Example of logical thinking critical thinking

Profession, Student

Logical Thinking Worksheet

Use the following questions to guide you through your exploration of logical thinking and arguments. Answer the questions as completely as possible, and provide examples where needed.

1. What is a logical argument?

A logic argument is a pattern of thinking that seeks to determine the validity of an idea or action by analyzing and making inferences which then results in a conclusion (Maboloc, 2006, p. 5).

2. When and how do we use them?

A logical argument is used when trying to determine whether something is true or not. In case the statements leading to a given conclusion, premises, are true then the conclusion derived is true and if the premises leading to a conclusion are untrue then the conclusion is untrue.

3. What parts do they contain?

Logical arguments contain three parts i. e. The premise, the inference and, a conclusion.

Syllogism

1. What makes something a syllogism? What makes a statement a syllogism is the form and structure of an argument. The argument has to have two statements i. e. a major and minor premises. The statements produced by the two premises are used to make the conclusion. (Joyce, 1998, p. 17).

2. Why do people use syllogisms?

People use syllogisms in that they try to make hypothesis out of two

statements that exhibit c. In order to prove the strength of their conclusion they tend to use syllogism to strengthen their conclusion by proving that the premises are valid thereby making the conclusion valid too and hence making the premises and the conclusion are inseparable.

3. How do people create syllogisms?

People construct syllogisms by making statements in the form A= B (Major premise) B= C (minor premise) and therefore A= C (conclusion)

4. Construct a syllogism. Label its parts

John is rich (Major Premise)

Rich people own planes (Minor premise)

Therefore John owns a plane (Conclusion)

Deductive Argument

1. What makes an argument deductive?

What makes an argument deductive is that its conclusion from it premises. This means that if the statements presented by the premises are purely true, then the conclusion arrived upon is also completely true and vice-versa (Rips, 1994, p. 21).

2. Why do people use deduction?

People use deductive reasoning in that they tend to make a specific conclusion using a general behaviour that is exhibited by an individuals or actions.

3. How do people create them?

People create deductive reasoning by identifying a general principle and then attributing a certain individual or action to the general principle thereby coming up with a specific conclusion.

4. Construct a deductive argument. Label its parts

every student likes football (General principle)

John is a student

Therefore, John likes football (specific principle).

Inductive Arguments

1. What makes an argument inductive?

What makes an argument inductive is that the statements that the premises of the argument provided just a little element of being true. Inductive arguments are not judged in terms of whether they are true all not (Christensen, 1980, p. 13).

2. Why do people use induction?

People use inductive reasoning in that they tend to use many different particular observations to come up with a general principle. People use inductive reasoning in that it is human behaviour to make conclusion and generalization from just what the observations they make.

3. How do people create inductive arguments?

People create inductive arguments by using many different observations and happenings to come up with a general principle.

4. Create an inductive argument. Label its parts.

All the doctors I have met are educated. (Observation)

All doctors are educated. (Conclusion)

Evaluate these arguments:

1. ten women can do a piece of work ten times as quickly as one man. One

woman can

clean a room in ten seconds; therefore, ten women can clean a room in one second.

Deductive argument

2. There are 16 cans on the top-shelf of the pantry, and 10 on the lower shelf of the pantry. There are no cans anywhere else in my pantry. Therefore, there are 26 cans in the pantry. Inductive argument

3. I have seen many children with red hair misbehave; therefore, all children with red hair misbehave

Syllogism

References

Christensen, R. (1980). Foundations of Inductive Reasoning. Milwaukee, Wisconsin: Entropy Ltd.

Joyce, G. H. (1998). Principles of logic. Cambridge, Massachusetts: Harvard University Press.

Maboloc, C. R. (2006). Logical thinking: a companion to the science of correct

reasoning. Davao, Philippines: Research and Publication Office, Ateneo de Davao University.

Rips, L., J. (1994). The psychology of proof: deductive reasoning in human thinking. Cambridge, Massachusetts: Massachusetts Institute of Technology Press.