



Can information be presented in a format that is more conducive to the creation of ideas? The contribution of the connection distance.

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Abstract

The generation of an idea by the mind is a fluid and non-quantifiable phenomenon that cannot generally be made-to-order, or monetarily incentivized. Retrospective analysis of paradigm modifying or changing ideas suggests that the ability to connect unrelated pieces of information plays a major role in this process. Therefore, the lesser the connection distance between unrelated informational content, the greater the probability of thought and idea creation becomes. For any online encyclopedic resource, the number of pages the reader must navigate in order to display disparate pieces of information can be considered to be a measurable surrogate of the connection distance. Modification of web-page content, such as clickable links, that decreases the connection distance, may hence be conducive to thought and idea democratization. Just as the ability to disseminate new technology is responsible for its widespread adoption; the method in which information is presented may be responsible for the democratization of ideation, such that ideation and IQ are made largely uncorrelated, at least in the upper region of the bell curve. This has significant implications for accelerating the pace of useful and productive human endeavor.

Keywords

Ideation, Democratization of thought, Encyclopedia, Intelligence quotient, Web pages, Connection distance, Thought creation, Paradigm change, Human endeavor, Wikipedia

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Introduction

"The test of a first-rate intelligence is the ability to hold two opposing ideas in mind at the same time and still retain the ability to function.", a quote attributed to Scott Fitzgerald partly exemplifies the thrust of this manuscript, *viz.*, that the possibility of paradigm changing thought and ideas becomes more probable when the mind is able to connect - or view/observe over a short period of time - disparate pieces of information (1-5). The banal expression of 'thinking outside the box' means just that; to be able to observe and connect seemingly unconnected informational content separated by a long 'cogitative distance', *viz.* the connection distance. (6). According to the threshold hypothesis (7), a high IQ is a necessary condition for high creativity. Although controversial, and often rebutted with the assertion that several paradigm creating/changing persons did not have the benefit of a formal education, this may serve to accentuate the hypothesis that the IQ raising effect of formal schooling decreases with increased initial intelligence. "Creativity is just connecting things...", a quote attributed to Steve Jobs, hence predicates a minimum condition where the thinker is - at the least - *aware* of 'things' to connect; i.e. has a minimal, threshold surpassing, amount of general knowledge. The greater the number of 'things' that the thinker is aware or cognizant of, or the more varied the 'things' are; even though being lesser in number; the greater the potential to connect those 'things' and the greater the creativity or potential for idea generation.

The potential of the online encyclopedic resource, Wikipedia, to create content connectedness using links or cross-referencing

is enormous. If Wikipedia articles are written with a built-in criterion or algorithm to make the casual user aware of not only the number of informational pieces, but also of a broad variety of multifarious disparate 'things', the threshold for connecting things may be lowered. High creativity can then potentially occur without the threshold hypothesis condition of a high IQ. The work presented in this manuscript originated from the teacher observing the students playing a game on Wikipedia where the student had to find the least number of pages to get from one topic to another unrelated topic.

Methods

The online encyclopedia, Wikipedia was accessed to find the number of pages between two disparate articles (webpages) using only the (blue underlined) links provided in those articles. The authors thought of unrelated topic pairs at the spur of the moment (without deliberate neuronal effort). An approximately equal number of unrelated topic pairs were contributed by each author. Each participant searched the path for each topic pair independently. Google search was not accessed in this study because – unlike Wikipedia – google is not a self-contained encyclopedic resource, does not advertise itself as such and is not 'nested' for search criteria with pre-presented links, as is Wikipedia. In other words, a keyword typed in google search finds separate webpages with similar content; each of which may – or may not - have trajectory link(s) to the destination page.

Participants started the search from the first source (first) topic of the topic pair. Using their general knowledge, they navigated to web pages which would lead them to the destination

(second) topic of the topic pair (see Appendix 1). The number of web pages required was recorded. The participants then navigated the source-destination topic pair again, this time adding assumed links to words or phrases already present and/or adding assumed additional content and links. They then recorded the number of pages it required to navigate from the source to the destination web page (topic pair) again, using the assumed modified content of the web page trail (Appendix 2).

The top 10 topic pairs were then selected in terms of the greatest number of pages needed to connect the topics before modification. The average and RSD were calculated for all 30

pairs, this time by substituting the top 10 pairs in the data (n=30) after modification (Tables 3, 4 and 5)

Statistical analysis

Two-tailed paired t-test was used for data analysis. (<https://www.graphpad.com/quickcalcs/ttest1.cfm>). Results were considered significant at $p \leq 0.05$. The relative standard deviation (RSD) was calculated by dividing the standard deviation by the average, then multiplying this fraction by 100. The RSD, expressed in percent, rather than the standard deviation, was chosen as a measure of dispersion because it was normalized to the average, allowing for direct inter-participant comparison.

Results

Table 1: Unrelated topics before modification, Connection distances for different participants, the actual trail of webpages is shown in Appendix 1.

#	Topic pairs	Student 1	Student 2	Student 3	Teacher 1	Average (RSD)
1	Kevlar to mickey mouse	8	4	6	5	5.75 (25.7)
2	Napoleon to toilet	10	11	5	5	7.75 (35.7)
3	Beaker to mitochondria	6	8	5	4	5.75 (25.7)
4	Pencil to Mt. Everest	13	9	9	4	8.75 (36.4)
5	Ax to Tortilla	6	7	11	6	7.5 (27.5)
6	Kuiper belt to Chicken	5	5	7	9	6.5 (25.5)
7	International space station to Caribbean	9	5	5	5	6.0 (28.8)
8	Axolotl to Quantum Chemistry	6	6	6	6	6.0 (0.00)
9	Pokemon to Pluto (Planet)	6	7	6	6	6.25 (6.9)
10	Electron to Ostrich Egg	11	7	6	10	8.5 (24.2)

11	Kepler 452B to Blue Whale	5	4	4	8	5.25 (31.2)
12	Airbus A380 to Ankylosaurus	10	8	6	7	7.75 (19.1)
13	Yoshi to Santa Claus	6	7	7	7	6.75 (6.4)
14	Computer Mouse to Eagle	4	4	4	6	4.50 (19.2)
15	Rhododendron to Rainbow	12	8	5	6	7.75 (34.6)
16	Transistor to waterfall	6	6	7	8	6.75 (12.3)
17	War to Rabbit	7	5	4	6	5.5 (20.4)
18	Soccer to Thunder	6	9	5	9	7.25 (24.7)
19	Oolong tea to Fuse (electrical)	14	13	7	8	10.5 (29.0)
20	Navigation to Earthquake	4	2	2	4	3.0 (33.3)
21	Cotton to Morse code	16	6	5	5	8.0 (57.9)
22	Euphoria to Panama Canal	7	12	6	6	7.75 (32.1)
23	Destiny to Sauerkraut	6	6	5	8	6.25 (17.4)
24	Rabies to Gravity	5	9	7	8	7.25 (20.4)
25	Antibiotic to Architecture	4	5	5	6	5.00 (14.1)
26	Megalomania to Steam	10	8	6	7	7.75 (19.1)
27	Geodesic dome to Suicide	5	7	4	4	5.00 (24.6)
28	Baking to Beetle	8	9	5	10	8.00 (23.3)
29	Barack Obama to the Hunchback of Notre Dame	8	9	6	4	6.75 (28.4)
30	Malthusianism to Existentialism	6	5	6	4	5.75 (25.7)
	Average (Relative standard deviation)	7.63 (40.0)	7.06 (34.8)	5.73 (28.1)	6.34 (28.7)	NA

As Table 1 shows, the average connection representing a significant statistical reduction distance between two disparate pieces of for all participants (Table 2). For any particular information ranged from 6.34 to 7.63 without topic pair, the average connection distance for content or link modification. The average all participants ranged from 3.0 to 10.5 with the connection distance decreased to a range of RSD ranging from 0.0% to 57.9% (Table 1) 4.87 to 5.77 after content or link modification,

Table 2: Average Connection distance, Percent relative standard deviation (RSD) and p-value for 30 unrelated paired information topics before and after encyclopedic modification

Participant	Before modification Average $\pm$ RSD	After modification Average $\pm$ RSD	Significance level (p-value)
Student 1	7.63 $\pm$ 40.0%	5.77 $\pm$ 17.1%	0.0019
Student 2	7.06 $\pm$ 34.8%	No data*	No data*
Student 3	5.73 $\pm$ 28.1%	4.87 $\pm$ 21.1%	0.0025
Teacher	6.34 $\pm$ 28.7%	4.9 $\pm$ 23.7%	0.0005

*No data: The student dropped out of the study

Table 3: Unrelated topics for Teacher after web page modification, top 10 pairs in terms of the greatest number of pages needed to connect the topics before modification. The average and RSD are calculated for all 30 pairs, substituting the top 10 pairs in the data (n=30) after modification to calculate the average and RSD. (see Appendix 2 for partial webpage trail data).

Topic pair	Pages needed before modification	Pages needed after modification	Number of modifications required (see Appendix 2)	
			Content	Links
Electron to ostrich egg	10	3	1	1
Baking to beetle	10	5	2	1
Kuiper belt to chicken	9	6	2	2
Soccer to thunder	9	3	2	3
Kepler 452B to blue whale	8	4	0	1
Transistor to waterfall	8	3	1	1
Rabies to gravity	8	4	1	2
Destiny to sauerkraut	8	5	1	2
Oolong tea to fuse (electrical)	8	5	1	1
Megalomania to steam	7	3	0	1
Average $\pm$ RSD	6.34 $\pm$ 28.7%	4.9 (23.67)	NA	NA

Table 4: Unrelated topics for Student 1 after web page modification, top 10 pairs in terms of the greatest number of pages needed to connect the topics before modification. The average and RSD are calculated for all 30 pairs, substituting the top 10 pairs in the data (n=30) after modification to calculate the average and RSD. (See Appendix 2 for partial webpage trail data).

Topic pair	Pages needed before modification	Pages needed after modification	Number of modifications required (see Appendix 2)	
			Content	Links
Cotton to Morse Code	16	5	0	0
Oolong tea to fuse (electrical)	14	7	1	2
Pencil to Mt. Everest	13	5	1	1
Rhododendron to Rainbow	12	6	1	3
Electron to Ostrich Egg	11	5	2	2
Airbus A380 to Ankylosaurus	10	6	1	1
Megalomania to Steam	10	6	1	3
Napoleon to Toilet	10	6	0	1
ISS to Caribbean	9	5	0	2
Kevlar to Mickey Mouse	8	5	1	1
Average $\pm$ RSD	7.63 $\pm$ 40.0%	5.77 $\pm$ 17.1%	NA	NA

Table 5: Unrelated topics for Student 3, after web page modification, top 10 pairs in terms of the greatest number of pages needed to connect the topics before modification. The average and RSD are calculated for all 30 pairs, substituting the top 10 pairs in the data (n=30) after modification to calculate the average and RSD. (See Appendix 2 for partial webpage trail data).

Topic pair	Pages needed before modification	Pages needed after modification	Number of modifications required (see Appendix 2)	
			Content	Links
Ax to Tortilla	11	7	0	1
Pencil to Mt. Everest	9	4	0	1
Kuiper Belt to Chicken	7	4	0	2
Yoshi to Santa Clause	7	4	0	0

Transistor to Waterfall	7	5	0	1
Rabies to Gravity	7	4	0	1
Malthusianism to Existentialism	6	4	0	1
Barack Obama to Hunchback of Notre Dame	6	5	0	0
Megalomania to Steam	6	4	0	1
Euphoria to Panama Canal	6	5	0	0
Average $\pm$ RSD	5.73 $\pm$ 28.1%	4.87 $\pm$ 21.1	NA	NA

Discussion

A general pattern that emerged was that in order to connect two unrelated pieces of specific information, the links usually needed to pass through webpages of general informational content. The pathway of connection distance hence linked as: specific information 1 $\rightarrow$ General information $\rightarrow$

specific information 2 (see Table 6 for an example). Furthermore, since almost every phenomenon, occurrence, invention or person can be associated with a geographical location or area, a significant part of the general information flow occurred through geographical motifs.

Table 6: An example of a general pattern of information flow to connect two unrelated topics. Topic pair: Rhododendron to Rainbow

Participant	Specific information	General information	Specific information
Teacher	Rhododendron	Tropical climate $\rightarrow$ Tropics $\rightarrow$ Sun $\rightarrow$ Visible spectrum $\rightarrow$	Rainbow
Student 2	Rhododendron	Jiangxi $\rightarrow$ China $\rightarrow$ Flag of China $\rightarrow$ Vermilion#Chinese Red $\rightarrow$ Pigment $\rightarrow$	Rainbow
Student 3	Rhododendron	Washington (state) $\rightarrow$ Precipitation $\rightarrow$ Rain $\rightarrow$	Rainbow
Student 1	Rhododendron	Lynnwood#Washington $\rightarrow$ Seattle $\rightarrow$ West Coast of the United States $\rightarrow$ Western United States $\rightarrow$ United States $\rightarrow$ Tropical Cyclone $\rightarrow$ Thunderstorm $\rightarrow$ Rain $\rightarrow$ Precipitation $\rightarrow$ Meteorology $\rightarrow$	Rainbow

Wikipedia, an online encyclopedic resource, regard to obvious cross-links/keywords; some was found to be remarkably inconsistent with webpages possessed a plethora of adequate

cross-links/keywords whereas others were observed to be extremely cross-link/keyword parsimonious. For example, “rainbow” appears in the wikipedia page https://en.wikipedia.org/wiki/Rainbow_trout, 158 times, but is not cross-linked or keyworded to navigate to the word “rainbow” (weather, after rain) as it appears in the wikipedia page <https://en.wikipedia.org/wiki/Rainbow>. This is clearly one of the many instances where a word can be made linkable (clickable) to unrelated information without giving the appearance of visual clutter on the web page. Similarly, the word ‘rain’ occurs in 11 instances on the wikipedia page https://en.wikipedia.org/wiki/Water_cycle, 18 instances on the wikipedia page <https://en.wikipedia.org/wiki/Cloud> and 74 instances at the wikipedia page https://en.wikipedia.org/wiki/Cloud_seeding but *none* of them crosslinks to the ‘rain’ page <https://en.wikipedia.org/wiki/Rain>. Hardik et. al. (8) performed a link analysis of Wikipedia and calculated a link-ability factor; a measure of content connectivity. Their work resulted in a link-ability factor of < 12% for Wikipedia and they concluded that there was massive scope for improvement. Automatic link generation strategies and algorithms are available for Wikipedia articles (9, 10) but rely on content rather than context, cannot link across different knowledge fields (Table 7) and use popular-use data as input, subjecting the algorithm to observational bias.

Clearly, the inclusion of not only a larger number of - but the adoption of the correct link contextualization - is expected to significantly decrease the connection distance. A maximum of an additional 3 links (Tables 3 through 5) was needed to decrease the average connection distance by 1.38 pages (calculated from Table

2, for Student 1, Student 3 and Teacher). Even more significantly, this content modification by the inclusion of a maximum of 3 links decreased the RSD by 11.63%. This effectively means that; with content modification; participants with 11.63% less general knowledge than the average participant, have the potential to ideate to the same level as the average participant. These additional maximum 3 links per page represent only 3% of the total number of links already present on an average Wikipedia page (8), hence representing a significant Return On Investment (ROI) in terms of the ratio of additional links to the connection distance; without significant additional visual clutter.

On an unrelated note, this exercise can be used to determine the general knowledge of participants based on the number of pages needed (before modification) to obtain topic convergence. Based on this study, the rank order of the general knowledge of the participants in descending order would be Student 3 (5.73), Teacher (6.34), Student 2 (7.06), Student 1 (7.63). This conclusion was supported by the RSD values, which were lower for Student 3 and the Teacher and increased with increasing average web-pages for Student 2 and Student 1, suggesting that the breadth of general knowledge was inversely correlated with the RSD values (Figure 1, blue squares). The RSD values can hence be taken as a surrogate for the breadth of general knowledge. The exponential curve as best fit can be interpreted to imply that a linear increase in the number of web pages needed to navigate between two disparate pieces of information corresponds with a disproportionately (exponentially) lesser breadth of general knowledge.

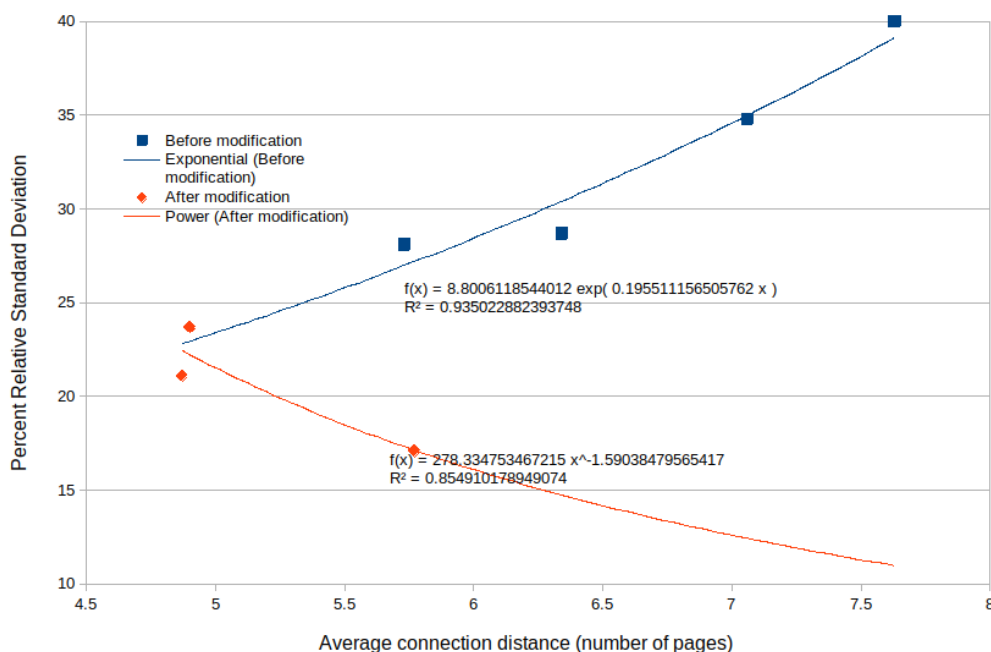


Figure 1: The effect of encyclopedic content modification to decrease the connection distance on the probability of ideation.

Conversely, after encyclopedic modification, it is evident from Figure 1 (red diamonds) that there was a reversal of the proportionality between the connection distance and the RSD, they now became inversely proportional. This obviously does not imply a greater level of general knowledge for participants who need more number of pages to navigate between a topic pair. However, it may imply that, after content modification, since the connection distances become smaller, the level of general knowledge required to connect the topic pair does not need to be as high as that required before modification, i.e. the probability of ideation is increased. It must be emphasized that the data is derived from only 4 participants in the study; hence the observations and trends in the data can only be taken to be anecdotal (see the section *Limitations*, below).

Since Figure 1 presents the data from Table 2, a perusal of Table 2 leads to similar inferences. It is evident that the RSD decreases for all participants after modification, implying that - were the encyclopedic information to be presented in a manner designed to minimize the connection distance between disparate topics - the level of general knowledge of the browsing person would appear to be greater than actual. Even if this is obviously not the case, the probability of ideation would still be greater because the connection distance becomes smaller. Hence, reworking the content and links of the encyclopedic resource may result in a decrease of correlation between ideation and the level of general knowledge. In other words, the exercise to shorten the connection distance

of online encyclopedic topics may result in the democratization of ideation.

Limitations

It may be argued that since the information flow for unrelated specific topics needs to pass through topics of general knowledge content; at least a rudimentary knowledge of general information is required to be able to harness the encyclopedic resource for the purpose of connecting disparate informational content. Much like the ‘hub-and-spoke’ model of airline logistics or biological signaling pathways, persons whose world-view is insular, parochial or illiberal may not benefit from such an exercise. However, individuals casually browsing an online encyclopedic resource may be assumed to possess traits of curiosity and informational inquiry; which may be sufficient for ideation; and even more so if the disparate pieces of information are presented with a shorter connection distance. Furthermore, a deliberate redesign of encyclopedic content may partially bypass the information flow through topics of general knowledge content.

This study was limited to 4 participants. There were enough topic pairs ($n=30$) to make meaningful intra-participant statistical inferences regarding the reduction of the connection distance before and after content and/or link modification. However, there was not enough data to draw conclusions about the inter-participant average connection distance and RSD for each topic pair. Since there were only 4 participants, only one topic pair from among the top 10 largest connection distances turned out to be common to all the participants. Hence it could not be concluded whether there was a statistically significant inter-participant reduction in connection distance for any given topic pair, before and after modification.

Conclusion

Online encyclopedic resources such as wikipedia may have a significant effect on the democratization of ideation. This process can be facilitated by

1. including more contextual and deep disparate information connection links on webpages.
2. including separate links for different words in a phrase such that the viewer has the option to click the link to either the entire phrase, or the link to individual words making up the phrase.
3. More thoughtful content and link creation such that viewers (possessing less general knowledge) are not obligated to traverse the specific $\rightarrow$ general $\rightarrow$ specific information flow pathway to connect disparate content; but rather can navigate shorter, specific $\rightarrow$ specific, information flow pathways. By our estimate, casual browsers with $\sim 11\%$ less general knowledge for every 3 more links added to a webpage, thus are on-par as the average user, regarding their ability to ideate.
4. The deliberate inclusion of links that connect different fields of knowledge will significantly facilitate information flow across disparate areas of endeavor. Table 7 below shows some of the possible links. As an example, the wikipedia page on ‘water’ does not include either links, content or the section ‘see also’ for the words or phrases ‘fallingwater’, ‘painting’, ‘aqua drama’, ‘watercolor’, ‘quantum tunneling’, ‘archimedes screw’, ‘pouring puzzle’, ‘potato paradox’, ‘sociohydrology’ or ‘puppetry’. The words ‘commodities’, ‘conflicts’, ‘politics’ are included but not linked. This task is not as formidable as it seems at first glance, provided that the content on the web-page is well thought out in advance in order to incorporate these concepts or links.

Table 7: Word or phrase cross-linked across different knowledge fields

		Water	Shoes	Anarchy
Science	Technology	Water treatment, wastewater, water cooling	Leather, Plastics, Petrochemicals, Landfill, Patent, mechanization, Computer aided design	Anarchy-technology dilemma, Fermi paradox, Neo-Luddism
	Biochemistry	Metabolic water, water chemistry, chemical bonding of water, hydrolysis, aquaporins, hydrogen bonding	Podiatrist, Blisters, Orthopedic, Diabetes, Calluses, Fitness, Exercise, Barefoot doctors	Anarchy gene, Biohacking, Evolutionary price of anarchy
	Mathematics	Water pouring puzzle, potato paradox, water flow equation	Barleycorn, Units, Mondopoint, Geometric transformation matrices	Prisoner's dilemma, Braess's paradox, Price of Anarchy
	Physics	Archimedes screw, quantum tunneling of water, electromagnetic absorption by water	Coefficient of friction, Traction, Power transfer	Quantum physics, Chaos theory, Paul Feyerabend, Neutrino mass anarchy hypothesis
Social sciences	Economics, finance and commerce	Water privatization, conservation finance, public utility, water transportation, Maritime, Marine	Cottage industry, Mass production, Revenue, People's republic of China,	Socialist economics, Participatory economics, Anarchist economics
	Sociology and Anthropology	Resource, water scarcity, sociohydrology	Archeologists, Shoe throwing, Arab culture, Bible, hides, twine	Political philosophy, Stateless societies, Societal collapse, chaos
	Politics, Journalism and Philosophy	Water politics, water conflict, commodification of water	Saddam Hussein, George W Bush, Status symbol, Crimean war	Thomas Hobbes, Failed states, French revolution, Crypto-anarchism
Fine arts	Architecture and painting	Fallingwater, watercolor painting	Vincent van Gogh, Haines shoe house	Graffiti art, Surrealism,
	Theater and media	Aqua drama, water puppetry, fountain	Flamenco shoes, Tap dancing, Ballet, Irish dance, Nursery rhyme, Fashion	Punk rock, Anarcho punk,

5. A deliberate - rather than a random or ad-hoc - encyclopedic online resources with an - system should be put in place for all objective to minimize the connection distance,

along with a quantitative measure to measure the aggregate of all connection distances between disparate pieces of information in the encyclopedia database. This metric is anticipated to be used much like the impact factor of scientific journals. The shorter the aggregate of the connection distances in a particular online encyclopedic resource, the more useful, helpful, beneficial and thought evocative/provocative it will be deemed to the reader. The metric can be standardized.

The online encyclopedic resource Wikipedia has the potential to significantly increase ideation. However, the changes required going

forward will require careful consideration, research and execution by dedicated researchers as well as by enthusiasts (11). They will also require considerable funding. Akin to ‘too big to fail’ banks, this online resource is too important an information and knowledge source to be allowed to fail, or to be relegated to being ‘sponsored’ by private enterprise. An argument for nationalization may be in order as this will facilitate continued funding from taxpayers, conflict-of-interest agnostic content and link inclusion, a constant work-in-progress to make connection distances smaller, and a deliberate impetus to minimize the connection distance during encyclopedia design and maintenance.

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Appendix 1: Unrelated topics before modification for different participants. Student 1: Purple, Student 2: Green, Student 3: Red, Teacher: Black

Kevlar to Mickey Mouse

Kevlar → United States → Walt Disney → Mickey Mouse

Kevlar → Stephanie Louise Kwolek → Pennsylvania -> American Revolutionary War -> North America -> United States -> Walt Disney -> Mickey Mouse

Kevlar → United States → Greater Los Angeles→ Disneyland→ Walt Disney Studios (Burbank)→ Mickey Mouse

<https://en.wikipedia.org/wiki/Kevlar>

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

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

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

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

Napoleon to Toilet

<https://en.wikipedia.org/wiki/Napoleon>

<https://en.wikipedia.org/wiki/Ghetto>
https://en.wikipedia.org/wiki/Shanty_town
https://en.wikipedia.org/wiki/Flying_toilet
<https://en.wikipedia.org/wiki/Toilet>

[Napoleon - Wikipedia](#) → [United Kingdom of Great Britain and Ireland - Wikipedia](#) → [United Kingdom - Wikipedia](#) → [London - Wikipedia](#) → [River Thames - Wikipedia](#) → [London sewer system - Wikipedia](#) → [Water supply network - Wikipedia](#) → [Sanitary sewer - Wikipedia](#) → [Sewage - Wikipedia](#) → [Toilet paper - Wikipedia](#) → [Toilet - Wikipedia](#)

<https://en.wikipedia.org/wiki/Napoleon>
https://en.wikipedia.org/wiki/Western_Europe
https://en.wikipedia.org/wiki/Prime_Minister_of_the_United_Kingdom
https://en.wikipedia.org/wiki/United_Kingdom
<https://en.wikipedia.org/wiki/London>
https://en.wikipedia.org/wiki/River_Thames
https://en.wikipedia.org/wiki/London_sewer_system
https://en.wikipedia.org/wiki/Great_Stink
https://en.wikipedia.org/wiki/Human_waste
<https://en.wikipedia.org/wiki/Toilet>

[Napoleon](#) → [Paris](#) → [Feces](#) → [Human Feces](#) → [Toilet](#)

Beaker to Mitochondria

[https://en.wikipedia.org/wiki/Beaker_\(laboratory_equipment\)](https://en.wikipedia.org/wiki/Beaker_(laboratory_equipment))
https://en.wikipedia.org/wiki/Laboratory#Laboratory_equipment
<https://en.wikipedia.org/wiki/Biology>
[https://en.wikipedia.org/wiki/Cell_\(biology\)#Organelles](https://en.wikipedia.org/wiki/Cell_(biology)#Organelles)
<https://en.wikipedia.org/wiki/Mitochondrion>

Beaker - [https://en.wikipedia.org/wiki/Beaker_\(laboratory_equipment\)](https://en.wikipedia.org/wiki/Beaker_(laboratory_equipment))
Jons Jacob Berzelius - https://en.wikipedia.org/wiki/John_Joseph_Griffin
Chemistry - <https://en.wikipedia.org/wiki/Chemistry>
Biology - <https://en.wikipedia.org/wiki/Biology>
Cell - [https://en.wikipedia.org/wiki/Cell_\(biology\)](https://en.wikipedia.org/wiki/Cell_(biology))
Mitochondria - <https://en.wikipedia.org/wiki/Mitochondrion>

Beaker (laboratory equipment)
Laboratory

Science
Biology
Goliathus
Animal
Eukaryote
Mitochondria

Pencil to Mount Everest

<https://en.wikipedia.org/wiki/Pencil>
<https://en.wikipedia.org/wiki/Juniper>
<https://en.wikipedia.org/wiki/Himalayas>
https://en.wikipedia.org/wiki/Mount_Everest

<https://en.wikipedia.org/wiki/Pencil>
https://en.wikipedia.org/wiki/Graphite_pencil
<https://en.wikipedia.org/wiki/Graphite>
<https://en.wikipedia.org/wiki/Diamond>
https://en.wikipedia.org/wiki/Types_of_volcanic_eruptions
https://en.wikipedia.org/wiki/Mount_Etna
<https://en.wikipedia.org/wiki/Italy>
https://en.wikipedia.org/wiki/Southern_Europe
<https://en.wikipedia.org/wiki/Earth>
https://en.wikipedia.org/wiki/Eurasian_Plate
<https://en.wikipedia.org/wiki/Asia>
<https://en.wikipedia.org/wiki/Himalayas>
https://en.wikipedia.org/wiki/Mount_Everest

<https://en.wikipedia.org/wiki/Pencil>
<https://en.wikipedia.org/wiki/Graphite>
https://en.wikipedia.org/wiki/Metamorphic_rock
[https://en.wikipedia.org/wiki/Rock_\(geology\)](https://en.wikipedia.org/wiki/Rock_(geology))
<https://en.wikipedia.org/wiki/Mining>
https://en.wikipedia.org/wiki/2009_Heilongjiang_mine_explosion
<https://en.wikipedia.org/wiki/China>
<https://en.wikipedia.org/wiki/Himalayas>
https://en.wikipedia.org/wiki/Mount_Everest

<https://en.wikipedia.org/wiki/Pencil>
<https://en.wikipedia.org/wiki/Mining>
<https://en.wikipedia.org/wiki/Ore>
https://en.wikipedia.org/wiki/Volcanogenic_massive_sulfide_ore_deposit

<https://en.wikipedia.org/wiki/Volcano>
<https://en.wikipedia.org/wiki/Mayon>
https://en.wikipedia.org/wiki/List_of_mountain_types
https://en.wikipedia.org/wiki/List_of_mountain_types
https://en.wikipedia.org/wiki/Mount_Everest

Transistor to Waterfall

<https://en.wikipedia.org/wiki/Transistor>
https://en.wikipedia.org/wiki/Electric_power
https://en.wikipedia.org/wiki/Kinetic_energy
https://en.wikipedia.org/wiki/Potential_energy
https://en.wikipedia.org/wiki/Pumped-storage_hydroelectricity
<https://en.wikipedia.org/wiki/Hydropower>
https://en.wikipedia.org/wiki/Niagara_Falls
<https://en.wikipedia.org/wiki/Waterfall>

<https://en.wikipedia.org/wiki/Transistor>
https://en.wikipedia.org/wiki/Electrical_power
https://en.wikipedia.org/wiki/Electric_heat
https://en.wikipedia.org/wiki/Water_heating
https://en.wikipedia.org/wiki/Hot_water_tank
<https://en.wikipedia.org/wiki/Water>

<https://en.wikipedia.org/wiki/Transistor>
https://en.wikipedia.org/wiki/Murray_Hill,_New_Jersey
<https://en.wikipedia.org/wiki/Manhattan>
[https://en.wikipedia.org/wiki/New_York_\(state\)](https://en.wikipedia.org/wiki/New_York_(state))
https://en.wikipedia.org/wiki/Niagara_Falls
<https://en.wikipedia.org/wiki/Waterfall>

<https://en.wikipedia.org/wiki/Transistor>
https://en.wikipedia.org/wiki/Murray_Hill,_New_Jersey
https://en.wikipedia.org/wiki/New_Jersey
https://en.wikipedia.org/wiki/New_York_City
[https://en.wikipedia.org/wiki/New_York_\(state\)](https://en.wikipedia.org/wiki/New_York_(state))
https://en.wikipedia.org/wiki/Niagara_Falls
<https://en.wikipedia.org/wiki/Waterfall>

Rhododendron to rainbow

<https://en.wikipedia.org/wiki/Rhododendron>
https://en.wikipedia.org/wiki/Tropical_climate
<https://en.wikipedia.org/wiki/Tropics>
<https://en.wikipedia.org/wiki/Sun>
https://en.wikipedia.org/wiki/Visible_spectrum
<https://en.wikipedia.org/wiki/Rainbow>

<https://en.wikipedia.org/wiki/Rhododendron>
<https://en.wikipedia.org/wiki/Jiangxi>
<https://en.wikipedia.org/wiki/China>
https://en.wikipedia.org/wiki/Flag_of_China
https://en.wikipedia.org/wiki/Vermilion#Chinese_red
<https://en.wikipedia.org/wiki/Pigment>
<https://en.wikipedia.org/wiki/Color>
<https://en.wikipedia.org/wiki/Rainbow>

<https://en.wikipedia.org/wiki/Rhododendron>
https://en.wikipedia.org/wiki/Lynnwood,_Washington
<https://en.wikipedia.org/wiki/Seattle>
https://en.wikipedia.org/wiki/West_Coast_of_the_United_States
https://en.wikipedia.org/wiki/Western_United_States
https://en.wikipedia.org/wiki/United_States
https://en.wikipedia.org/wiki/Tropical_cyclone
<https://en.wikipedia.org/wiki/Thunderstorm>
<https://en.wikipedia.org/wiki/Rain>
<https://en.wikipedia.org/wiki/Precipitation>
<https://en.wikipedia.org/wiki/Meteorology>
<https://en.wikipedia.org/wiki/Rainbow>

<https://en.wikipedia.org/wiki/Rhododendron>
[https://en.wikipedia.org/wiki/Washington_\(state\)](https://en.wikipedia.org/wiki/Washington_(state))
<https://en.wikipedia.org/wiki/Precipitation>
<https://en.wikipedia.org/wiki/Rain>
<https://en.wikipedia.org/wiki/Rainbow>

Electron to Ostrich egg

<https://en.wikipedia.org/wiki/Electron>
https://en.wikipedia.org/wiki/Erwin_Schr%C3%B6dinger
https://en.wikipedia.org/wiki/Schr%C3%B6dinger%27s_cat
<https://en.wikipedia.org/wiki/Cat>

https://en.wikipedia.org/wiki/Cat_predation_on_wildlife
https://en.wikipedia.org/wiki/Mammals_of_Australia
https://en.wikipedia.org/wiki/Birds_of_Australia
<https://en.wikipedia.org/wiki/Emu>
https://en.wikipedia.org/wiki/Common_ostrich
https://en.wikipedia.org/wiki/Ostrich_egg

<https://en.wikipedia.org/wiki/Electron>
https://en.wikipedia.org/wiki/Benjamin_Franklin
https://en.wikipedia.org/wiki/United_States_Declaration_of_Independence
https://en.wikipedia.org/wiki/United_States
<https://en.wikipedia.org/wiki/Bird>
https://en.wikipedia.org/wiki/Common_ostrich
https://en.wikipedia.org/wiki/Ostrich_egg

<https://en.wikipedia.org/wiki/Electron>
<https://en.wikipedia.org/wiki/Tribology>
<https://en.wikipedia.org/wiki/Biology>
<https://en.wikipedia.org/wiki/Organism>
<https://en.wikipedia.org/wiki/Animal>
<https://en.wikipedia.org/wiki/Zoology>
https://en.wikipedia.org/wiki/Kelp_gull
<https://en.wikipedia.org/wiki/Gull>
[https://en.wikipedia.org/wiki/Clutch_\(eggs\)](https://en.wikipedia.org/wiki/Clutch_(eggs))
https://en.wikipedia.org/wiki/Bird_egg
https://en.wikipedia.org/wiki/Ostrich_egg

<https://en.wikipedia.org/wiki/Electron>
<https://en.wikipedia.org/wiki/Chemistry>
<https://en.wikipedia.org/wiki/Biology>
<https://en.wikipedia.org/wiki/Bird>
https://en.wikipedia.org/wiki/Common_ostrich
https://en.wikipedia.org/wiki/Ostrich_egg

Pokemon to pluto (planet)

<https://en.wikipedia.org/wiki/Pok%C3%A9mon>
https://en.wikipedia.org/wiki/Pok%C3%A9mon_universe
https://en.wikipedia.org/wiki/Fictional_universe
https://en.wikipedia.org/wiki/Planets_in_science_fiction
<https://en.wikipedia.org/wiki/Planet>

<https://en.wikipedia.org/wiki/Pluto>

<https://en.wikipedia.org/wiki/Pok%C3%A9mon>

<https://en.wikipedia.org/wiki/Japan>

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

<https://en.wikipedia.org/wiki/Asia>

<https://en.wikipedia.org/wiki/Landmass>

<https://en.wikipedia.org/wiki/Earth>

<https://en.wikipedia.org/wiki/Pluto>

<https://en.wikipedia.org/wiki/Pok%C3%A9mon>

<https://en.wikipedia.org/wiki/Japan>

<https://en.wikipedia.org/wiki/Iss>

<https://en.wikipedia.org/wiki/NASA>

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

<https://en.wikipedia.org/wiki/Pluto>

<https://en.wikipedia.org/wiki/Pok%C3%A9mon>

<https://en.wikipedia.org/wiki/Japan>

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

<https://en.wikipedia.org/wiki/Astronomy>

<https://en.wikipedia.org/wiki/Planet>

<https://en.wikipedia.org/wiki/Pluto>

Soccer to Thunder

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

[https://en.wikipedia.org/wiki/Standard_atmosphere_\(unit\)](https://en.wikipedia.org/wiki/Standard_atmosphere_(unit))

<https://en.wikipedia.org/wiki/Earth>

<https://en.wikipedia.org/wiki/Culture>

<https://en.wikipedia.org/wiki/Myth#Mythology>

<https://en.wikipedia.org/wiki/Deity>

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

<https://en.wikipedia.org/wiki/Thor>

<https://en.wikipedia.org/wiki/Thunder>

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

<https://en.wikipedia.org/wiki/Ulster>

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

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

<https://en.wikipedia.org/wiki/Rainshadow>

<https://en.wikipedia.org/wiki/Rain>
https://en.wikipedia.org/wiki/Cumulonimbus_cloud
<https://en.wikipedia.org/wiki/Lightning>
<https://en.wikipedia.org/wiki/Thunder>

https://en.wikipedia.org/wiki/Association_football
<https://en.wikipedia.org/wiki/England>
https://en.wikipedia.org/wiki/Lake_District
<https://en.wikipedia.org/wiki/Precipitation>
<https://en.wikipedia.org/wiki/Rain>
<https://en.wikipedia.org/wiki/Thunder>

https://en.wikipedia.org/wiki/Association_football
<https://en.wikipedia.org/wiki/Canada>
https://en.wikipedia.org/wiki/Acid_rain
<https://en.wikipedia.org/wiki/Lightning>
<https://en.wikipedia.org/wiki/Thunder>

Oolong tea to fuse (electrical)

<https://en.wikipedia.org/wiki/Oolong>
https://en.wikipedia.org/wiki/Tea_processing
https://en.wikipedia.org/wiki/Richard_Tangye
<https://en.wikipedia.org/wiki/Funicular>
https://en.wikipedia.org/wiki/Electric_motor
<https://en.wikipedia.org/wiki/Switch>
https://en.wikipedia.org/wiki/Circuit_breaker
[https://en.wikipedia.org/wiki/Fuse_\(electrical\)](https://en.wikipedia.org/wiki/Fuse_(electrical))

<https://en.wikipedia.org/wiki/Oolong>
<https://en.wikipedia.org/wiki/Caffeine>
https://en.wikipedia.org/wiki/Honey_bee
https://en.wikipedia.org/wiki/North_America
https://en.wikipedia.org/wiki/United_States
[https://en.wikipedia.org/wiki/Independence_Day_\(United_States\)](https://en.wikipedia.org/wiki/Independence_Day_(United_States))
<https://en.wikipedia.org/wiki/Fireworks>
[https://en.wikipedia.org/wiki/Fuse_\(explosives\)](https://en.wikipedia.org/wiki/Fuse_(explosives))
<https://en.wikipedia.org/wiki/Electronics>
https://en.wikipedia.org/wiki/Printed_circuit_board
https://en.wikipedia.org/wiki/Electronic_component
<https://en.wikipedia.org/wiki/Switch>

https://en.wikipedia.org/wiki/Circuit_breaker
[https://en.wikipedia.org/wiki/Fuse_\(ele](https://en.wikipedia.org/wiki/Fuse_(ele)

<https://en.wikipedia.org/wiki/Oolong>
https://en.wikipedia.org/wiki/Tea_processing
<https://en.wikipedia.org/wiki/Tea>
<https://en.wikipedia.org/wiki/Caffeine>
https://en.wikipedia.org/wiki/Honey_bees
https://en.wikipedia.org/wiki/North_America
https://en.wikipedia.org/wiki/United_States
<https://en.wikipedia.org/wiki/Electronics>
https://en.wikipedia.org/wiki/Printed_circuit_board
https://en.wikipedia.org/wiki/Electronic_component
<https://en.wikipedia.org/wiki/Switch>
https://en.wikipedia.org/wiki/Circuit_breaker
[https://en.wikipedia.org/wiki/Fuse_\(electrical\)](https://en.wikipedia.org/wiki/Fuse_(electrical))

<https://en.wikipedia.org/wiki/Oolong>
https://en.wikipedia.org/wiki/Food_browning
<https://en.wikipedia.org/wiki/Copper>
https://en.wikipedia.org/wiki/Electrical_resistivity_and_conductivity
[https://en.wikipedia.org/wiki/Insulator_\(electricity\)](https://en.wikipedia.org/wiki/Insulator_(electricity))
https://en.wikipedia.org/wiki/Short_circuit
[https://en.wikipedia.org/wiki/Fuse_\(electrical\)](https://en.wikipedia.org/wiki/Fuse_(electrical))

Navigation to Earthquake

<https://en.wikipedia.org/wiki/Navigation>
<https://en.wikipedia.org/wiki/Philippines>
https://en.wikipedia.org/wiki/List_of_earthquakes_in_the_Philippines
<https://en.wikipedia.org/wiki/Earthquake>

<https://en.wikipedia.org/wiki/Navigation>
<https://en.wikipedia.org/wiki/Earthquake>

https://en.wikipedia.org/wiki/Navigation#Passage_planning
https://en.wikipedia.org/wiki/Atlantic_Ocean
https://en.wikipedia.org/wiki/Pacific_Ocean
<https://en.wikipedia.org/wiki/Earthquake>

<https://en.wikipedia.org/wiki/Navigation>

<https://en.wikipedia.org/wiki/Earthquake>

Cotton to Morse Code

<https://en.wikipedia.org/wiki/Cotton>
https://en.wikipedia.org/wiki/Industrial_Revolution
https://en.wikipedia.org/wiki/Electrical_telegraph
https://en.wikipedia.org/wiki/Samuel_Morse
https://en.wikipedia.org/wiki/Morse_code

<https://en.wikipedia.org/wiki/Cotton>
<https://en.wikipedia.org/wiki/Mexico>
https://en.wikipedia.org/wiki/United_States
https://en.wikipedia.org/wiki/North_America
<https://en.wikipedia.org/wiki/Earth>
<https://en.wikipedia.org/wiki/Life>
<https://en.wikipedia.org/wiki/Animal>
https://en.wikipedia.org/wiki/Ultramarine_flycatcher
https://en.wikipedia.org/wiki/Old_World_sparrow
<https://en.wikipedia.org/wiki/Bird>
<https://en.wikipedia.org/wiki/Columbidae>
https://en.wikipedia.org/wiki/Domestic_pigeon
https://en.wikipedia.org/wiki/Homing_pigeon
https://en.wikipedia.org/wiki/Pigeon_post
<https://en.wikipedia.org/wiki/Telegraphy>
https://en.wikipedia.org/wiki/Morse_co

<https://en.wikipedia.org/wiki/Cotton>
<https://en.wikipedia.org/wiki/Mexico>
https://en.wikipedia.org/wiki/National_language
<https://en.wikipedia.org/wiki/Language>
https://en.wikipedia.org/wiki/Morse_code

<https://en.wikipedia.org/wiki/Cotton>
https://en.wikipedia.org/wiki/Central_America
<https://en.wikipedia.org/wiki/Mexico>
https://en.wikipedia.org/wiki/National_language
<https://en.wikipedia.org/wiki/Language>
https://en.wikipedia.org/wiki/Morse_code

Euphoria to Panama Canal

<https://en.wikipedia.org/wiki/Euphoria>
<https://en.wikipedia.org/wiki/Psilocybin>
<https://en.wikipedia.org/wiki/Mesoamerica>
https://en.wikipedia.org/wiki/Central_America
<https://en.wikipedia.org/wiki/Panama>
https://en.wikipedia.org/wiki/Panama_Canal

<https://en.wikipedia.org/wiki/Euphoria>
https://en.wikipedia.org/wiki/Robert_S._Woodworth
https://en.wikipedia.org/wiki/Newton,_Massachusetts
https://en.wikipedia.org/wiki/United_States
https://en.wikipedia.org/wiki/North_America
<https://en.wikipedia.org/wiki/Panama>
https://en.wikipedia.org/wiki/Panama_Canal

<https://en.wikipedia.org/wiki/Euphoria>
https://en.wikipedia.org/wiki/Ancient_Greek
<https://en.wikipedia.org/wiki/Greece>
https://en.wikipedia.org/wiki/Corinth_Canal
<https://en.wikipedia.org/wiki/Canal>
https://en.wikipedia.org/wiki/Panama_Canal

<https://en.wikipedia.org/wiki/Euphoria>
https://en.wikipedia.org/wiki/Southeast_Asia
<https://en.wikipedia.org/wiki/Vietnam>
https://en.wikipedia.org/wiki/Vietnam_War
https://en.wikipedia.org/wiki/United_States_in_the_Vietnam_War
https://en.wikipedia.org/wiki/United_States
https://en.wikipedia.org/wiki/Mexico%E2%80%93United_States_border
<https://en.wikipedia.org/wiki/Mexico>
https://en.wikipedia.org/wiki/Federal_Republic_of_Central_America
https://en.wikipedia.org/wiki/Central_America
<https://en.wikipedia.org/wiki/Panama>
https://en.wikipedia.org/wiki/Panama_Canal

Destiny to sauerkraut

<https://en.wikipedia.org/wiki/Density>
<https://en.wikipedia.org/wiki/Water>
<https://en.wikipedia.org/wiki/Acid>

https://en.wikipedia.org/wiki/Citric_acid
https://en.wikipedia.org/wiki/Acidity_regulator
https://en.wikipedia.org/wiki/Acetic_acid
<https://en.wikipedia.org/wiki/Pickling>
<https://en.wikipedia.org/wiki/Sauerkraut>

<https://en.wikipedia.org/wiki/Destiny>
https://en.wikipedia.org/wiki/Ancient_Greek_religion
https://en.wikipedia.org/wiki/Religion_in_ancient_Rome
<https://en.wikipedia.org/wiki/Germany>
https://en.wikipedia.org/wiki/German_cuisine
<https://en.wikipedia.org/wiki/Sauerkraut>

<https://en.wikipedia.org/wiki/Destiny>
<https://en.wikipedia.org/wiki/Latin>
https://en.wikipedia.org/wiki/Germanic_people
<https://en.wikipedia.org/wiki/Germans>
https://en.wikipedia.org/wiki/German_cuisine
<https://en.wikipedia.org/wiki/Sauerkraut>

<https://en.wikipedia.org/wiki/Destiny>
https://en.wikipedia.org/wiki/Otto_von_Bismarck
<https://en.wikipedia.org/wiki/Germany>
https://en.wikipedia.org/wiki/German_cuisine
<https://en.wikipedia.org/wiki/Sauerkraut>

Rabies to Gravity

<https://en.wikipedia.org/wiki/Rabies>
<https://en.wikipedia.org/wiki/Unconsciousness>
https://en.wikipedia.org/wiki/Cerebral_hypoxia
https://en.wikipedia.org/wiki/Effects_of_high_altitude_on_humans
https://en.wikipedia.org/wiki/Atmospheric_pressure
https://en.wikipedia.org/wiki/Gravitational_acceleration
https://en.wikipedia.org/wiki/Gravity_of_Earth
<https://en.wikipedia.org/wiki/Gravity>

<https://en.wikipedia.org/wiki/Rabies>
<https://en.wikipedia.org/wiki/Mammals>
<https://en.wikipedia.org/wiki/Elephant>
https://en.wikipedia.org/wiki/South_Asia

<https://en.wikipedia.org/wiki/Asia>
<https://en.wikipedia.org/wiki/Landmass>
<https://en.wikipedia.org/wiki/Earth>
https://en.wikipedia.org/wiki/Gravity_of_Earth
<https://en.wikipedia.org/wiki/Gravitation>

<https://en.wikipedia.org/wiki/Rabies>
<https://en.wikipedia.org/wiki/Americas>
<https://en.wikipedia.org/wiki/Earth>
https://en.wikipedia.org/wiki/Gravity_of_Earth
<https://en.wikipedia.org/wiki/Gravity>

<https://en.wikipedia.org/wiki/Rabies>
<https://en.wikipedia.org/wiki/Mammal>
<https://en.wikipedia.org/wiki/Gene>
<https://en.wikipedia.org/wiki/Biology>
<https://en.wikipedia.org/wiki/Scientist>
<https://en.wikipedia.org/wiki/Physics>
<https://en.wikipedia.org/wiki/Gravity>

Antibiotic to architecture

<https://en.wikipedia.org/wiki/Antibiotic>
https://en.wikipedia.org/wiki/Nobel_Prize_in_Physiology_or_Medicine
<https://en.wikipedia.org/wiki/Stockholm>
https://en.wikipedia.org/wiki/Architecture_of_Stockholm
https://en.wikipedia.org/wiki/Art_Deco
<https://en.wikipedia.org/wiki/Architecture>

<https://en.wikipedia.org/wiki/Antibiotic>
https://en.wikipedia.org/wiki/Greek_language
<https://en.wikipedia.org/wiki/Greece>
<https://en.wikipedia.org/wiki/Architecture>

<https://en.wikipedia.org/wiki/Antibiotic>
<https://en.wikipedia.org/wiki/Bacteria>
<https://en.wikipedia.org/wiki/Earth>
<https://en.wikipedia.org/wiki/Humans>
<https://en.wikipedia.org/wiki/Architecture>

<https://en.wikipedia.org/wiki/Antibiotic>

https://en.wikipedia.org/wiki/Ren%C3%A9_Dubos
<https://en.wikipedia.org/wiki/France>
https://en.wikipedia.org/wiki/Architectural_style
<https://en.wikipedia.org/wiki/Architecture>

Baking to beetle

<https://en.wikipedia.org/wiki/Baking>
https://en.wikipedia.org/wiki/Egg_as_food
https://en.wikipedia.org/wiki/Thebes,_Egypt
<https://en.wikipedia.org/wiki/Amun>
<https://en.wikipedia.org/wiki/Ra>
<https://en.wikipedia.org/wiki/Khepri>
https://en.wikipedia.org/wiki/Scarabaeus_sacer
<https://en.wikipedia.org/wiki/Scarabaeus>
https://en.wikipedia.org/wiki/Dung_beetle
<https://en.wikipedia.org/wiki/Beetle>

<https://en.wikipedia.org/wiki/Baking>
<https://en.wikipedia.org/wiki/Bread>
<https://en.wikipedia.org/wiki/Yeast>
<https://en.wikipedia.org/wiki/Fungus>
<https://en.wikipedia.org/wiki/Opisthokont>
<https://en.wikipedia.org/wiki/Animal>
<https://en.wikipedia.org/wiki/Arthropod>
<https://en.wikipedia.org/wiki/Insect>
<https://en.wikipedia.org/wiki/Beetle>

<https://en.wikipedia.org/wiki/Baking>
https://en.wikipedia.org/wiki/Gefilte_fish
<https://en.wikipedia.org/wiki/Carp>
<https://en.wikipedia.org/wiki/Fish>
<https://en.wikipedia.org/wiki/Amphibian>
<https://en.wikipedia.org/wiki/Predation>
<https://en.wikipedia.org/wiki/Coccinellidae>
<https://en.wikipedia.org/wiki/Beetle>

<https://en.wikipedia.org/wiki/Baking>
<https://en.wikipedia.org/wiki/Poultry>
<https://en.wikipedia.org/wiki/Madagascar>
<https://en.wikipedia.org/wiki/Scarabaeidae>

<https://en.wikipedia.org/wiki/Beetle>

Geodesic dome to suicide

https://en.wikipedia.org/wiki/Geodesic_dome
https://en.wikipedia.org/wiki/Buckminster_Fuller
[https://en.wikipedia.org/wiki/Depression_\(mood\)](https://en.wikipedia.org/wiki/Depression_(mood))
<https://en.wikipedia.org/wiki/Suicide>

https://en.wikipedia.org/wiki/Geodesic_dome
https://en.wikipedia.org/wiki/World_War_I
https://en.wikipedia.org/wiki/German_Empire
https://en.wikipedia.org/wiki/Weimar_Republic
https://en.wikipedia.org/wiki/Adolf_Hitler
https://en.wikipedia.org/wiki/Death_of_Adolf_Hitler
<https://en.wikipedia.org/wiki/Suicide>

https://en.wikipedia.org/wiki/Geodesic_dome
https://en.wikipedia.org/wiki/World_War_I
https://en.wikipedia.org/wiki/United_States
https://en.wikipedia.org/wiki/Major_depressive_disorder
<https://en.wikipedia.org/wiki/Suicide>

https://en.wikipedia.org/wiki/Geodesic_dome
<https://en.wikipedia.org/wiki/Japan>
https://en.wikipedia.org/wiki/Suicide_in_Japan
<https://en.wikipedia.org/wiki/Suicide>

Megalomania to Steam

<https://en.wikipedia.org/wiki/Megalomania>
https://en.wikipedia.org/wiki/Narcissistic_personality_disorder
https://en.wikipedia.org/wiki/The_Great_Gatsby
https://en.wikipedia.org/wiki/Technological_and_industrial_history_of_the_United_States
https://en.wikipedia.org/wiki/Industrial_Revolution
https://en.wikipedia.org/wiki/Steam_engine
<https://en.wikipedia.org/wiki/Steam>

<https://en.wikipedia.org/wiki/Megalomania>
https://en.wikipedia.org/wiki/Narcissistic_personality_disorder
https://en.wikipedia.org/wiki/Mental_disorder

https://en.wikipedia.org/wiki/Latin_Americans
https://en.wikipedia.org/wiki/United_States
https://en.wikipedia.org/wiki/Technological_and_industrial_history_of_the_United_States
<https://en.wikipedia.org/wiki/Industrialisation>
https://en.wikipedia.org/wiki/Industrial_Revolution
https://en.wikipedia.org/wiki/Steam_engine
<https://en.wikipedia.org/wiki/Steam>

<https://en.wikipedia.org/wiki/Megalomania>
[https://en.wikipedia.org/wiki/Pele_\(English_band\)](https://en.wikipedia.org/wiki/Pele_(English_band))
<https://en.wikipedia.org/wiki/England>
https://en.wikipedia.org/wiki/Rapid_transit
https://en.wikipedia.org/wiki/Steam_engine
<https://en.wikipedia.org/wiki/Steam>

<https://en.wikipedia.org/wiki/Megalomania>
https://en.wikipedia.org/wiki/Narcissistic_personality_disorder
https://en.wikipedia.org/wiki/American_Psychiatric_Association
https://en.wikipedia.org/wiki/Washington,_D.C.
https://en.wikipedia.org/wiki/United_States
https://en.wikipedia.org/wiki/Technological_and_industrial_history_of_the_United_States
https://en.wikipedia.org/wiki/Steam_engine
<https://en.wikipedia.org/wiki/Steam>

Pencil → Mount Everest

<https://en.wikipedia.org/wiki/Pencil>
<https://en.wikipedia.org/wiki/Juniper>
<https://en.wikipedia.org/wiki/Himalayas>
https://en.wikipedia.org/wiki/Mount_Everest

<https://en.wikipedia.org/wiki/Pencil>
https://en.wikipedia.org/wiki/Graphite_pencil
<https://en.wikipedia.org/wiki/Graphite>
<https://en.wikipedia.org/wiki/Diamond>
https://en.wikipedia.org/wiki/Types_of_volcanic_eruptions
https://en.wikipedia.org/wiki/Mount_Etna
<https://en.wikipedia.org/wiki/Italy>
https://en.wikipedia.org/wiki/Southern_Europe
<https://en.wikipedia.org/wiki/Earth>

https://en.wikipedia.org/wiki/Eurasian_Plate
<https://en.wikipedia.org/wiki/Asia>
<https://en.wikipedia.org/wiki/Himalayas>
https://en.wikipedia.org/wiki/Mount_Everest

<https://en.wikipedia.org/wiki/Pencil>
<https://en.wikipedia.org/wiki/Graphite>
https://en.wikipedia.org/wiki/Metamorphic_rock
[https://en.wikipedia.org/wiki/Rock_\(geology\)](https://en.wikipedia.org/wiki/Rock_(geology))
<https://en.wikipedia.org/wiki/Mining>
https://en.wikipedia.org/wiki/2009_Heilongjiang_mine_explosion
<https://en.wikipedia.org/wiki/China>
<https://en.wikipedia.org/wiki/Himalayas>
https://en.wikipedia.org/wiki/Mount_Everest

<https://en.wikipedia.org/wiki/Pencil>
<https://en.wikipedia.org/wiki/Mining>
<https://en.wikipedia.org/wiki/Ore>
https://en.wikipedia.org/wiki/Volcanogenic_massive_sulfide_ore_deposit
<https://en.wikipedia.org/wiki/Volcano>
<https://en.wikipedia.org/wiki/Mayon>
https://en.wikipedia.org/wiki/List_of_mountain_types
https://en.wikipedia.org/wiki/List_of_mountain_types
https://en.wikipedia.org/wiki/Mount_Everest

Axe → Tortilla

<https://en.wikipedia.org/wiki/Axe>
<https://en.wikipedia.org/wiki/Harvest>
<https://en.wikipedia.org/wiki/Cereal>
<https://en.wikipedia.org/wiki/Maize>
<https://en.wikipedia.org/wiki/Masa>
https://en.wikipedia.org/wiki/Corn_tortilla

<https://en.wikipedia.org/wiki/Axe>
<https://en.wikipedia.org/wiki/Pleistocene>
https://en.wikipedia.org/wiki/North_America
<https://en.wikipedia.org/wiki/Mexico>
<https://en.wikipedia.org/wiki/Taco>
https://en.wikipedia.org/wiki/Corn_tortilla

<https://en.wikipedia.org/wiki/Axe>
<https://en.wikipedia.org/wiki/Japan>
https://en.wikipedia.org/wiki/East_Asia
<https://en.wikipedia.org/wiki/Asia>
<https://en.wikipedia.org/wiki/Africa>
<https://en.wikipedia.org/wiki/Continent>
https://en.wikipedia.org/wiki/North_America
https://en.wikipedia.org/wiki/Greater_Mexico_City
https://en.wikipedia.org/wiki/Mexico_City#Cuisine
<https://en.wikipedia.org/wiki/Taco>
https://en.wikipedia.org/wiki/Corn_tortilla

<https://en.wikipedia.org/wiki/Axe>
https://en.wikipedia.org/wiki/Basque_people
<https://en.wikipedia.org/wiki/Spain>
<https://en.wikipedia.org/wiki/Mexico>
<https://en.wikipedia.org/wiki/Taco>
https://en.wikipedia.org/wiki/Flour_tortilla
https://en.wikipedia.org/wiki/Corn_tortilla

Kuiper Belt -> Chicken

<https://en.wikipedia.org/wiki/Ammonia>
https://en.wikipedia.org/wiki/United_States_Department_of_Agriculture
https://en.wikipedia.org/wiki/Food_safety
https://en.wikipedia.org/wiki/Meat-packing_industry
https://en.wikipedia.org/wiki/Tyson_Foods
https://en.wikipedia.org/wiki/Chicken_nugget
https://en.wikipedia.org/wiki/Chicken_as_food
<https://en.wikipedia.org/wiki/Chicken>
https://en.wikipedia.org/wiki/Kuiper_belt

https://en.wikipedia.org/wiki/Kuiper_belt
<https://en.wikipedia.org/wiki/Water>
https://en.wikipedia.org/wiki/Environmental_impact_of_agriculture
<https://en.wikipedia.org/wiki/Poultry>
<https://en.wikipedia.org/wiki/Chicken>

https://en.wikipedia.org/wiki/Kuiper_belt
https://en.wikipedia.org/wiki/Clyde_Tombaugh

https://en.wikipedia.org/wiki/Burdett,_Kansas
<https://en.wikipedia.org/wiki/Kansas>
https://en.wikipedia.org/wiki/Lesser_prairie_chicken
<https://en.wikipedia.org/wiki/Grouse>
<https://en.wikipedia.org/wiki/Chicken>

https://en.wikipedia.org/wiki/Kuiper_belt
<https://en.wikipedia.org/wiki/Ammonia>
https://en.wikipedia.org/wiki/Compound_feed
https://en.wikipedia.org/wiki/Poultry_feed
<https://en.wikipedia.org/wiki/Chicken>

Axolotl -> Quantum Chemistry

<https://en.wikipedia.org/wiki/Axolotl>
<https://en.wikipedia.org/wiki/Chlorine>
https://en.wikipedia.org/wiki/HOMO_and_LUMO
https://en.wikipedia.org/wiki/Quantum_dot
https://en.wikipedia.org/wiki/Quantum_mechanics
https://en.wikipedia.org/wiki/Quantum_chemistry

<https://en.wikipedia.org/wiki/Axolotl>
<https://en.wikipedia.org/wiki/Chlorine>
<https://en.wikipedia.org/wiki/Electrolysis>
<https://en.wikipedia.org/wiki/Chemistry>
https://en.wikipedia.org/wiki/Quantum_mechanics
https://en.wikipedia.org/wiki/Quantum_chemistry
<https://en.wikipedia.org/wiki/Axolotl>
<https://en.wikipedia.org/wiki/Metamorphosis>
https://en.wikipedia.org/wiki/Biological_process
https://en.wikipedia.org/wiki/Chemical_reaction
<https://en.wikipedia.org/wiki/Chemistry>
https://en.wikipedia.org/wiki/Quantum_chemistry

<https://en.wikipedia.org/wiki/Axolotl>
<https://en.wikipedia.org/wiki/Iodine>
https://en.wikipedia.org/wiki/Chemical_element
<https://en.wikipedia.org/wiki/Atom>
https://en.wikipedia.org/wiki/Quantum_mechanics
https://en.wikipedia.org/wiki/Quantum_chemistry

Kepler 452b -> Blue Whale

<https://en.wikipedia.org/wiki/Kepler-452b>
https://en.wikipedia.org/wiki/Cascade_Range
https://en.wikipedia.org/wiki/Pacific_Northwest
https://en.wikipedia.org/wiki/Puget_Sound
<https://en.wikipedia.org/wiki/Shark>
https://en.wikipedia.org/wiki/Whale_shark
https://en.wikipedia.org/wiki/Baleen_whale
https://en.wikipedia.org/wiki/Blue_whale

<https://en.wikipedia.org/wiki/Kepler-452b>
<https://en.wikipedia.org/wiki/Earth>
<https://en.wikipedia.org/wiki/Life>
<https://en.wikipedia.org/wiki/Animal>
https://en.wikipedia.org/wiki/Blue_whale

<https://en.wikipedia.org/wiki/Kepler-452b>
<https://en.wikipedia.org/wiki/Life>
<https://en.wikipedia.org/wiki/Animal>
https://en.wikipedia.org/wiki/Blue_whale

<https://en.wikipedia.org/wiki/Kepler-452b>
<https://en.wikipedia.org/wiki/Earth>
<https://en.wikipedia.org/wiki/Ocean>
https://en.wikipedia.org/wiki/Blue_whale

Airbus A380 -> Ankylosaurus

https://en.wikipedia.org/wiki/Airbus_A380
https://en.wikipedia.org/wiki/Boeing_Business_Jet
https://en.wikipedia.org/wiki/United_States_Navy
https://en.wikipedia.org/wiki/American_Revolutionary_War
https://en.wikipedia.org/wiki/North_America
https://en.wikipedia.org/wiki/United_states
<https://en.wikipedia.org/wiki/Bird>
<https://en.wikipedia.org/wiki/Deinonychus>
<https://en.wikipedia.org/wiki/Dinosaur>
<https://en.wikipedia.org/wiki/Ankylosauria>
<https://en.wikipedia.org/wiki/Ankylosaurus>

https://en.wikipedia.org/wiki/Airbus_A380
https://en.wikipedia.org/wiki/Wing_twist
<https://en.wikipedia.org/wiki/Wing>
<https://en.wikipedia.org/wiki/Pterosaur>
<https://en.wikipedia.org/wiki/Ornithischia>
<https://en.wikipedia.org/wiki/Ankylosauria>
<https://en.wikipedia.org/wiki/Ankylosaurus>

https://en.wikipedia.org/wiki/Airbus_A380
<https://en.wikipedia.org/wiki/Istanbul>
<https://en.wikipedia.org/wiki/Fox>
<https://en.wikipedia.org/wiki/Mammal>
https://en.wikipedia.org/wiki/Cretaceous%E2%80%93Paleogene_extinction_event
<https://en.wikipedia.org/wiki/Ankylosaurus>

https://en.wikipedia.org/wiki/Airbus_A380
<https://en.wikipedia.org/wiki/Germany>
https://en.wikipedia.org/wiki/Red_fox
<https://en.wikipedia.org/wiki/Mammal>
<https://en.wikipedia.org/wiki/Amniote>
<https://en.wikipedia.org/wiki/Dinosaur>
<https://en.wikipedia.org/wiki/Ankylosauridae>
<https://en.wikipedia.org/wiki/Ankylosaurus>

Yoshi -> Santa Claus

<https://en.wikipedia.org/wiki/Yoshi>
[https://en.wikipedia.org/wiki/Western_\(genre\)](https://en.wikipedia.org/wiki/Western_(genre))
https://en.wikipedia.org/wiki/United_States
[https://en.wikipedia.org/wiki/Thanksgiving_\(United_States\)](https://en.wikipedia.org/wiki/Thanksgiving_(United_States))
https://en.wikipedia.org/wiki/Federal_holidays_in_the_United_States
<https://en.wikipedia.org/wiki/Christmas>
https://en.wikipedia.org/wiki/Santa_Claus

<https://en.wikipedia.org/wiki/Yoshi>
<https://en.wikipedia.org/wiki/Dinosaur>
https://en.wikipedia.org/wiki/United_States
https://en.wikipedia.org/wiki/Christianity_in_the_United_States
https://en.wikipedia.org/wiki/Christmas_Eve
https://en.wikipedia.org/wiki/Santa_Claus

<https://en.wikipedia.org/wiki/Yoshi>
<https://en.wikipedia.org/wiki/Nintendo>
https://en.wikipedia.org/wiki/1964_Summer_Olympics
https://en.wikipedia.org/wiki/United_States
https://en.wikipedia.org/wiki/Christianity_in_the_United_States
https://en.wikipedia.org/wiki/Christmas_Eve
https://en.wikipedia.org/wiki/Santa_Claus

International space station to the caribbean

https://en.wikipedia.org/wiki/International_Space_Station
<https://en.wikipedia.org/wiki/Florida>
<https://en.wikipedia.org/wiki/Cuba>
https://en.wikipedia.org/wiki/Caribbean_Sea
<https://en.wikipedia.org/wiki/Caribbean>

https://en.wikipedia.org/wiki/International_Space_Station
<https://en.wikipedia.org/wiki/NASA>
https://en.wikipedia.org/wiki/Solar_System
<https://en.wikipedia.org/wiki/Earth>
https://en.wikipedia.org/wiki/Plate_tectonics
https://en.wikipedia.org/wiki/North_American_Plate
<https://en.wikipedia.org/wiki/Cuba>
https://en.wikipedia.org/wiki/Caribbean_Sea
<https://en.wikipedia.org/wiki/Caribbean>

https://en.wikipedia.org/wiki/International_Space_Station
<https://en.wikipedia.org/wiki/Florida>
<https://en.wikipedia.org/wiki/Cuba>
https://en.wikipedia.org/wiki/Caribbean_Sea
<https://en.wikipedia.org/wiki/Caribbean>

https://en.wikipedia.org/wiki/International_Space_Station
<https://en.wikipedia.org/wiki/NASA>
https://en.wikipedia.org/wiki/Federal_government_of_the_United_States
https://en.wikipedia.org/wiki/United_States
<https://en.wikipedia.org/wiki/Caribbean>

Barack Obama → The Hunchback of Notre-Dame

https://en.wikipedia.org/wiki/Barack_Obama
https://en.wikipedia.org/wiki/American_Civil_War
<https://en.wikipedia.org/wiki/France>
https://en.wikipedia.org/wiki/The_Hunchback_of_Notre-Dame

[Barack Obama - Wikipedia](#)
[President of the United States - Wikipedia](#)
[United States - Wikipedia](#)
[Duchy of Lorraine - Wikipedia](#)
[Lorraine - Wikipedia](#)
[France - Wikipedia](#)
[Paris - Wikipedia](#)
[Notre-Dame de Paris - Wikipedia](#)
[The Hunchback of Notre-Dame - Wikipedia](#)

https://en.wikipedia.org/wiki/Barack_Obama
https://en.wikipedia.org/wiki/President_of_the_United_States
https://en.wikipedia.org/wiki/United_States
https://en.wikipedia.org/wiki/Walt_Disney
https://en.wikipedia.org/wiki/The_Walt_Disney_Company
https://en.wikipedia.org/wiki/Walt_Disney_Animation_Studios
[https://en.wikipedia.org/wiki/The_Hunchback_of_Notre_Dame_\(1996_film\)](https://en.wikipedia.org/wiki/The_Hunchback_of_Notre_Dame_(1996_film))
https://en.wikipedia.org/wiki/The_Hunchback_of_Notre-Dame

https://en.wikipedia.org/wiki/Barack_Obama
https://en.wikipedia.org/wiki/Los_Angeles
https://en.wikipedia.org/wiki/The_Walt_Disney_Company
https://en.wikipedia.org/wiki/Walt_Disney_Animation_Studios
[https://en.wikipedia.org/wiki/The_Hunchback_of_Notre_Dame_\(1996_film\)](https://en.wikipedia.org/wiki/The_Hunchback_of_Notre_Dame_(1996_film))
https://en.wikipedia.org/wiki/The_Hunchback_of_Notre-Dame

War → Rabbit

<https://en.wikipedia.org/wiki/War>
<https://en.wikipedia.org/wiki/Famine>
https://en.wikipedia.org/wiki/Working_animal#Draft_animals
<https://en.wikipedia.org/wiki/Hound>
<https://en.wikipedia.org/wiki/Hare>

<https://en.wikipedia.org/wiki/Rabbit>

<https://en.wikipedia.org/wiki/War>

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

<https://en.wikipedia.org/wiki/Human>

<https://en.wikipedia.org/wiki/Mammal>

<https://en.wikipedia.org/wiki/Rabbit>

<https://en.wikipedia.org/wiki/War>

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

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

<https://en.wikipedia.org/wiki/Biology>

<https://en.wikipedia.org/wiki/Life>

<https://en.wikipedia.org/wiki/Animal>

<https://en.wikipedia.org/wiki/Rabbit>

<https://en.wikipedia.org/wiki/War>

<https://en.wikipedia.org/wiki/Chimpanzee>

<https://en.wikipedia.org/wiki/Mammal>

<https://en.wikipedia.org/wiki/Rabbit>

Computer Mouse -> Eagle

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

<https://en.wikipedia.org/wiki/Mouse>

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

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

[https://en.wikipedia.org/wiki/Aquila_\(bird\)](https://en.wikipedia.org/wiki/Aquila_(bird))

<https://en.wikipedia.org/wiki/Eagle>

https://en.wikipedia.org/wiki/Computer_mouse#Mechanical_mice

<https://en.wikipedia.org/wiki/Mouse>

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

<https://en.wikipedia.org/wiki/Eagle>

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

<https://en.wikipedia.org/wiki/Mouse>

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

<https://en.wikipedia.org/wiki/Eagle>

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

https://en.wikipedia.org/wiki/Mouse#As_feed
https://en.wikipedia.org/wiki/Bird_of_prey
<https://en.wikipedia.org/wiki/Eagle>

Malthusianism -> Existentialism

<https://en.wikipedia.org/wiki/Malthusianism>
<https://en.wikipedia.org/wiki/Libertarianism>
<https://en.wikipedia.org/wiki/Liberalism>
<https://en.wikipedia.org/wiki/Existentialism>

<https://en.wikipedia.org/wiki/Malthusianism>
https://en.wikipedia.org/wiki/Thomas_Robert_Malthus
<https://en.wikipedia.org/wiki/Epitaph>
[https://en.wikipedia.org/wiki/Verse_\(poetry\)](https://en.wikipedia.org/wiki/Verse_(poetry))
<https://en.wikipedia.org/wiki/Philosophy>
<https://en.wikipedia.org/wiki/Existentialism>

<https://en.wikipedia.org/wiki/Malthusianism>
https://en.wikipedia.org/wiki/Standard_of_living
https://en.wikipedia.org/wiki/Human_rights
<https://en.wikipedia.org/wiki/Morality>
<https://en.wikipedia.org/wiki/Philosophy>
<https://en.wikipedia.org/wiki/Existentialism>

<https://en.wikipedia.org/wiki/Malthusianism>
https://en.wikipedia.org/wiki/Human_population_planning
https://en.wikipedia.org/wiki/Political_philosophy
<https://en.wikipedia.org/wiki/Philosophy>
<https://en.wikipedia.org/wiki/Existentialism>

Appendix 2: Unrelated topics after modification for different participants (Partial list of topics).
Student 1: Purple, Student 3: Red, Teacher: Black, (Student 2 dropped out for this phase of the study)

Teacher

Electron to ostrich egg

add “scanning electron microscope” to electron page

Underline the word “egg” in the scanning electron microscope page..”Hard, dry materials such as wood, bone, feathers, dried insects, or shells (including egg shells^[17]) can be examined with little further treatment” with these modifications:

<https://en.wikipedia.org/wiki/Electron>

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

<https://en.wikipedia.org/wiki/Egg>

Baking to beetle

baking to baking chocolate, add phrase “chocolate bar” in the page “baking chocolate”, add the phrase “bertie beetle chocolate bar” to the page “chocolate bar” with beetle underlined.

<https://en.wikipedia.org/wiki/Baking>

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

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

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

<https://en.wikipedia.org/wiki/Beetle>

Kuiper belt to chicken

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

<https://en.wikipedia.org/wiki/Pluto>

[https://en.wikipedia.org/wiki/Pluto_\(disambiguation\)](https://en.wikipedia.org/wiki/Pluto_(disambiguation))

[https://en.wikipedia.org/wiki/Pluto_\(Disney\)](https://en.wikipedia.org/wiki/Pluto_(Disney))

Add the phrase “mother pluto” to the pluto_disney page

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

Add the word chicken in the mother_pluto page

<https://en.wikipedia.org/wiki/Chicken>

Soccer to thunder

add a section “weather” in the landing page including the phrase “electrical storm” with the words electrical and storm underlined as links

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

<https://en.wikipedia.org/wiki/Thunderstorm>

<https://en.wikipedia.org/wiki/Thunder>

Transistor to waterfall

<https://en.wikipedia.org/wiki/Transistor>

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

Add content and link to the “Electric power” page “ Other generators are driven by the kinetic energy of flowing water, such as rapids and waterfalls, and wind.

<https://en.wikipedia.org/wiki/Waterfall>

Rabies to Gravity

<https://en.wikipedia.org/wiki/Rabies>

<https://en.wikipedia.org/wiki/Unconsciousness>

Add content to the following sentence “Unconsciousness may occur as the result of traumatic brain injury, brain hypoxia (inadequate oxygen, possibly due to a brain infarction or cardiac arrest) or exposure to high g forces, severe intoxication with drugs that depress the activity of the central nervous system (e.g., alcohol and other hypnotic or sedative drugs), severe fatigue, pain, anaesthesia, and other causes.

<https://en.wikipedia.org/wiki/G-force>

Underline the word “gravity” as a link in the above “G-force” page

<https://en.wikipedia.org/wiki/Gravity>

Destiny to sauerkraut

<https://en.wikipedia.org/wiki/Destiny>

<https://en.wikipedia.org/wiki/Predestination>

Underline the word “preserving” in the above webpage as a link: Later in the fourth and fifth centuries, Augustine of Hippo (354–430) also taught that God orders all things while preserving human freedom.^[24]

<https://en.wikipedia.org/wiki/Preservation>

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

Add the word sauerkraut with a link in the above webpage: Some foods, such as many cheeses, wines, beers, and sauerkraut use specific micro-organisms that combat spoilage from other less-benign organisms

<https://en.wikipedia.org/wiki/Sauerkraut>

Megalomania to steam

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

Include a link to water at the sentence: “the gods punish him by making him fall in love with his own reflection in a pool of water.”

<https://en.wikipedia.org/wiki/Water>

<https://en.wikipedia.org/wiki/Steam>

Kepler 452B to blue whale

<https://en.wikipedia.org/wiki/Kepler-452b>

Underline and link the word ocean in the sentence : it is likely to have an estimated mass of 5 M_{Earth} , which could allow it to hold on to any oceans it may have for a longer period, preventing Kepler-452b from succumbing to runaway greenhouse effect for another 500 million years.

<https://en.wikipedia.org/wiki/Ocean>

<https://en.wikipedia.org/wiki/Whale>

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

Student 1

Cotton to Morse Code

<https://en.wikipedia.org/wiki/Cotton>

Add “romance languages” link to “cotton”

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

Add “modern languages” link to “romance languages”

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

Add “languages” link to “modern languages”

<https://en.wikipedia.org/wiki/language>

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

Oolong to Fuse (electrical)

<https://en.wikipedia.org/wiki/Oolong>

<https://en.wikipedia.org/wiki/Caffeine>

Add “United States” link to “United States Food and Drug Administration”.

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

[https://en.wikipedia.org/wiki/Independence_Day_\(United_States\)](https://en.wikipedia.org/wiki/Independence_Day_(United_States))

<https://en.wikipedia.org/wiki/Fireworks>

[https://en.wikipedia.org/wiki/Fuse_\(explosives\)](https://en.wikipedia.org/wiki/Fuse_(explosives))

Add “Fuse (electrical)” link to “Fuse (explosives)”.

[https://en.wikipedia.org/wiki/Fuse_\(electrical\)](https://en.wikipedia.org/wiki/Fuse_(electrical))

Pencil to Mount Everest

<https://en.wikipedia.org/wiki/Pencil>

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

<https://en.wikipedia.org/wiki/Graphite>

Add “Mountain” link to “Graphite”

<https://en.wikipedia.org/wiki/Mountain>

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

Rhododendron to Rainbow

<https://en.wikipedia.org/wiki/Rhododendron>

Add “West Coast of the United States” link to “Rhododren”

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

Add “United States” link to “West Coast of the United States”

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

Add “Precipitation” link to Climate section of “United States”

<https://en.wikipedia.org/wiki/Precipitation>

<https://en.wikipedia.org/wiki/Meteorology>

<https://en.wikipedia.org/wiki/Rainbow>

Electron to Ostrich Egg

<https://en.wikipedia.org/wiki/Electron>

Add “Biology” link to “Electron”

<https://en.wikipedia.org/wiki/Biology>

<https://en.wikipedia.org/wiki/Zoology>

Add “bird egg” link to Zoology

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

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

Airbus A380 to Ankylosaurus

https://en.wikipedia.org/wiki/Airbus_A380

Add “United States” link to “Airbus A380”

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

<https://en.wikipedia.org/wiki/Bird>

<https://en.wikipedia.org/wiki/Dinosaur>

<https://en.wikipedia.org/wiki/Ankylosauria>

<https://en.wikipedia.org/wiki/Ankylosaurus>

Megalomania to Steam

<https://en.wikipedia.org/wiki/Megalomania>

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

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

Add “United States” link to “Mental Disorder”

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

Add “Industrial revolution” link to “United States”

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

Add “Steam” to “industrial revolution”

<https://en.wikipedia.org/wiki/Steam>

Napoleon to Toilet

<https://en.wikipedia.org/wiki/Napoleon>

Add “United Kingdom” link to “Napoleon”

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

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

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

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

<https://en.wikipedia.org/wiki/Toilet>

International Space Station to Caribbean

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

Add “Solar System” link to “ISS”

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

<https://en.wikipedia.org/wiki/Earth>

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

Add “Caribbean” link to “Caribbean plate”

<https://en.wikipedia.org/wiki/Caribbean>

Kevlar to Mickey Mouse

<https://en.wikipedia.org/wiki/Kevlar>

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

Add “United States” link to “Stephanie Kwolek”

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

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

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

Student 3

Axe to Tortilla:

<https://en.wikipedia.org/wiki/Axe>

<https://en.wikipedia.org/wiki/Japan>

Change link to goto either Asia or East Asia

<https://en.wikipedia.org/wiki/Asia>

Use link that goes to North America

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

Use link that goes directly to Mexico City instead of Greater Mexico City

https://en.wikipedia.org/wiki/Mexico_City#Cuisine

<https://en.wikipedia.org/wiki/Taco>

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

Pencil to Mt. Everest

<https://en.wikipedia.org/wiki/Pencil>

Go straight to ore

<https://en.wikipedia.org/wiki/Ore>

Add volcano

<https://en.wikipedia.org/wiki/Volcano>

Add Mountain <https://en.wikipedia.org/wiki/Mountain>

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

Kuiper Belt to Chicken

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

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

Allow for either town or just the state Kansas

<https://en.wikipedia.org/wiki/Kansas>

Allow for just Chicken in side of Lesser Prairie Chicken link

<https://en.wikipedia.org/wiki/Chicken>

Yoshi to Santa Claus

<https://en.wikipedia.org/wiki/Yoshi>

Go straight to Japan instead of Nintendo

<https://en.wikipedia.org/wiki/Japan>

Religion section for Japan mentions Christmas

<https://en.wikipedia.org/wiki/Christmas>

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

Transistor to Waterfall

<https://en.wikipedia.org/wiki/Transistor>

Make link Murray Hill or New Jersey

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

Go straight to New York Instead of New York City

[https://en.wikipedia.org/wiki/New_York_\(state\)](https://en.wikipedia.org/wiki/New_York_(state))

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

<https://en.wikipedia.org/wiki/Waterfall>

Rabies to Gravity

<https://en.wikipedia.org/wiki/Rabies>

<https://en.wikipedia.org/wiki/Mammal>

Link the word science in the article <https://en.wikipedia.org/wiki/Science>

Science article mention gravity and it is linked.

<https://en.wikipedia.org/wiki/Gravity>

Malthusianism to Existentialism

<https://en.wikipedia.org/wiki/Malthusianism>

Link the word Morally to take you to Morality

<https://en.wikipedia.org/wiki/Morality>

<https://en.wikipedia.org/wiki/Philosophy>

<https://en.wikipedia.org/wiki/Existentialism>

Barack Obama to the Hunchback of Notre Dame

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

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

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

Use link in this article to go directly to 1996 film

[https://en.wikipedia.org/wiki/The_Hunchback_of_Notre_Dame_\(1996_film\)](https://en.wikipedia.org/wiki/The_Hunchback_of_Notre_Dame_(1996_film))
https://en.wikipedia.org/wiki/The_Hunchback_of_Notre-Dame

Megalomania to Steam

<https://en.wikipedia.org/wiki/Megalomania>
[https://en.wikipedia.org/wiki/Pele_\(English_band\)](https://en.wikipedia.org/wiki/Pele_(English_band))
<https://en.wikipedia.org/wiki/England>
The word steam shows up multiple times.
Link one of the words to the article for steam.
<https://en.wikipedia.org/wiki/Steam>

Euphoria to Panama Canal

<https://en.wikipedia.org/wiki/Euphoria>
https://en.wikipedia.org/wiki/Ancient_Greek
<https://en.wikipedia.org/wiki/Greece>
https://en.wikipedia.org/wiki/Corinth_Canal
Use link to go directly to Panama Canal
https://en.wikipedia.org/wiki/Panama_Canal