

DARK MATTER AND THE DINOSAURS

THE ASTOUNDING

INTERCONNECTEDNESS OF THE

UNIVER

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What is the dark matter and dinosaurs theory? In “Dark Matter and the Dinosaurs,” the Harvard cosmologist Lisa Randall proposes that a thin disk of dark matter in the plane of the Milky Way triggered a minor perturbation in deep space that caused the major earthly catastrophe that decimated the dinosaurs.

What does dark matter do to humans? Despite their elusiveness, dark matter particles could significantly impact our bodies. They might influence cell division, blood circulation, and even our brain functioning.

Has the theory of dark matter been proven? The theory underpinning most observational evidence for dark matter, general relativity, is well-tested on solar system scales, but its validity on galactic or cosmological scales has not been well proven.

What happens if someone touches dark matter? It's only known that it interacts gravitationally with ordinary matter, so its equation of state can't be deduced from that. However we know that we couldn't “touch” dark matter, since it doesn't have electromagnetic interactions with ordinary matter.

What is the purpose of dark matter in the universe? Dark matter played an important role in the formation of galaxies and the evolution of the universe. Dark matter remains strange and illusive but tremendously important to our understanding

of nature, from the most fundamental particles to origins and evolution of the universe.

Is dark matter just empty space? A: Dark matter is a placeholder term for the observed phenomenon that there seems to be about 5 times more invisible matter than visible matter. It is called “dark matter” because it interacts through gravity like matter, and it only interacts through gravity, meaning that we can't see it.

Does dark matter 100% exist? Dark matter constitutes over 80% of all matter in the universe, yet it remains unseen by scientists. Its existence is inferred because, without it, the behavior of stars, planets, and galaxies would be inexplicable.

What is the new discovery on dark matter? Using NASA's Hubble Space Telescope and a new observing technique, astronomers have found that dark matter forms much smaller clumps than previously known. This result confirms one of the fundamental predictions of the widely accepted "cold dark matter" theory.

What would the universe look like without dark matter? In particular, we have come to realize that without dark matter, our universe would look nothing like the way it does now. There would be no galaxies, no stars, no planets, and therefore, no life.

Why did Camilla Townsend wrote Pocahontas and the Powhatan Dilemma? In *Pocahontas and the Powhatan Dilemma*, historian Camilla Townsend attempts to revise the inaccurate, racist, and harmful cultural myths about Pocahontas, the Powhatan people, and the colonization of the Virginia Tidewater region—known as Tsenacomoco to the Algonkian-speaking tribes native to the area.

What is the topic of Pocahontas and the Powhatan Dilemma? Throughout *Pocahontas and the Powhatan Dilemma*, Townsend seeks to show her readers how communication between the Algonkian tribes of the Tsenacomoco region and the English settlers who arrived on their lands in the early 1600s functioned—and failed.

How many pages are in Pocahontas and the Powhatan Dilemma?

When was Pocahontas and the Powhatan Dilemma written? She taught at Colgate University in Hamilton, New York, throughout the 1990s and early 2000s; while there, she published some of her most well-known academic works, including

Tales of Two Cities: Race and Economic Culture in Early Republican North and South America (2000) and Pocahontas and the Powhatan Dilemma (2005).

What is historically inaccurate about Pocahontas? The idea that Pocahontas had no choice in her life (as Disney makes it seem) and had to follow her father's wishes is untrue and creates an image of Chief Powhatan that suggest he was apart of a patriarchal society.

What is the main problem in Pocahontas? Perhaps the most obvious manifestation of the racism in Pocahontas is in the movie's use of terms such as "savages," "heathens," "pagans," "devils," and "primitive." These terms reflect something wild and inferior, and their use implies a value judgment of white superiority.

What was the significance of Pocahontas and Powhatan? Pocahontas Saves John Smith Again Pocahontas became known by the colonists as an important Powhatan emissary. She occasionally brought the hungry settlers food and helped successfully negotiate the release of Powhatan prisoners in 1608. But relations between the colonists and the Indians remained strained.

How did Pocahontas new marriage change the relationship between the English and the Powhatan tribe? In 1614, Pocahontas converted to Christianity and was baptized "Rebecca." In April 1614, she and John Rolfe married. The marriage led to the "Peace of Pocahontas;" a lull in the inevitable conflicts between the English and Powhatan Indians. The Rolfes soon had a son named Thomas.

What led to the downfall of the Powhatan tribes? Powhatan War, (1622–44), relentless struggle between the Powhatan Indian confederacy and early English settlers in the tidewater section of Virginia and southern Maryland. The conflict resulted in the destruction of the Indian power.

How accurate is the story of Pocahontas? Pocahontas is one story that has been manipulated throughout history. From the Disney film Pocahontas, released in 1995, to the 2005 film The New World, Pocahontas' story has been morphed into something that does not accurately portray or represent historical events.

Were Powhatans after Pocahontas? Powhatan died in Virginia, but Pocahontas died in England. Meanwhile, the English settlers continued to encroach on Powhatan territory. After Wahunsenacawh's death, his younger brother, Opitchapam, briefly became chief, followed by their younger brother Opechancanough.

What happened to 16 year old Pocahontas in 1613? Pocahontas was captured and held for ransom by English colonists during hostilities in 1613. During her captivity, she was encouraged to convert to Christianity and was baptized under the name Rebecca.

Whose life did Pocahontas save according to his legend? This illustration from the late nineteenth century shows Pocahontas, the young daughter of Powhatan, the chief of the Algonquian Indians of the Chesapeake, pleading for the life of John Smith, a leader of the Jamestown colony.

What role did Pocahontas play in the relationship between the Powhatans and the English who arrived at Jamestown? The English who came to Jamestown Island in 1607 resisted his wish that they become another subject community. Pocahontas was directly involved in the relationship between the English and the Powhatan Indians that whipsawed between friendly trade of food and open warfare and kidnapping.

Who started the first Powhatan War? Wahunsenacah had tried to deal fairly with the colonists, but as more land was now taken from him without compensation or respect, he ordered his warriors to attack the settlement, starting the First Powhatan War.

How to answer half-life questions?

How to calculate half-life in nuclear chemistry? To calculate the remaining amount of an element after decay, also known as half-life decay, use the equation $N = N_0 (1/2)^n$ where N is the amount of the element that remains, N_0 is the initial amount of the element, and n is half lives that have elapsed.

What is the half-life of a nuclear reaction? half-life, in radioactivity, the interval of time required for one-half of the atomic nuclei of a radioactive sample to decay (change spontaneously into other stable species by emitting particles and energy),

or, equivalently, the time interval required for the number of disintegrations per second of a radioactive ...

How long will it take the 40 grams of I-131 half-life 8 days to decay to approximately 1/100 0.01 its original mass? How long will it take for a 40 gram sample of I-131 (half-life = 8.040 days) to decay to 1/100 of its original mass? Therefore, it will take 53.4 days to decay to 1/100 of its original mass.

What are the formulas for solving half-life? $T_{1/2} = \ln(2)/\lambda$ - the original formula for getting the half-life of a substance. $N(t) = N_0[e^{-\lambda t}]$ - can be used to calculate the age of a specific material. $N(t) = N_0 \times (\frac{1}{2})^n$ - can be used to determine the amount of the substance that's left after a given time.

How do you solve half-life reactions?

What is the half-life of a nuclear atom? When a radioactive atom decays, it becomes a different element. The amount of time that it takes one half of the atoms present to decay is called "half-life." Every radioactive isotope has a specific half-life.

How to solve for t in half-life equation?

How many half-lives will it take for 50g of 99Tc to decay to 6.25 g? Answer and Explanation: Half-life is the time required for any substance to reduced to its half amount. Therefore, it will take three half lives for 50 g of 99T to decay to 6.25 g.

What is a half-life for dummies? The Basics. A half-life is the time taken for something to halve its quantity. The term is most often used in the context of radioactive decay, which occurs when unstable atomic particles lose energy. Twenty-nine elements are known to be capable of undergoing this process.

How to calculate half-life period? The half-life of a reaction is the time required for the reactant concentration to decrease to one-half its initial value. The half-life of a first-order reaction does not depend upon the concentration of the reactant. It is a constant and related to the rate constant for the reaction: $t_{1/2} = 0.693/k$.

What is half-life in chemistry in simple terms? 100%²ⁿ. Half-life (symbol $t_{1/2}$) is the time required for a quantity (of substance) to reduce to half of its initial value. The term is commonly used in nuclear physics to describe how quickly unstable atoms

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undergo radioactive decay or how long stable atoms survive.

How to calculate half-life of uranium 235? Since there are 235 grams of U-235 per mole, in one gram there will be $1/235$ moles, i.e., 4.255×10^{-3} moles. = 4.255×10^{-3} moles/gram $\times 6.023 \times 10^{23}$ atoms/mole = 2.563×10^{21} atoms/gram 35 Page 36 Next, calculate the decay constant (?) for U-235, the half-life (T) of which is 7.04×10^8 a (years).

How to calculate activity from half-life? To find the activity R using the equation $R = 0.693 N t_{1/2}$, we must know N and $t_{1/2}$. The half-life of ^{14}C can be found in Appendix B, and was stated above as 5730 y. To find N, we first find the number of ^{12}C nuclei in 1.00 kg of carbon using the concept of a mole.

What is the half-life of a radioactive isotope if a 500.0 g sample decays to 62.5 g in 24.3 hours? After the third, you have 62.50g. Therefore, it takes three half-lives to decay to 62.50g. Therefore, the elapsed time must be triple the length of one half-life. $24.33 = 8.10$, so it is 8.10 hours.

What is the easiest way to calculate half-life?

How do scientists calculate half-life? By measuring the ratio of carbon-14 to carbon-12 in a sample, scientists can calculate how many half-lives have elapsed since the organism died. Archaeology and geology: Half-life calculations are essential in dating ancient artifacts and geological samples.

How to rearrange the half-life equation?

What is half-life simplified formula?

How to derive half-life formula? Derivation of Half-Life Equation for an nth Order Reaction For a zero-order reaction, $t_{1/2} \propto [A]$. For a first-order reaction, $t_{1/2} \propto [A]^0$. Similarly, for a second-order reaction, $t_{1/2} \propto [A]^{-1}$. The unit of half-life equation for nth order reaction is also 'M(n-1)s,' where 'n' is the order of the reaction.

What is the formula for the decay constant of a half-life? The time required for half of the original population of radioactive atoms to decay is called the half-life. The relationship between the half-life, $T_{1/2}$, and the decay constant is given by $T_{1/2} = \frac{0.693}{\lambda}$.

What is half-life in nuclear chemistry example? Consider the following example. Suppose we have 100.0 g of tritium (a radioactive isotope of hydrogen). It has a half-life of 12.3 y. After 12.3 y, half of the sample will have decayed from hydrogen-3 to helium-3 by emitting a beta particle, so that only 50.0 g of the original tritium remains.

What is the half-life method? The half-life can be defined as the time it takes for the concentration of a reactant to fall to half of its original value. The method of half-lives involved measuring the half-life's dependence on concentration. The expected behavior can be predicted using the integrated rate laws we derived earlier.

What is the half-life of the reaction? The half-life of a reaction ($t_{1/2}$), is the amount of time needed for a reactant concentration to decrease by half compared to its initial concentration. Its application is used in chemistry and medicine to predict the concentration of a substance over time.

Which answer best describes half-life? The answer to the question which best describes half-life is option D) The half-life is always the same length of time, regardless of how many active nuclides remain. Half-life is a concept used in nuclear chemistry and physics to describe the time it takes for half of a radioactive substance to decay.

What is a half-life short answer? The Basics. A half-life is the time taken for something to halve its quantity. The term is most often used in the context of radioactive decay, which occurs when unstable atomic particles lose energy. Twenty-nine elements are known to be capable of undergoing this process.

What is half-life responses? In a chemical reaction, the half-life of a species is the time it takes for the concentration of that substance to fall to half of its initial value.

How to calculate half-life of a drug?

What is the half-life of Zn 71 is 2.4 minutes if one had 100.0 g at the beginning?

Since 7.2 minutes have passed and each half-life is 2.4 minutes, 7.2 divided by 2.4 gives us exactly 3 half-lives. Starting with 100.0 g of Zn-71 and halving it three times (100.0 g \rightarrow 50.0 g \rightarrow 25.0 g \rightarrow 12.5 g) will tell us the amount remaining after 7.2 minutes.

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What is an example of a half-life in chemistry? Suppose we have 100.0 g of tritium (a radioactive isotope of hydrogen). It has a half-life of 12.3 y. After 12.3 y, half of the sample will have decayed from hydrogen-3 to helium-3 by emitting a beta particle, so that only 50.0 g of the original tritium remains.

How to find the number of half-lives?

How do you answer half-life? The time taken for half of the original population of radioactive atoms to decay is called the half-life. This relationship between half-life, the time period, $t_{1/2}$, and the decay constant λ is given by $t_{1/2} = 0.693 / \lambda$ or $\lambda = 0.693 / t_{1/2}$.

How to calculate half-life of uranium 235? Since there are 235 grams of U-235 per mole, in one gram there will be $1/235$ moles, i.e., 4.255×10^{-3} moles. $= 4.255 \times 10^{-3} \text{ moles/gram} \times 6.023 \times 10^{23} \text{ atoms/mole} = 2.563 \times 10^{21} \text{ atoms/gram}$ 35 Page 36 Next, calculate the decay constant (λ) for U-235, the half-life (T) of which is 7.04×10^8 a (years).

Which element has the longest half-life? The longest directly measured half-life is currently xenon-124 with 1.8×10^{22} years.

What is half-life in nuclear physics? The half-life of a radioactive isotope is the amount of time it takes for one-half of the radioactive isotope to decay. The half-life of a specific radioactive isotope is constant; it is unaffected by conditions and is independent of the initial amount of that isotope.

What is half-life summarized? Summaries. Dr. Gordon Freeman must fight his way out of a secret research facility after a teleportation experiment goes disastrously wrong. A mysterious alien artifact has been recovered and brought to a top-secret research facility in the Black Mesa facility in New Mexico.

What is the formula for calculating half-life? The equation for half-life is $T_{1/2} = \ln(2) / \lambda$, where $T_{1/2}$ is the half-life, and λ is the decay constant, which is a value specific to each chemical. Half-life follows exponential decay because half-life involves multiplying the remaining quantity by the same number repeatedly.

Which drug has the highest half-life?

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What drug has the shortest half-life?

How much of a drug is left after 2 half-lives? After one half-life, 50% of the drug is left; after two half-lives, 25% remains; after five half-lives, only 3.125% remains. Thus, clinically the drug is essentially eliminated from the body in five half-lives.

What is paper 2 in business management ib? Paper 2. Paper 2 includes a few shorter case studies in Sections A and B, and an essay about business concepts in Section C. In Paper 2, Section C is required for both SL and HL students. For SL students, Paper 2 lasts for 1 hour and 45 minutes and the weighting is 40% of the total grade.

Is there business in IB? The IB Business curriculum covers a wide spectrum of topics to ensure the students develop a deeper understanding of various business concepts and their applicability in real life.

What is the average IB business score? You can read the IB's initial post-results communication [here](#), including some key statistics: The worldwide average Diploma score for the May 2021 session is 33.02 points, up from 31.34 in May 2020 and 29.62 (the last time external exams were taken).

How many units are there in IB business management? Choosing Your IB Business Management Level The SL course covers five core units, providing a broad understanding of business principles. These units include Business Organization and Environment, Human Resource Management, Finance and Accounts, Marketing, and Operations Management.

Is a 2 a fail in IB? Conditions for achieving the diploma A grade has been awarded in all subjects, TOK and the EE. A grade of at least a 2 has been awarded in all subjects. There are no more than two grade 2s awarded (SL or HL). There are no more than three grade 3s or below awarded (SL or HL).

Is it hard to get a 7 in ib business? Key Takeaways. Hard work and focus are necessary to achieve a 7 in IB Business Management. Practicing past papers and understanding the exam structure and command terms are important for success. Keeping up to date with industry news and reading about an industry of interest can provide valuable exam materials.

IB BUSINESS MANAGEMENT COURSE PROVIDES THE ASTOUNDING INTERCONNECTEDNESS OF THE UNIVERSE

What is the easiest IB class? IB courses generally considered easier (relatively speaking) are Math Studies (SL), English A Language and Literature (SL), Business Management, Economics, and Psychology.

Is IB economics harder than business? Business Management is a lot easier than economics. Economics is a lot harder than Business Management. Business might be easier but you would never regret Econ HL, its extremely entertaining and definitely more useful than business (having studied both).

Is the IB respected? The IB Diploma is internationally recognized. It's offered by around 150 countries globally and recognized by colleges and universities from almost 90 countries. This includes prestigious US universities, such as Harvard, Yale, and Stanford.

Is 37 a bad IB score? What is a good IB score? A good IB score is subjective and depends on individual goals and aspirations. However, a score of 30 or above is generally considered to be a good IB score.

What is the hardest IB subject? HL Mathematics, whether it's Mathematics: Analysis and Approaches or Mathematics: Applications and Interpretation, is often regarded as one of the toughest IB subjects. This perception is due to the advanced level of mathematical concepts covered, the abstract thinking required, and the rigorous assessment standards.

Is 27 a bad IB score? Good IB scores—as with any academic qualifications—are subjective, being highly dependent on a student's target university (and country) and preferred course. All IB students are required to score a minimum of 24 points for six subjects. The average IB scores throughout the years have varied between 28-30 points.

What are the 6 concepts of business IB? What are IB Business Management Concepts? The concepts taught in Business Management internal assessment are ethics, change, innovation, culture, globalization, and strategy. These concepts serve as the framework for addressing situations and difficulties encountered by businesses.

How to answer IB business questions? “Demonstrate” Business questions require the IB candidate to provide evidence, give examples and if possible, apply information from the stimulus. In “Distinguish” questions, the candidate must show the differences between concepts, theories or other content.

How many IB courses are required? To participate as a diploma candidate the IB student must fulfill the following requirements starting in the 11th grade: Enroll in six IB subjects over 2 years. (Subjects are divided into "Groups" and students must take an exam in each of the subject groups - see "Subjects" tab).

What is paper 2 in IB? The Paper 2 exam, since a restructuring in 2020, now looks the same for both SL and HL Lang/Lit students. IB English students are allowed to choose one question out of four, and are tasked with writing a comparative analysis of two literary works in an hour and 45 minutes.

What is business paper 2? Paper 2: Influences of marketing and finance on business activity. What's assessed. Business in the real world. Influences on business.

What topics are in business Studies paper 2?

What is paper 2 in IB economics? IB Economics Paper 2 is a combination of data response questions and an extended response question. Students have two questions but need to answer only one of them. These questions feature two snippets of news articles, which provide some data for practical application.

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