I.

Share your standard form arguments with your group. Decide which version of each argument is the clearest and most accurate statement of the article's core argument

Argument 1

1. Dairymaids were exposed to cowpox from contact with cows

2. These dairy maids became immune to small pox

Therefore: Intentionally exposing people to cowpox virus will make them immune to smallpox

Argument 2

1. The gap in performance between children of affluent families and children of poor families has grown over the last 50 years

2. The gap in performance between White children and Black children has shrunk over the last 50 years

   Therefore: Wealth is more strongly connected to school achievement than race

Argument 3

1. People living in poverty are more likely to smoke

2. People living in poverty are more likely to be obese

3. Smoking and obesity are risk factors for heart disease

Therefore: Poverty make people more likely to die of heart disease

Argument 4

1. 10 million people were mailed questionnaires asking who they would vote for for President in 1936

2. 57% of the questionnaires returned were for Alf Landon

   Therefore: Alf Landon will win the 1936 election for President

Types of Induction - Generalization/enumeration

Form

    1.   Most of a sample of X is Y.

    2.   Therefore, probably, all Xs are Ys.

Example

    1.   Almost all the sixth-graders we interviewed love Harry Potter.

    2.   Therefore, Harry Potter probably appeals to most sixth-graders.

Arp, Robert; Watson, Jamie Carlin (2015-10-22). Critical Thinking: An Introduction to Reasoning Well (Kindle Locations 4908-4909). Bloomsbury Publishing. Kindle Edition.

Types of Induction - Analogy

Form

1. Object A has features v, w, x, y, and z.

2. Object B has features v, w, x, and y. 3.

3. Therefore, object B probably also has feature z.

Arp, Robert; Watson, Jamie Carlin (2015-10-22). Critical Thinking: An Introduction to Reasoning Well (Kindle Locations 5229-5231). Bloomsbury Publishing. Kindle Edition. ▪

Example

1. My old Ford had a 4.6 liter, V8 engine, four-wheel drive, a towing package, and ran well for many years.

2. This new Ford has a 4.6 liter, V8 engine, four-wheel drive, and a towing package.

3. Hence, it will probably also run well for many years.

4. Arp, Robert; Watson, Jamie Carlin (2015-10-22). Critical Thinking: An Introduction to Reasoning Well (Kindle Locations 5241-5244). Bloomsbury Publishing. Kindle Edition.

Arp, Robert; Watson, Jamie Carlin (2015-10-22). Critical Thinking: An Introduction to Reasoning Well (Kindle Locations 4908-4909). Bloomsbury Publishing. Kindle Edition.

Types of Induction - Causal

Form

    1.   A repeatedly follows B

    2.   Therefore, B probably causes A.

Arp, Robert; Watson, Jamie Carlin (2015-10-22). Critical Thinking: An Introduction to Reasoning Well (Kindle Locations 5229-5231). Bloomsbury Publishing. Kindle Edition. ▪

Example

    1. When offer my dog food, she will sit

    2. My dog will not sit when I do not offer her food

    3. Therefore: Offering my dog food causes her to sit

4.   Arp, Robert; Watson, Jamie Carlin (2015-10-22). Critical Thinking: An Introduction to Reasoning Well (Kindle Locations 5241-5244). Bloomsbury Publishing. Kindle Edition.

Arp, Robert; Watson, Jamie Carlin (2015-10-22). Critical Thinking: An Introduction to Reasoning Well (Kindle Locations 4908-4909). Bloomsbury Publishing. Kindle Edition.

2.

Discus each argument with your group. Decide whether each argument is causal, enumerative or analogical. Be prepared to provide reasons for your decision.

Assessing the strength of enumerative inductions

1. Is the sample proportionate?

2. Is the instrument valid and reliable?

In 2014 a poll that asked whether people supported Obamacare the result was 51 to 43 Opposed

However the same poll found 75% support for children being able to stay on their parents insurance until 26
and
66% support for the ban on denying coverage to those with pre-existing conditions

(Accessed on 1.13.17 at http://politicalticker.blogs.cnn.com/2014/03/31/five-things-polling-tells-us-about-obamacare/

According to a new CNBC poll that surveyed two different groups, 46% of the group that was asked about "Obamacare" was opposed to the law, while 37% of the group asked about the "Affordable Care Act" was opposed to the law.

Accessed on 1.13.17 at http://politicalticker.blogs.cnn.com/2013/09/27/poll-obamacare-vs-affordable-care-act/comment-page-1/

Assessing the strength of arguments by analogy

1. Are there more dissimilarities than similarities?

2. Are the similarities relevant to the conclusion of the argument

Earth has Nitrogen in its atmosphere
Earth contains life
Titan has in nitrogen in its atmosphere

Therefore: Titan contains life

The argument for life is stronger given the more qualities it shares with earth (oxygen, liquid water, in the "habitable range" from its star etc.) In Titan's case, the three characteristics listed above are all differences.

Atmospheric Nitrogen is also not relevant to the existence of life, whereas the other characteristics are.

Assessing the strength of arguments by analogy

3.Is the strength of the conclusion consistent with the strength of the premises?

Earth is in the habitable zone, Earth has liquid water, Earth has oxygen in its atmosphere and Earth has life

Gliese 581 g is in the habitable zone, Gliese 581 g has liquid water, Gliese 581 g has oxygen in its atmosphere

Therefore: Gliese 581 g is home to an advanced civilization

The conclusion makes a far more specific claim than is supported in the premises

Assessing the strength of causal arguments

1. Is the observed relationship causal or correlative?

2. Have other causes been considered/ controlled for?

Examples:

I get a headache the day before every major earthquake

I have a headache today

Therefore: Tomorrow there will be a major earthquake

People who take vitamin supplements are healthier than those who don't take vitamin supplements

Therefore: Taking vitamin supplements makes people healthier

3.

With your group, discuss the strength of each of the arguments. Indicate whether each argument is quite strong, strong, weak or quite weak. Using the tools provided, explain the reason for your assessment