

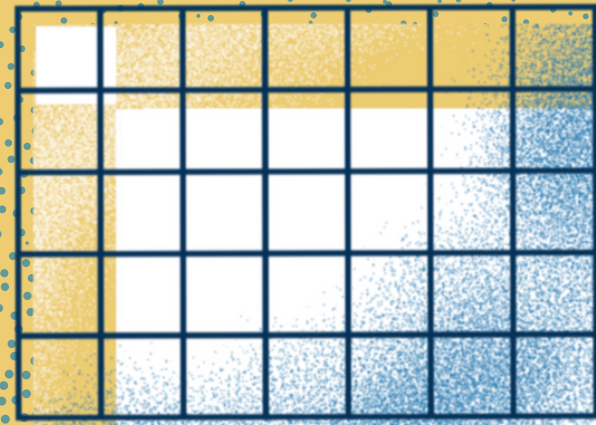
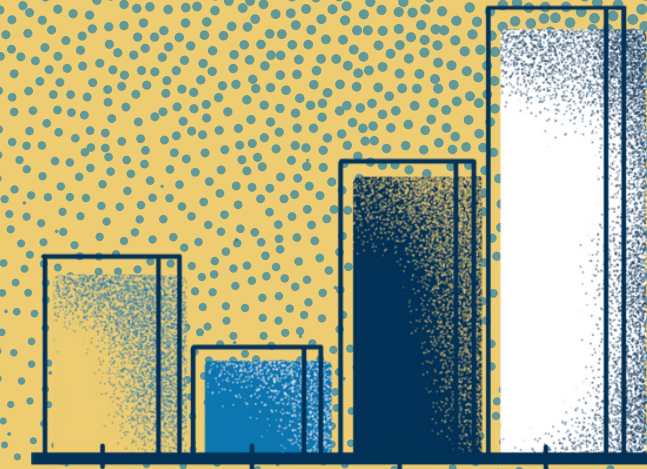
Module 1: How to Navigate a World of Big Data

In this module you will:

1. Understand what big data is, how it is collected, and how it is used
2. Have critical discussion about the ethics surrounding big data collection and usage
3. Understand the importance of knowing big picture concepts when working with data
4. Figure out where you fit in the world of big data

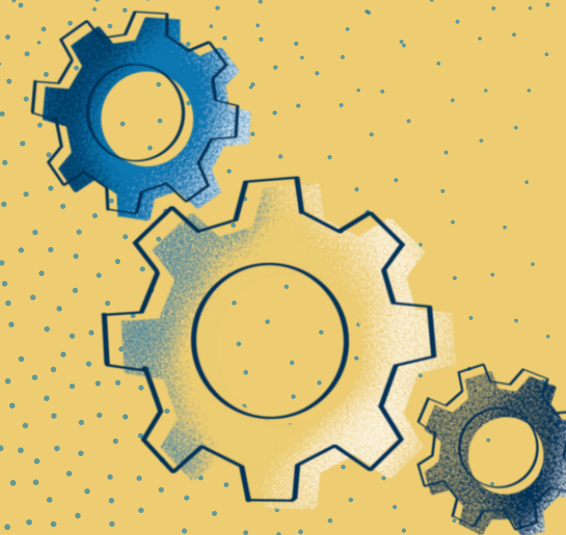
Module 1 Learning Objectives

Explain what is big data and identify the types of data, such as quantitative, qualitative, primary, secondary, unstructured, and structured



Demonstrate an understanding of the importance of data and how it is utilized for small businesses, organizations, communities, and universities

Identify the difference between correlation and causation using evidence-based data documentations



Why is Data Important...Can You Tell This Story?

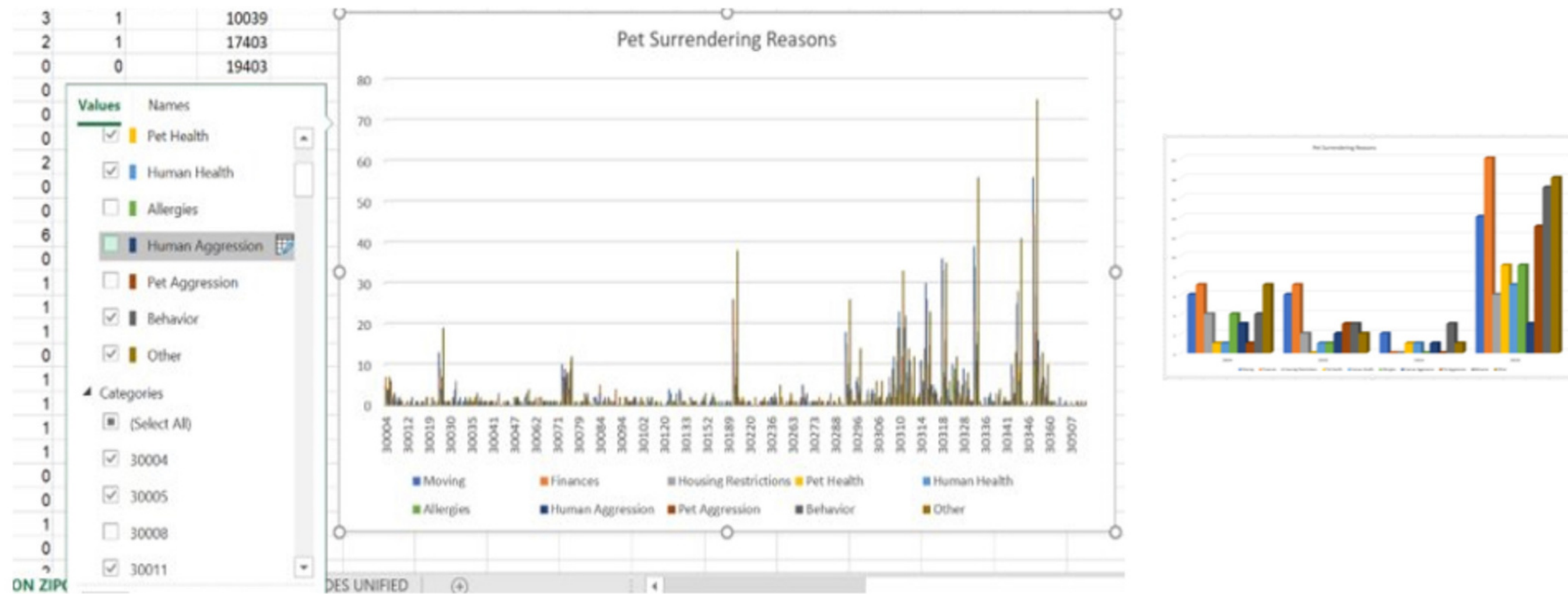
She is aggressive with other animals and has had many fights with other
Can no longer take care of him...
Not enough to take care of her
He has severe emotional anxiety and well as issues with submissive urin
I'm not stable
She bit my son in the face last night. She stays with my ex and my son a
I recently got a job and no longer have the time to dedicate to take care c
Have a newborn that's allergic
We can no longer care for him due to money issues
Unable to provide the attention that he needs
My apartments said I can't keep her
My healthcare is expensive. I have lost employment and I'm moving. I ca
She isn't allowed to stay where I have moved to
Dog is very aggressive towards my smaller kids. Pet is very aggressive to
Do not have the means to take care of the cat an its kitties.
Piper is bullied by our dog. The dog doesn't bully our other cat and Piper
She isn't allowed to live in the area I have moved to.
I can no longer support nor take care of the dog financially, physically nor
Moving and no pets allowed and can't afford the dog

DateSubmitted	City	State	Zipcode	Species	Gender	Breed/mix	Age of Animal	Spayed/Neuter
2020-06-16 08:05:14	Atlanta	GA	30346	Dog	Female	Mix	11 years	Yes
2020-06-15 15:02:01	Stone Mountain	GA	30083	Dog	Female	Pitt	3 years	No
2020-06-15 12:32:38	Atlanta	Ga	30331	Cat	Male	Gray tabby	3 yrs	Yes
2020-06-12 17:13:48	Stone Mountain	GA	30083	Dog	Female	Labrador/Pitbul	2 yrs	Yes
2020-06-12 14:14:58	Atlanta	GA	30340	Dog	Male	German Shepard mix	6-8months	Yes
2020-06-12 11:32:52	Marietta	GA	30064	Dog	Female	Pit terrier	13 months	Yes
2020-06-12 10:16:34	Tucker	GA	30084	Dog	Female	Pit bull	5	Yes
2020-06-12 08:33:45	Lithonia	GA	30058	Cat	Female	Tabby	2	No
2020-06-11 19:00:41	Stone Mountain	GA	30083	Cat	Male	American short hair	?	Yes
2020-06-11 16:30:10	Roswell	Ga	30076	Dog	Male	Jack Russell mixed with Beagle		No
2020-06-11 10:56:21	Conyers	GA	30012	Dog	Male	Jack terrier/chihuahua	3 years	Yes
2020-06-10 21:19:53	Lithonia	Ga	30058	Dog	Male	Pit	2 months	No
2020-06-10 12:17:43	Decatur	GA	30034	Dog	Female	Full breed Maltese	13	No
2020-06-10 11:34:50	Atlanta	Ga	30340	Dog	Female	Pitbull terrior	3	No
2020-06-09 14:24:19	Lithonia	GA	30038	Dog	Male	American Terrior	6months	No
2020-06-09 14:13:48	Stone Mountain	GA	30083	Cat	Female	i don't know	?	No
2020-06-09 12:39:42	Atlanta	GA	30350	Cat	Female	Domestic medium Hair	9	Yes
2020-06-09 10:27:57	College Park	GA	30349	Dog	Female	Pit butt terror	3	No
2020-06-09 08:30:14	Lithonia	GA	30058	Dog	Male	Pit Bull	4	No
2020-06-08 20:46:44	Stone Mountain	Ga	30083	Dog	Male	Begle mix	4 yrs	Yes
2020-06-08 20:44:44	Stone Mountain	Ga	30083	Dog	Male	Begle mix	4 yrs	Yes
2020-06-08 12:34:10	Mableton	GA	30126	Dog	Female	pitbull	7	No
2020-06-07 11:19:10	Atlanta	GA	30329	Dog	Female	Lab Mix	6 years 3 months	Yes
2020-06-05 15:20:49	Stone Mountain	GA	30088	Dog	Female	Pix mix	3yrs	No
2020-06-04 13:24:45	Ellenwood	GA	30294	Dog	Male	Shepard / Lab	2	Yes
2020-06-04 12:13:14	Gainesville	GA	30506	Dog	Male	German Shepherd	born 1/2/19	No
2020-06-03 18:50:00	Decatur	GA	30035	Dog	Male	Chihuahua mix	14	No
2020-06-03 18:47:24	Decatur	GA	30035	Dog	Male	Pitbull Terrier	7	No
2020-06-03 09:05:38	Stone Mountain	GA	30088	Dog	Female	Pit Bull Cane Corso	7 Months	No
2020-06-02 14:07:47	Tucker	Ga	30084	Dog	Male	Chiwawa and Chiweenie	3 years both	No
2020-06-01 13:15:16	Norcross	GA	30093	Cat	Male	Short hair	11 months	Yes
2020-06-01 10:33:35	Stonecrest	GA	30038	Dog	Male	American pitbul	3	Yes
2020-06-01 10:18:02	Decatur	GA	30035	Cat	Female	Tabby	3 years old	No
2020-05-30 17:15:27	Decatur	GA	30030	Dog	Male	Chow chow and shepherd	3 years	Yes
2020-05-30 13:37:35	Dunwoody	GA	30338	Cat	Female	Cat	10	Yes
2020-05-30 13:37:35	Dunwoody	GA	30338	Cat	Female	Cat	10	Yes
2020-05-30 09:03:10	Atlanta	GA	30316	Dog	Male	English Bulldog	1	No
2020-05-28 04:35:28	Decatur	GA	30034	Cat	Female	Feline	?	No
2020-05-27 19:45:09	atlanta	GA	30316	Dog	Male	Chow mix	15?	Yes
2020-05-27 13:50:55	decatu	GA	30032	Dog	Female	Mix	3	Yes
2020-05-26 20:18:11	Tucker	GA	30084	Cat	Female	Mix	9	Yes
2020-05-26 16:11:53	Atlanta	Ga	30350	Cat	Female	Mix	9	Yes
2020-05-24 20:25:19	Atlanta	GA	30324	Cat	Male	Mix	~ 4 years	No

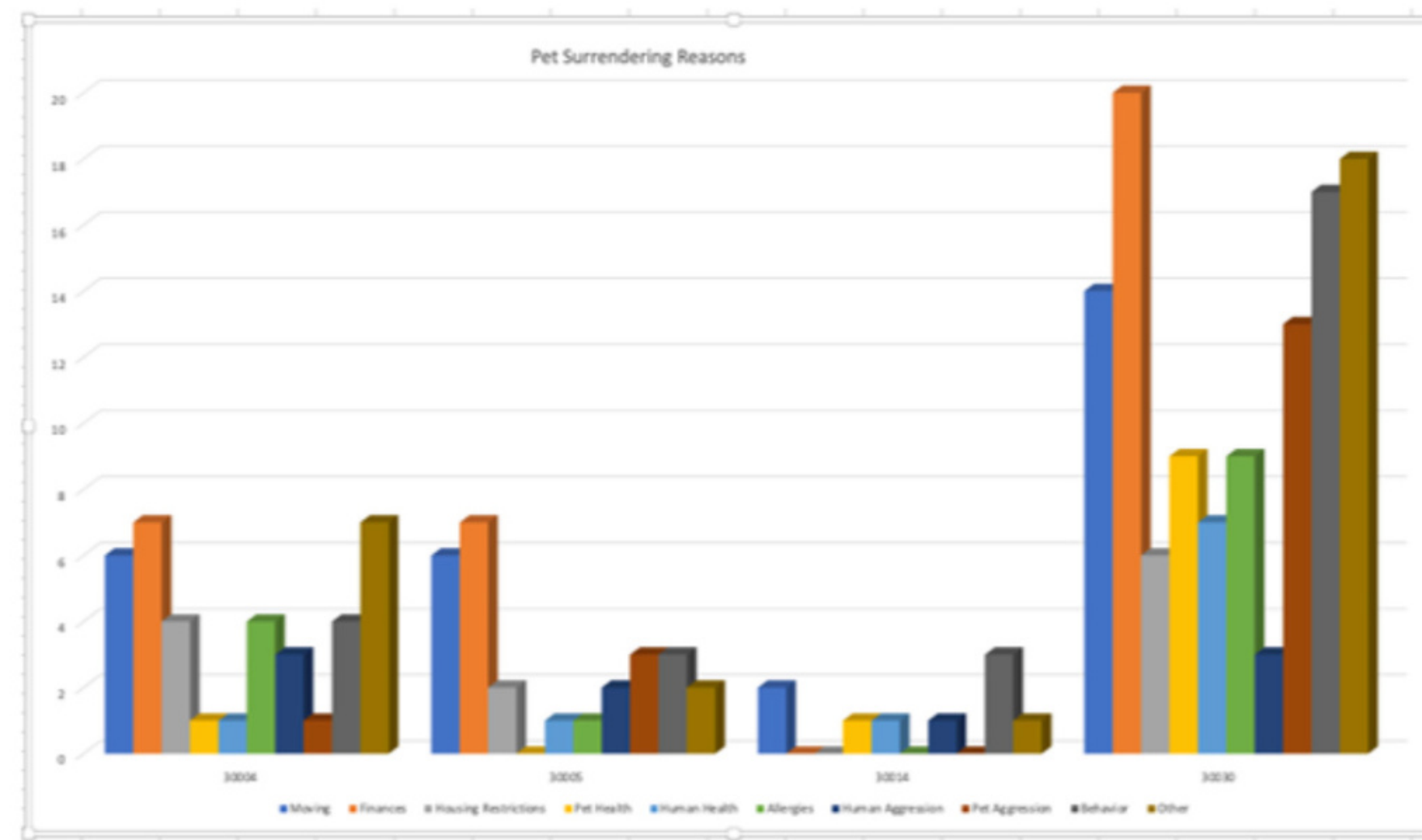
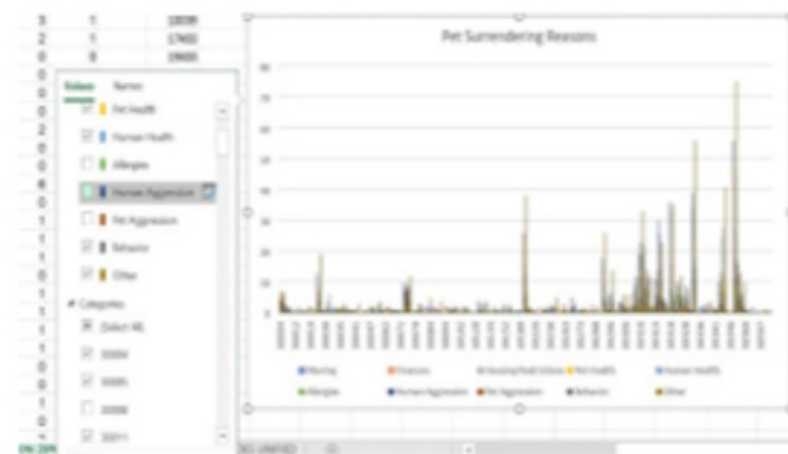
Can You Tell This Story?

A	B	C	D	E	F	G	H	I	J	K	L
	Moving	Finances	Housing Re	Pet Health	Human He	Allergies	Human Agg	Pet Aggres	Behavior	Other	MAX
30002	8	6	9	3	6	3	0	2	4	4	9
30004	6	7	4	1	1	4	3	1	4	7	7
30005	6	7	2	0	1	1	2	3	3	2	7
30008	1	0	2	0	1	0	1	0	2	3	3
30011	1	1	1	0	0	0	0	0	0	0	1
30012	1	2	1	1	0	0	0	1	3	4	4
30013	6	4	7	0	4	0	0	0	0	3	7
30014	2	0	0	1	1	0	1	0	3	1	3
30016	1	1	1	1	1	0	1	4	3	2	4
30017	3	3	0	0	0	0	1	3	3	3	3
30019	0	0	1	0	0	0	0	1	0	2	2
30021	16	18	16	5	5	2	0	6	5	12	18
30022	13	9	9	1	6	4	1	9	6	20	20
30024	1	0	2	1	0	0	0	1	1	3	3
30030	14	20	6	9	7	9	3	13	17	18	20
30032	89	69	62	16	27	9	6	22	34	40	89
30033	24	13	10	1	9	6	4	6	11	22	24
30034	51	47	42	15	21	14	4	5	19	45	51

Can You Tell This Story?



Can You Tell This Story?



What is Data?

Data can be quantitative, qualitative, secondary, primary, unstructured, and structured

Information, especially facts or numbers, collected to be examined and considered and used to help decision-making, or information in an electronic form that can be stored and used by a computer

Types of Data

Quantitative

Data that can be counted or measured;
it refers to numerical data

Ex: Numerical survey responses, test scores, and website traffic data

Qualitative

Data is descriptive, referring to things that can be described or give objective characteristics

Ex: Case studies, open-ended survey responses, document analysis, observation notes, audio or video recordings

Types of Data

Primary

Primary data is gathered by the researcher themselves from primary resources

Ex: Surveys, polls, statistical methods, interviews

Secondary

Secondary data is data that has already been gathered by someone else

Ex: Sales report, websites, government reports, census data

Types of Data

Structured

Data that is organized and formatted so that it is easily searchable

Unstructured

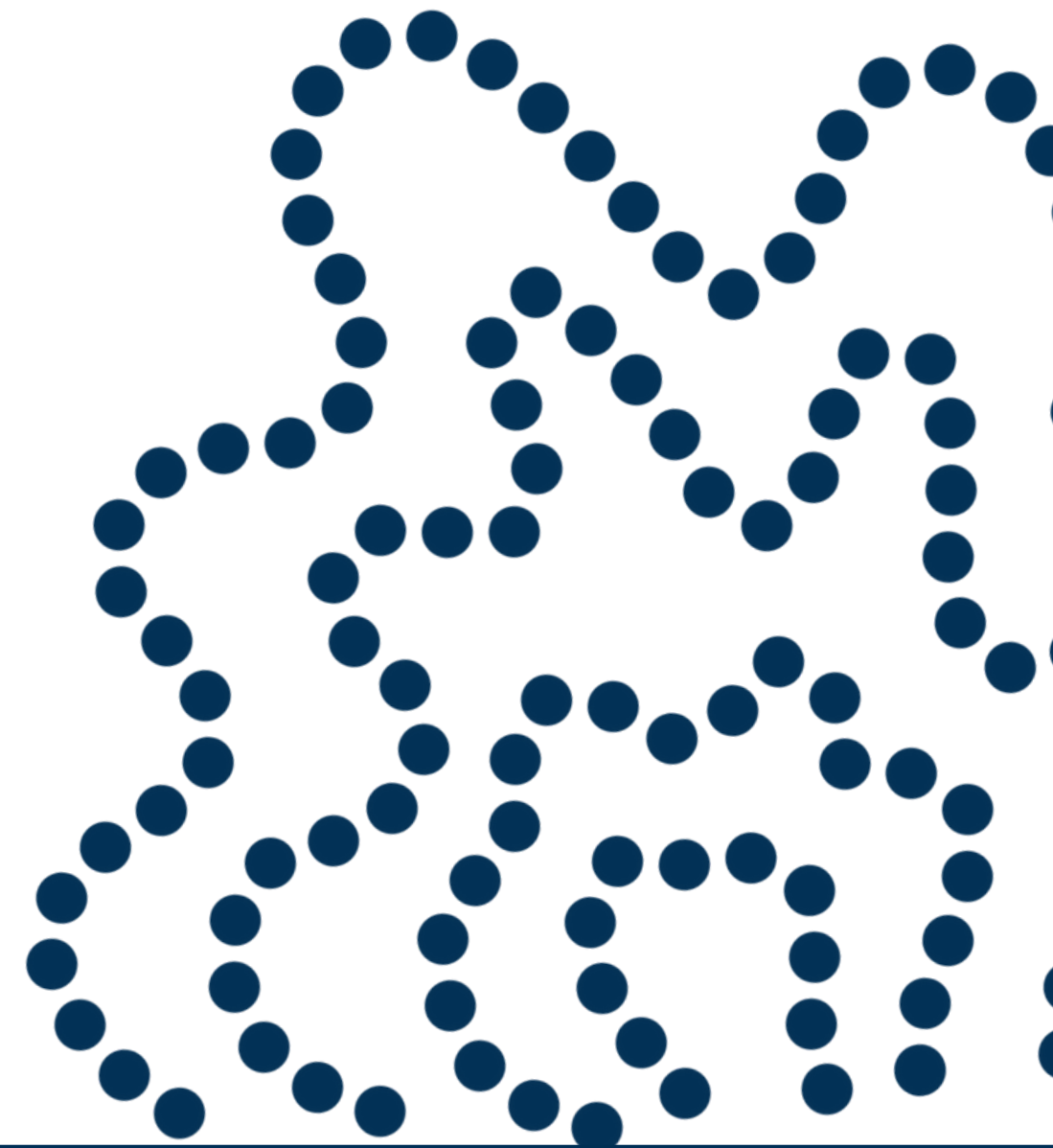
Data is more difficult to process, analyze, and has no predefined format

Evidence Based Assertions

In order to make decisions and create opportunities, businesses, organizations, non-profits, and other entities utilize data to support these decisions.

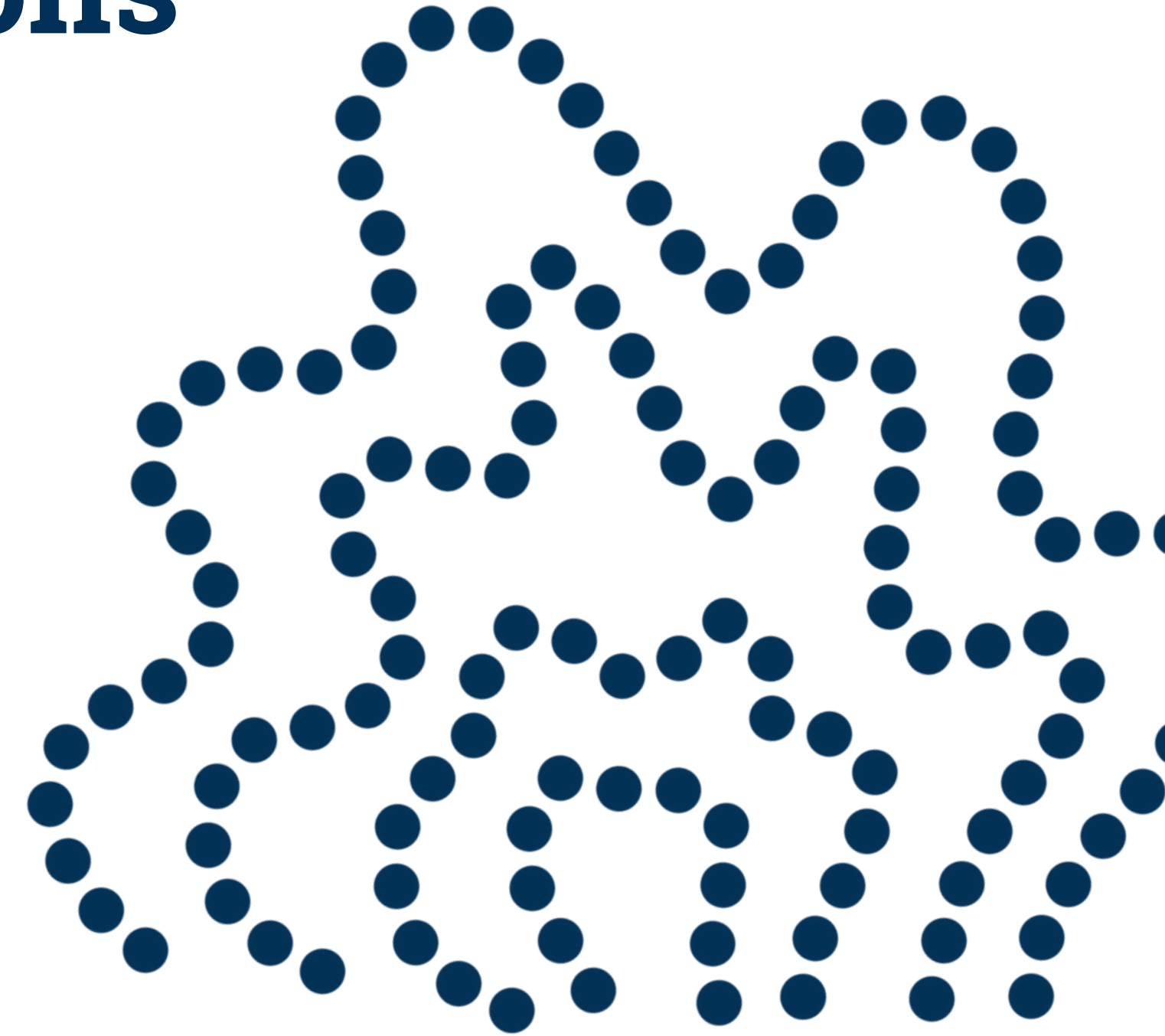
Example:

- Claim: “Societies with multiple affordable preventative care options have healthier citizens.”
- What evidence would you want to see to support this claim?



Evidence Based Assertions

- What is evidence?
- Why should we use evidence to inform ourselves and support our claims?
- How much evidence is enough?



Evidence Based Assertions

Evidence A:

People are more likely to go to the doctor when they have a small problem if they can afford to go

Evidence B:

When health issues are caught early, they are less likely to be life threatening

Evidence C:

If healthcare is affordable, a larger portion of the population has access

Evidence D:

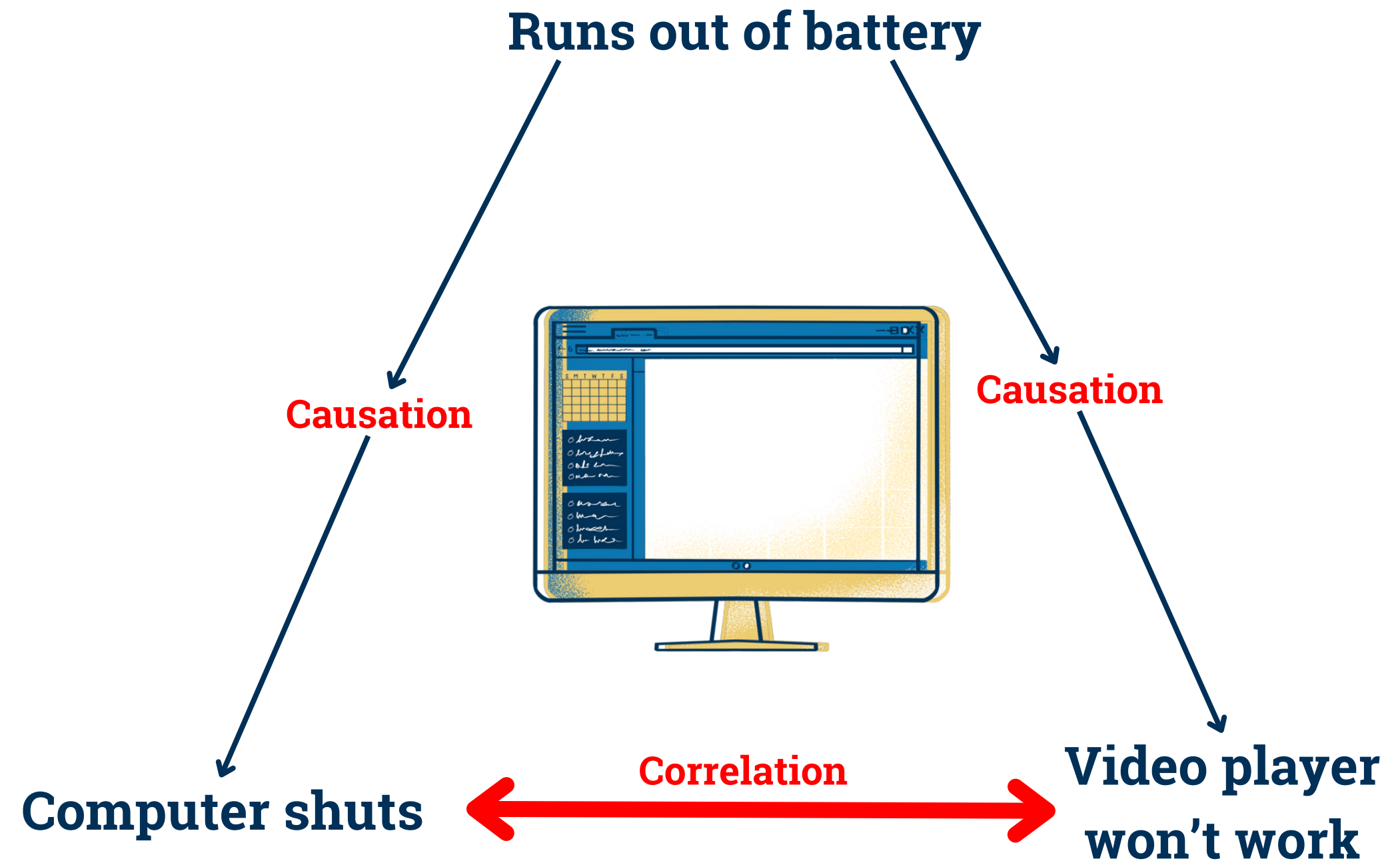
More healthcare leads to healthier people

Evidence Based Assertions

Correlation is not causation

Correlation:
There is a statistical association or relationship between the variables

Causation:
Change in one variables causes the change in another variable. The variables are dependent upon each other



Evidence Based Assertions-Activity

Part 1

To obtain a better understanding of data and evidence, you practice analyzing data and justifying your reasoning in a journal prompt

- Analyze the data and begin asking questions (3-5)
 - Go to [Datasets | Climate Data Online \(CDO\)](#).
 - Find the heading “Climate Data Online”
 - Click ”Global Marine Data”
 - Read the Dataset Summary
 - Click the ”Documentations & Samples” Dropdown menu
 - Download the “Documentation”
 - Download the “Data Sample” is .csv format

Part 2

Journal/Reflection

- Are there any fields in the data that you don’t understand? Can you find it in the documentation? If you still don’t understand, try Googling it. Once you figure it out, write it down.
- Is the data clean and organized?
- What kinds of questions could you ask and answer using this data (if you had the full set)?
- What kinds of questions could you NOT ask and answer using this data set?