<https://www.brainpop.com/health/diseasesinjuriesandconditions/coronavirus/>

Why is it important to fact check things we read and hear in the newspapers and media? How do we fact check?

What is bias? How do we detect bias in journalism and reporting?

How does the way in which the pandemic is reported in the news affect people's behaviour? For example, panic buying. What impact is that having on us as a society right now?

Discuss freedom of speech (as it pertains to the media), vs. the responsibility to report the news accurately.

Discuss the power the government has to quarantine people, close down schools and places of business, etc. What other powers does it have?

How does this affect our civil liberties?

What happens if qualified leaders are not elected and do not act for the welfare of their citizens?

What are the different types of government?

<https://youtu.be/pvPCYqKZP3Y>

How do we balance social rights (eg. freedom to move around freely) vs. social responsibility (staying indoors even when we don't want to)?

A possible vaccination for COVID-19 has been developed. What are some ethical issues that arise from testing vaccines on animals?

What about testing on humans? The first human trials have started. Discuss the pros and cons of trialing a vaccine on humans this quickly after developing it.

Why do some people choose to vaccinate themselves and their children, and others choose not to?

Should we have the right to choose whether to vaccinate or should the government?

Are there any circumstances under which it is acceptable for the government to force everyone to vaccinate? Give an example.

Sometimes we are fearful because we don't have the facts of the situation. Is it important for you to know what is going on in the world? Or would you rather not think and talk about it?

If you are upset by what you see/hear in the news, what should you do?

<https://www.bbc.co.uk/newsround/13865002>

What are some qualities you have that could help you, your family, and others through this uncertain period?

What does it mean to be resilient (in ourselves)? How can we all become more resilient?

Play the board game Pandemic as a family, if you have it.