Chapter 1 : Logical Thinking Questions for Tests and Worksheets

An understanding of just what logic is, can be enhanced by delineating it from what it is not: Arguments Edit An argument is made up of groups of statements we call propositions - and every proposition contains a truth value. In the case of classic logic, this truth value is either "true" or false" - a rule we can call "bivalence". We use the term "proposition" instead of "sentence" because a proposition is more than just a sentence, it is a declarative sentence - asserting a specific and coherent claim, that is either true or false. There are two types of propositions within an argument. The first, the premise, makes a commitment to truth, and is used as evidence to support the second type of proposition, the conclusion, which is the claim the argument is supposed to prove. An argument must at least imply one of each. Here is an example: So you must be glad to see me. The study of logic, therefore, is the effort to determine the conditions under which one is justified in passing from the premises to the conclusion that logically must follow them. When an argument has this sort of justification, it is a valid argument. A valid argument with true premises is a sound argument and guarantees the truth of its conclusion. We shall start by giving definitions that we shall adhere to in the rest of this article: Informal logic is the study of natural language arguments. Formal logic is the study of inference with purely formal content, where that content is made explicit. An inference possesses a purely formal content if it can be expressed as a particular application of a wholly abstract rule, that is, a rule that is not about any particular thing or property. We will see later that on many definitions of logic, logical inference and inference with purely formal content are the same thing. This does not render the notion of informal logic vacuous, since one may wish to investigate logic without committing to a particular formal analysis. Symbolic logic is the study of symbolic abstractions that capture the formal features of logical inference. While formal logic is old, dating back more than two millennia, most of symbolic logic is comparatively new, and arises with the application of insights from mathematics to problems in logic. Generally, a symbolic logic is captured by a formal system , comprising a formal language including rules for creating expressions in the language, and a set of rules of derivation. The expressions will normally be intended to represent claims that we may be interested in, and likewise the rules of derivation represent inferences; such systems usually have an intended interpretation. For example, consider a very simple formal system that has just the symbols "p", "q", and "and" in its language. The intended interpretation of the "p" and "q" is that they stand for any sentence. A formal system can also have axioms. An axiom is a sentence that counts as always true within the system. For example, many systems have as an axiom the sentence "If P implies Q and P is the case, then Q is the case. For example, from the axiom above, we can conclude the following: Most formal systems have either a rich set of rules of derivation, but few or no axioms; or a rich set of axioms but only the derivation rule of substitution. Consistency, soundness, and completeness There are three valuable properties that formal systems can have: Consistency , which means that none of the theorems of the system contradict each other. So if a system is sound and its axioms, if any, are true , then the theorems of a sound formal system are the truths. This is because a contradiction is always false, so if two theorems contradict at least one is false. Completeness , which means that there are no true sentences in the system that cannot, at least in principle, be proved using the derivation rules and axioms, if any of the system. Not all systems achieve all three virtues. Important families of formal systems Edit Formal logic encompasses a wide variety of logical systems. Various systems of logic discussed below include term logic , predicate logic , propositional logic , and modal logic , and formal systems are indispensable in all branches of mathematical logic. The table of logic symbols describes various widely used notations in symbolic logic. Rival conceptions of logic Edit Logic arose see below from a concern with correctness of argumentation. The conception of logic as the study of argument is historically fundamental, and was how the founders of distinct traditions of logic, namely Plato , Aristotle , Mozi , Aksapada Gautama , Farabi , and Avicenna , conceived of logic. Modern logicians usually wish to ensure that logic studies just those arguments that arise from appropriately general forms of inference; so for example the Stanford

Encyclopedia of Philosophy says of logic that it does not, however, cover good reasoning as a whole. That is the job of the theory of rationality. Rather it deals with inferences whose validity can be traced back to the formal features of the representations that are involved in that inference, be they linguistic, mental, or other representations Hofweber By contrast Immanuel Kant introduced an alternative idea as to what logic is. Gedanke is substituted for judgement German: On this conception, the valid inferences of logic follow from the structural features of judgements or thoughts. A third view of logic arises from the idea that logic is more fundamental than reason, and so that logic is the science of states of affairs German: Barry Smith locates Franz Brentano as the source for this idea, an idea he claims reaches its fullest development in the work of Adolf Reinach Smith This view of logic appears radically distinct from the first: Occasionally one encounters a fourth view as to what logic is about: This conception can be criticized on the grounds that the manipulation of just any formal system is usually not regarded as logic. Such accounts normally omit an explanation of what it is about certain formal systems that makes them systems of logic. Relation to other sciences Edit Logic is related to rationality and the structure of concepts, and so has a degree of overlap with psychology. Logic is generally understood to describe reasoning in a prescriptive manner i. Gottlob Frege , however, was adamant about anti-psychologism: Deductive and inductive reasoning Edit Originally, logic consisted only of deductive reasoning which concerns what follows universally from given premises. However, it is important to note that inductive reasoning â€"the study of deriving a reliable generalization from observationsâ€"has sometimes been included in the study of logic. Correspondingly, we must distinguish between deductive validity and inductive validity. An inference is deductively valid if and only if there is no possible situation in which all the premises are true and the conclusion false. The notion of deductive validity can be rigorously stated for systems of formal logic in terms of the well-understood notions of semantics. Inductive validity on the other hand requires us to define a reliable generalization of some set of observations. The task of providing this definition may be approached in various ways, some less formal than others; some of these definitions may use mathematical models of probability. For the most part this discussion of logic deals only with deductive logic.

Chapter 2 : Critical Thinking Worksheets â€" Free Critical Thinking Exercises for Kids â€" JumpStart

The Gift Of Logic (tm) Critical Thinking & Logical Reasoning Series is a set of twelve workbooks written with the goal of establishing a basic standard in cognitive thinking for K students.

Introduction A commonly accepted definition of stress, developed by Richard S. First, they must feel threatened by the situation. They must judge whether their capabilities and resources are sufficient to meet the threat. How stressed someone feels depends on how much damage they think the situation can cause them, and how far their resources meet the demands of the situation. Perception is key to this as technically situations are not stressful in their own right. Quite obviously, sometimes we are right in what we say to ourselves. Some situations may actually be dangerous, and may threaten us physically, socially, or in our career. Here, stress and emotion are part of the "early warning system" that alerts us to the threat from these situations. Very often, however, we are overly harsh and unjust to ourselves, in a way that we would never be with friends or team members. This, along with other negative thinking, can cause intense stress and unhappiness, and can severely undermine our self-confidence. Stress can cause severe health problems and, in extreme cases, death. While these stress management techniques have been shown to have a positive effect on reducing stress, they are for guidance only, and readers should take the advice of suitably qualified health professionals if they have any concerns over stress-related illnesses or if stress is causing significant or persistent unhappiness. Health professionals should also be consulted before any major change in diet or levels of exercise. Three Steps to Positive Thinking 1. Negative thinking damages your confidence, harms your performance, and paralyzes your mental skills. Finding This Article Useful? Read our Privacy Policy A major problem with this is that negative thoughts tend to flit into our consciousness, do their damage and flit back out again, with their significance having barely been noticed. Since we do not challenge them, they can be completely incorrect and wrong. However, this does not diminish their harmful effect. Thought Awareness is the process by which you observe your thoughts and become aware of what is going through your head. One way to become more aware of your thoughts is to observe your stream of consciousness as you think about a stressful situation. Do not suppress any thoughts: Another more general approach to Thought Awareness comes with logging stress in a Stress Diary. One of the benefits of using a Stress Diary is that, for one or two weeks, you log all of the unpleasant things in your life that cause you stress. This will include negative thoughts and anxieties, and can also include difficult or unpleasant memories and situations that you perceive as negative. By logging your negative thoughts for a reasonable period of time, you can quickly see patterns in your negative thinking. When you analyze your diary at the end of the period, you should be able to see the most common and most damaging thoughts. Tackle these as a priority. Developing Rational Thinking The next step in dealing with negative thinking is to challenge the negative thoughts that you identified using the Thought Awareness technique. Look at every thought you wrote down and rationally challenge it. Ask yourself whether the thought is reasonable, and does it stand up to fair scrutiny? As an example, by analyzing your Stress Diary you might identify that you have frequently had the following negative thoughts: Worries that your performance in your job will not be good enough. An anxiety that things outside your control will undermine your efforts. Starting with these, you might challenge these negative thoughts in the ways shown: Have you trained and educated yourself as well as you reasonably should to do the job? Do you have the experience and resources you need to do it? Have you planned, prepared and rehearsed appropriately? Do you have the training that a reasonable person would think is needed to do a good job? Have you planned appropriately? Do you have the information and resources that you need? Have you cleared the time you need, and cued up your support team appropriately? Have you prepared thoroughly? If you have, then you are well positioned to give the best performance that you can. Problems with issues outside your control: Have you conducted appropriate contingency planning? Have you thought through and managed all likely risks and contingencies appropriately? If so, you will be well prepared to handle potential problems. If you have put in good preparation, and you do the best you can, then that is all that you need to know. If you perform as well as you reasonably can, and you stay focused on the needs of your audience, then fair people are likely to respond

well. If people are not fair, then this is something outside your control. Often, the best thing to do is to rise above unfair comments. Write your rational response to each negative thought in the Rational Thought column on the worksheet. If you find it difficult to look at your negative thoughts objectively, imagine that you are your best friend or a respected coach or mentor. Look at the list of negative thoughts. When you challenge negative thoughts rationally, you should be able to see quickly whether the thoughts are wrong, or whether they have some substance to them. Where there is some substance, take appropriate action. In these cases, negative thinking has given you an early warning of action that you need to take. Affirmations help you to build self-confidence. By basing your affirmations on the clear, rational assessments of facts that you made using Rational Thinking, you can undo the damage that negative thinking may have done to your self-confidence. Your affirmations will be strongest if they are specific, are expressed in the present tense, and have strong emotional content. Continuing the examples above, positive affirmations might be: I have the experience, the tools, and the resources that I need. I have thought-through and prepared for all possible issues. I can do a really good job. I have the time, resources and help that I need. I am well prepared to do an excellent job. Everyone is ready to help where necessary. We are very well placed to react flexibly and effectively to unusual events. Fair people will respect this. I will rise above any unfair criticism in a mature and professional way. In the examples above, successfully overcoming these situations will open up opportunities. Make sure that you take the time to identify these opportunities and focus on them as part of your positive thoughts. In the past, people have advocated thinking positively almost recklessly, as if it is a solution to everything. The approach should be used with common sense, though. First, decide rationally what goals you can realistically attain with hard work, and then use positive thinking to reinforce these. Key Points This set of tools helps you to manage and counter the stress of negative thinking. Thought Awareness helps you identify the negative thinking, unpleasant memories, and misinterpretation of situations that may interfere with your performance and damage your self-confidence. This allows you to deal with them. Rational Thinking helps you to challenge these negative thoughts and either learn from them, or refute them as incorrect. You can then use Positive Thinking to create positive affirmations that you can use to counter negative thoughts. These affirmations neutralize negative thoughts and build your self-confidence. You can also use this approach to find the opportunities that are almost always present, to some degree, in a difficult situation. Subscribe to our free newsletter , or join the Mind Tools Club and really supercharge your career!

Chapter 3 : Logic | Philosophy | FANDOM powered by Wikia

General Description. NEWLY REVISED. This modern text includes step-by-step lessons, exercises for every concept, and many review questions, making Introductory Logic the perfect choice for developing excellent thinking skills.

Tomlin Biography Kathryn J. Her materials, developed while working with clients, have evolved over the years. She has authored many materials with LinguiSystems over the last 20 years. Some of her works include: Her clients enjoy feeding and spending time with Zanmi, and Zanmi enjoys their company. Introduction Being able to reason with verbal and visual information is an integral part of how we communicate, problem solve, make decisions, and achieve success in relationships with others. Having a large repertoire of verbal and visual reasoning abilities will help your client determine the effectiveness of his own responses plus analyze what is being said to him or presented to him in written or graphic form. WALC 9 was written to provide stimulus materials for verbal and visual reasoning when working with clients who are neurologically impaired. The tasks in this book, developed while working with a wide variety of clients, have evolved and have been perfected over the years. He will use pre-existing skills i. Verbal and visual reasoning tasks are the main focus of this book, however many processes are addressed in each task, including the following. Thought Organization Most of the tasks in this book involve organization of thought e. Convergent Reasoning Being able to think convergently will help your client stay on topic as he zeroes in on a response using information given e. The tasks in this book are designed to present information in a logical manner in such a way as to stimulate logical thought for solving the tasks correctly. Insight Being able to determine if your actions or responses are appropriate is a skill that is necessary for successful reasoning. Integration Every person has a preexisting knowledge base and reasoning style. As we go through each day, it is important to perceive new information and to integrate salient information into our patterns of thinking. Frequently someone who has a neurological impairment will be very reluctant to integrate new information. The tasks in this book are designed to stimulate the need for integration of new information in order to be successful in answering questions or solving tasks. Inferencing Many of the tasks in this book involve the skill of being able to make an inference. Effective reasoning can only occur if your client is able to read between the lines when listening to verbal information or to make the correct judgment when interpreting visual information. If something is perceived incorrectly, then problem solving, deduction, and reasoning will be negatively affected. The tasks in this book provide various levels of visual stimuli e. Verbal and visual reasoning skills can be compromised if your client has poor conversation skills. It is important that a person is able to receive all necessary input and to share what he feels he is having difficulty with. Many of the tasks in this book involve working with words, so as your client progresses through the book, his vocabulary will improve. A broad vocabulary can assist with reasoning skills. Suggestions for Use Initially, the majority of these exercises will be difficult. Consider shaping approximations over successive trials or sessions. Emphasize enjoyment in the challenge rather than accuracy. These exercises can be used in individual or group situations. In group situations, clients can work together to solve the problems or take turns providing answers, thus giving each other valuable feedback. Encourage the client to work with his family on the exercises. The exercises may be used for stimulus of intentional memory strategies. These exercises can also be used to stimulate incidental memory strategies. At the end of a task, ask the client to recall methods he used, the format of the task, or salient content that was provided. If you do this consistently, the client will begin to anticipate what you may ask for, thus indirectly providing practice with the automatic use of memory strategies. As the client learns the strategies or processes necessary for solving the tasks, the level of difficulty can be increased by asking the client to create similar items for you to solve. This gives him the chance to create and be flexible. This experience can be challenging and enjoyable for both you and your client. The client will learn much from this creative process. The exercises are not for testing purposes. Try to make them as enjoyable as possible. Talking about specific task items will help your client improve his ability to identify, create, and modify strategies. The answers in the Answer Key are provided as a reference. There are times when items have multiple answers even if only one is listed. Accept other, appropriate answers as correct. WALC 9 provides a

wide variety of thinking and reasoning stimulus materials. May you enjoy the adventure of working with language and cognitive communication skills as much as I do.

Chapter 4 : Logical Fallacies Handlist

This is a 4 page document to support positive self talk. This is a great visual tool for students who struggle with Automatic Negative Thoughts (ANTs) that stem from anxiety, low self esteem, fear of school or school refusal, anger, depression, and anything else that may cause students to think negatively about themselves, school, social situations, etc.

Chapter 5 : Popular Logic Books

The PowerScore LSAT Logical Reasoning Bible Workbook TM is the ideal companion to The PowerScore LSAT Logical Reasoning Bible theinnatdunvilla.com the LSAT Logical Reasoning Bible provides the conceptual basis for understanding logical argumentation, recognizing the various question types, approaching the answers, and applying other general strategies, the LSAT Logical Reasoning Bible Workbook is.

Chapter 6 : Positive Thinking for Success - From theinnatdunvilla.com

Logic Self-Taught -- Unit theinnatdunvilla.com Concepts Overview Logic is concerned with thinking. Unlike psychology, however, it is concerned with correct thinking.. Furthermore logic is not only about thinking, it actually teaches.