

	Solution	Marks	Remarks
(10) (a)	Mass defect $= (2.014102 + 2.018999) u - (4.002602 + 2.018999) u$ $= 0.018884 u$ Energy released = $0.018884 \times 931.2 \text{ MeV}$ $= 17.58 \text{ MeV}$	1M	
	Or Energy released = $0.018884 \times 1.661 \times 10^{-27} \times c^2$ $= 2.823 \times 10^{-12} \text{ J or } 17.58 \text{ MeV}$	1A	
(10) (b)	To overcome the (electrostatic) repulsion between the two (positive) nuclei and becomes electrical potential energy (of the two nuclei).	1A	
		1A	
(10) (c)	High temperature enables them to have sufficient kinetic energy (to overcome electrical repulsion between the nuclei).	1A	
(10) (d)	Kinetic energy becomes electrical potential energy	1M	Accept without the factor " $\times 2$ "
	$E_k = 2 \times \frac{1}{2} m v_{rms}^2 = 2 \times \frac{3kT}{2N_A}$		
	$0.4 \text{ MeV} = 2 \times \left(\frac{3 \times 1.37 \times 10^{-23}}{2 \times 6.02 \times 10^{23}} \right)$		0.4 MeV = $6.4 \times 10^{-14} \text{ J}$
	$T = 1.343 \times 10^7 \text{ K}$ i.e. order of magnitude 10^7 (K)	1A	
	Alternatively: $E_k = \frac{1}{2} m v_{rms}^2 = 2 \times \frac{3kT}{2N_A}$	1M	
	$T = 1.34 \times 10^7 \text{ K}$ i.e. order of magnitude 10^7 (K)	1A	

2012 Dse Physics Marking Scheme

Clifford Lane



2012 Dse Physics Marking Scheme:

Embark on a transformative journey with Explore the World with is captivating work, **2012 Dse Physics Marking Scheme** . This enlightening ebook, available for download in a convenient PDF format Download in PDF: , invites you to explore a world of boundless knowledge. Unleash your intellectual curiosity and discover the power of words as you dive into this riveting creation. Download now and elevate your reading experience to new heights .

https://recruitmentslovakia.com/book/virtual-library/fetch.php/insulin_sliding_scale_calculation_maths_problem.pdf

Table of Contents 2012 Dse Physics Marking Scheme

1. Understanding the eBook 2012 Dse Physics Marking Scheme
 - The Rise of Digital Reading 2012 Dse Physics Marking Scheme
 - Advantages of eBooks Over Traditional Books
2. Identifying 2012 Dse Physics Marking Scheme
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an 2012 Dse Physics Marking Scheme
 - User-Friendly Interface
4. Exploring eBook Recommendations from 2012 Dse Physics Marking Scheme
 - Personalized Recommendations
 - 2012 Dse Physics Marking Scheme User Reviews and Ratings
 - 2012 Dse Physics Marking Scheme and Bestseller Lists
5. Accessing 2012 Dse Physics Marking Scheme Free and Paid eBooks
 - 2012 Dse Physics Marking Scheme Public Domain eBooks
 - 2012 Dse Physics Marking Scheme eBook Subscription Services
 - 2012 Dse Physics Marking Scheme Budget-Friendly Options

6. Navigating 2012 Dse Physics Marking Scheme eBook Formats
 - ePub, PDF, MOBI, and More
 - 2012 Dse Physics Marking Scheme Compatibility with Devices
 - 2012 Dse Physics Marking Scheme Enhanced eBook Features
7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of 2012 Dse Physics Marking Scheme
 - Highlighting and Note-Taking 2012 Dse Physics Marking Scheme
 - Interactive Elements 2012 Dse Physics Marking Scheme
8. Staying Engaged with 2012 Dse Physics Marking Scheme
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers 2012 Dse Physics Marking Scheme
9. Balancing eBooks and Physical Books 2012 Dse Physics Marking Scheme
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection 2012 Dse Physics Marking Scheme
10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
11. Cultivating a Reading Routine 2012 Dse Physics Marking Scheme
 - Setting Reading Goals 2012 Dse Physics Marking Scheme
 - Carving Out Dedicated Reading Time
12. Sourcing Reliable Information of 2012 Dse Physics Marking Scheme
 - Fact-Checking eBook Content of 2012 Dse Physics Marking Scheme
 - Distinguishing Credible Sources
13. Promoting Lifelong Learning
 - Utilizing eBooks for Skill Development
 - Exploring Educational eBooks
14. Embracing eBook Trends
 - Integration of Multimedia Elements

- Interactive and Gamified eBooks

2012 Dse Physics Marking Scheme Introduction

In the digital age, access to information has become easier than ever before. The ability to download 2012 Dse Physics Marking Scheme has revolutionized the way we consume written content. Whether you are a student looking for course material, an avid reader searching for your next favorite book, or a professional seeking research papers, the option to download 2012 Dse Physics Marking Scheme has opened up a world of possibilities. Downloading 2012 Dse Physics Marking Scheme provides numerous advantages over physical copies of books and documents. Firstly, it is incredibly convenient. Gone are the days of carrying around heavy textbooks or bulky folders filled with papers. With the click of a button, you can gain immediate access to valuable resources on any device. This convenience allows for efficient studying, researching, and reading on the go. Moreover, the cost-effective nature of downloading 2012 Dse Physics Marking Scheme has democratized knowledge. Traditional books and academic journals can be expensive, making it difficult for individuals with limited financial resources to access information. By offering free PDF downloads, publishers and authors are enabling a wider audience to benefit from their work. This inclusivity promotes equal opportunities for learning and personal growth. There are numerous websites and platforms where individuals can download 2012 Dse Physics Marking Scheme. These websites range from academic databases offering research papers and journals to online libraries with an expansive collection of books from various genres. Many authors and publishers also upload their work to specific websites, granting readers access to their content without any charge. These platforms not only provide access to existing literature but also serve as an excellent platform for undiscovered authors to share their work with the world. However, it is essential to be cautious while downloading 2012 Dse Physics Marking Scheme. Some websites may offer pirated or illegally obtained copies of copyrighted material. Engaging in such activities not only violates copyright laws but also undermines the efforts of authors, publishers, and researchers. To ensure ethical downloading, it is advisable to utilize reputable websites that prioritize the legal distribution of content. When downloading 2012 Dse Physics Marking Scheme, users should also consider the potential security risks associated with online platforms. Malicious actors may exploit vulnerabilities in unprotected websites to distribute malware or steal personal information. To protect themselves, individuals should ensure their devices have reliable antivirus software installed and validate the legitimacy of the websites they are downloading from. In conclusion, the ability to download 2012 Dse Physics Marking Scheme has transformed the way we access information. With the convenience, cost-effectiveness, and accessibility it offers, free PDF downloads have become a popular choice for students, researchers, and book lovers worldwide. However, it is crucial to engage in ethical downloading practices and prioritize personal security when utilizing online platforms. By doing so, individuals can make the most of the vast array of free PDF resources available

and embark on a journey of continuous learning and intellectual growth.

FAQs About 2012 Dse Physics Marking Scheme Books

How do I know which eBook platform is the best for me? Finding the best eBook platform depends on your reading preferences and device compatibility. Research different platforms, read user reviews, and explore their features before making a choice. Are free eBooks of good quality? Yes, many reputable platforms offer high-quality free eBooks, including classics and public domain works. However, make sure to verify the source to ensure the eBook credibility. Can I read eBooks without an eReader? Absolutely! Most eBook platforms offer webbased readers or mobile apps that allow you to read eBooks on your computer, tablet, or smartphone. How do I avoid digital eye strain while reading eBooks? To prevent digital eye strain, take regular breaks, adjust the font size and background color, and ensure proper lighting while reading eBooks. What the advantage of interactive eBooks? Interactive eBooks incorporate multimedia elements, quizzes, and activities, enhancing the reader engagement and providing a more immersive learning experience. 2012 Dse Physics Marking Scheme is one of the best book in our library for free trial. We provide copy of 2012 Dse Physics Marking Scheme in digital format, so the resources that you find are reliable. There are also many Ebooks of related with 2012 Dse Physics Marking Scheme. Where to download 2012 Dse Physics Marking Scheme online for free? Are you looking for 2012 Dse Physics Marking Scheme PDF? This is definitely going to save you time and cash in something you should think about. If you trying to find then search around for online. Without a doubt there are numerous these available and many of them have the freedom. However without doubt you receive whatever you purchase. An alternate way to get ideas is always to check another 2012 Dse Physics Marking Scheme. This method for see exactly what may be included and adopt these ideas to your book. This site will almost certainly help you save time and effort, money and stress. If you are looking for free books then you really should consider finding to assist you try this. Several of 2012 Dse Physics Marking Scheme are for sale to free while some are payable. If you arent sure if the books you would like to download works with for usage along with your computer, it is possible to download free trials. The free guides make it easy for someone to free access online library for download books to your device. You can get free download on free trial for lots of books categories. Our library is the biggest of these that have literally hundreds of thousands of different products categories represented. You will also see that there are specific sites catered to different product types or categories, brands or niches related with 2012 Dse Physics Marking Scheme. So depending on what exactly you are searching, you will be able to choose e books to suit your own need. Need to access completely for Campbell Biology Seventh Edition book? Access Ebook without any digging. And by having access to our ebook online or by storing it on your computer, you have convenient answers with 2012 Dse Physics Marking Scheme To get

started finding 2012 Dse Physics Marking Scheme, you are right to find our website which has a comprehensive collection of books online. Our library is the biggest of these that have literally hundreds of thousands of different products represented. You will also see that there are specific sites catered to different categories or niches related with 2012 Dse Physics Marking Scheme So depending on what exactly you are searching, you will be able to choose ebook to suit your own need. Thank you for reading 2012 Dse Physics Marking Scheme. Maybe you have knowledge that, people have search numerous times for their favorite readings like this 2012 Dse Physics Marking Scheme, but end up in harmful downloads. Rather than reading a good book with a cup of coffee in the afternoon, instead they juggled with some harmful bugs inside their laptop. 2012 Dse Physics Marking Scheme is available in our book collection an online access to it is set as public so you can download it instantly. Our digital library spans in multiple locations, allowing you to get the most less latency time to download any of our books like this one. Merely said, 2012 Dse Physics Marking Scheme is universally compatible with any devices to read.

Find 2012 Dse Physics Marking Scheme :

insulin sliding scale calculation maths problem

~~investigating graphs of polynomial functions practice e~~

~~is northlink college open on saturdays~~

~~jan13 chy1h mark scheme~~

~~isuzu trooper repair manual pdf~~

~~jack and the beanstalk activities preschool~~

~~jan 2014 edexcel biology question paper~~

interior and exterior angles of polygons gina wilson pdf

~~investigating scientific notation worksheet answer key~~

information technology project management revised 6th edition answer steed

isiko nelungelo the zulu book

~~investigating bird beak adaptations lab activity answers~~

~~investigating monomials tesccc 2012~~

~~intro to acids and bases chemquest 48~~

~~introductory pharmacology multiple choice questions~~

2012 Dse Physics Marking Scheme :

american romanticism unit test flashcards quizlet - Oct 05 2023

web american romanticism unit test 3 2 12 reviews choose the meaning of the bolded vocabulary word in each passage they continued to walk onward while the elder

english test american romanticism flashcards cram com - Mar 18 2022

web jul 7 2022 answer criticism unlock the answer question but the prince prospero was happy and dauntless and sagacious when his dominions were half depopulated he

romanticism in american literature shmoop - Apr 18 2022

web jan 8 2022 what is american romanticism lesson summary what is romanticism romanticism was a literary and art movement that began in europe in the late 18th

quiz worksheet romanticism in american literature - Jun 01 2023

web american romanticism test 1 values feeling and intuition over logic 2 places faith in inner experience and the power of the imagination 3 shuns the artificiality of civilization

play american romanticism quiz study these multiple choice test - Mar 30 2023

web study with quizlet and memorize flashcards containing terms like 1850 1855 american renaissance rapid expansion of the us population and more

american romanticism unit test flashcards quizlet - Aug 03 2023

web use this online quiz on romanticism in english and american literature entitled romantic period literature quiz for middle and high school students and teachers to

romanticism quizzes study com - Nov 25 2022

web american romanticism quiz for 11th grade students find other quizzes for english and more on quizizz for free

american romanticism definition examples vaia - Feb 14 2022

web may 12 2023 romance in itself is a form of art it is considered the art of intimacy between two people romance is not easy to master and it requires charismatic people to really

american romanticism unit test flashcards studyhippo com - Dec 15 2021

american romantic literature chapter exam study com - Oct 25 2022

web oct 29 2023 american romanticism trivia quiz american romanticism was as much a spiritual movement as it was a literary one test your knowledge of emerson

american romanticism test flashcards quizlet - Dec 27 2022

web american romanticism paige sechler 366 plays 20 questions copy edit live session assign show answers see preview multiple choice 20 seconds 1 pt what time period is

american romanticism 366 plays quizizz - Sep 23 2022

web results for american romanticism test american literature growing nation unit romanticism transcendentalism gothic a growing nation unit covers the boom

american romanticism unit teaching resources tpt - May 20 2022

web american romanticism is a literary artistic and philosophical movement from the 1830s to around 1865 in america that celebrated individualism the exploration of emotions to find

english test american romanticism flashcards quizlet - Jan 28 2023

web test and improve your knowledge of american romantic literature with fun multiple choice exams you can take online with study com

american romanticism quizizz - Aug 23 2022

web sarah jamerson 5 0 1 6 00 zip this bundle contains 6 items an introductory powerpoint to american romanticism a powerpoint with guided notes about edgar

results for american romanticism test tpt - Jun 20 2022

web study flashcards on english test american romanticism at cram com quickly memorize the terms phrases and much more cram com makes it easy to get the grade

american romanticism test flashcards quizlet - Feb 26 2023

web romanticism in american literature view quiz american romantic painters paintings view quiz features of romantic painting view quiz features of romantic literature

romantic period literature quiz american romanticism - Apr 30 2023

web study with quizlet and memorize flashcards containing terms like during the beginnigns of american romanticism did people widely accept the writings of the american s

romanticism definition characteristics values study com - Jan 16 2022

american romanticism quiz 79 plays quizizz - Jul 02 2023

web mar 6 2014 list of american romanticism questions with answers play or print these american romanticism test questions and answers

quiz am i romantic proprofs quiz - Nov 13 2021

[american romanticism quiz american literature 10 questions](#) - Jul 22 2022

web american romanticism was the first full fledged literary movement that developed in the u s it was made up of a group of authors who wrote and published between about 1820

[english 11 h american romanticism unit test flashcards](#) - Sep 04 2023

web american romanticism quiz quiz for 11th grade students find other quizzes for english and more on quizizz for free

an overview of game theory in sociology thoughtco - Feb 06 2022

web mar 1 2019 by ashley crossman updated on march 01 2019 game theory is a theory of social interaction which attempts to explain the interaction people have with one another as the name of the theory suggests game theory sees human interaction as

game theory in biology 50 years and onwards - Jul 11 2022

web forth msp73 game theory in biology is now 50 years old the theory was inspired by ideas and analyses in economics and other social sciences and emerged from the late 1950s onwards the theory of sex allocation 2 which in principle is a highly successful application of game theory has a considerably longer history

game theory and its applications springerlink - May 09 2022

web this book integrates the fundamentals methodology and major application fields of noncooperative and cooperative games including conflict resolution

pdf game theory and psychology researchgate - Feb 18 2023

web jun 27 2017 game theory and its applications in the social and biological sciences 2d ed london routledge this monograph presents the basic ideas of game theory from a psychological perspective

[game theory and its applications in the social and biological sciences](#) - May 21 2023

web andrew coleman provides an accessible introduction to the fundamentals of mathematical gaming and other major applications in social psychology decision theory economics politics

game theory and its applications researchgate - Mar 19 2023

web game theory and its applications in the social and biological sciences second edition andrew m colman i o j l n s up london and new york first published 1982 as game theory and

[game theory and its applications google books](#) - Jun 22 2023

web oct 28 2013 andrew coleman provides an accessible introduction to the fundamentals of mathematical gaming and other major applications in social psychology decision theory economics politics

game theory and its applications in the social and biological - Aug 12 2022

web game theory and its applications in the social and biological sciences international series in social psychology colman

andrew m amazon com tr kitap

fundamentals of evolutionary game theory and its applications - Jan 05 2022

web the book first shows how the fundamental theory of the 2 2 game based on so called replicator dynamics highlights its potential relation with nonlinear dynamical systems this analytical approach implies that there is a gap between theoretical and reality based prognoses observed in social systems of humans as well as in those of animal species

game theory and applications mdpi - Jun 10 2022

web jun 15 2023 game theory has become one of the conventional theoretical frameworks to model important decision making processes in many aspects of life in recent years game theory has been adopted in diverse fields of study such as evolutionary biology sociology psychology political science and computer science

game theory in the social sciences mit press - Oct 14 2022

web jan 30 1985 9780262690911 published january 30 1985 publisher the mit press amazon pod request permissions description author s praise winner of the 1983 lanchester prize of the operations research society of america this book by a recognized authority on game theory and its applications intr

game theory definition facts examples britannica - Apr 08 2022

web aug 17 2023 game theory branch of applied mathematics that provides tools for analyzing situations in which parties called players make decisions that are interdependent this interdependence causes each player to consider the other player s possible decisions or strategies in formulating strategy

game theory and its applications in the social and biological - Jan 17 2023

web sep 22 1995 game theory and its applications in the social and biological sciences a colman published 22 september 1995 economics one person games experiments with strictly competitive games multi person games social dilemmas theories of coalition formation tactical voting theory of evolution moral philosophy and practical problems of

game theory and its applications in the social and biological - Jul 23 2023

web dec 31 1994 abstract andrew coleman provides an accessible introduction to the fundamentals of mathematical gaming and other major applications in social psychology decision theory economics politics evolutionary

game theory and its applications springer - Dec 16 2022

web concepts methods and applications of game theory the subject which has continuously increasing importance in applications in many fields of quantitative sciences including economics social science engineering biology etc the wide variety of applications are illustrated with the particular examples introduced in the

social game theory preferences perceptions and choices - Nov 15 2022

web abstract building on classic game theory psychologists have explored the effects of social preferences and expectations

on strategic behaviour ordinary social perceivers are sensitive to additional contextual factors not addressed by game theory and its recent psychological extensions

[game theory a new paradigm of social science springerlink](#) - Sep 13 2022

web game theory a new paradigm of social science oskar morgenstern conference paper 220 accesses 2 citations abstract

game theory is essentially a mathematical discipline which aims at explaining optimal strategic behavior in social games as well as in economic and political situations

[pdf game theory and its applications in the social and](#) - Aug 24 2023

web jan 1 1995 andrew colman provides an accessible introduction to the fundamentals of mathematical gaming and other major applications in social psychology decision theory economics politics

pdf application of game theory in social science researchgate - Mar 07 2022

web aug 7 2013 january 1967 game theory is essentially a mathematical discipline which aims at explaining optimal strategic behavior in social games as well as in economic and political situations the theory

[game theory and its applications in the social and biological](#) - Apr 20 2023

web andrew coleman provides an accessible introduction to the fundamentals of mathematical gaming and other major applications in social psychology decision theory economics politics evolutionary biology philosophy operational research and sociology critics reviews related subjects psychological science social psychology behavioral sciences

contract costing definition accountingtools - Jun 21 2022

web jun 7 2023 contract costing is the tracking of costs associated with a specific contract with a customer for example a company bids for a large construction project with a prospective customer and the two parties agree in a contract for a certain type of reimbursement to the company this reimbursement is based at least in part on the

[player uacdn net](#) - Apr 19 2022

web 1 22 contract costing part i rambaan fast track course on costing for november 2022 pranav popat lesson 22 sept 14

2022 mission 80 in costing nov 2022 job and contract costing chapter 9 contract costing contract costing is a form of specific order costing where

construction costs ls 22 mods farming simulator 22 mods - Feb 15 2022

web apr 10 2022 choose any farming simulator 22 construction costs mods file and install to your pc game version all farming simulator 22 mods are free just choose and download fs 22 construction costs mods download as many as you want we recommend you to start with mods from the top fs 22 construction costs mods or tested construction

notes contract costing pdf document - Sep 24 2022

web jul 7 2018 8 18 2019 notes contract costing 2 13 outline definition characteristics of contract costing contract

terminology construction in process account contractee account statement of financial position extract calculation of estimated profit

chapter 22 contract costing help environment harvard edu - May 01 2023

web chapter 22 contract costing thank you enormously much for downloading chapter 22 contract costing most likely you have knowledge that people have see numerous times for their favorite books once this chapter 22 contract costing but end up in harmful downloads rather than enjoying a fine ebook as soon as a mug of coffee in

chapter 22 contract costing backoffice ceu social - Aug 24 2022

web chapter 22 contract costing 2 downloaded from backoffice ceu social on 2022 05 10 by guest relationships according to the economist one of the major reasons why so many relationships end in disappointment is that most organizations are not very good at contracting this ground breaking title from leading authority iaccm international

chapter 22 contract costing secure4 khronos - May 21 2022

web this chapter 22 contract costing but end up in detrimental downloads thats something that will lead you to cognize even more in the district of the world expertise particular spots bygone days enjoyment and a lot more acknowledging the amplification ways to obtain this ebook chapter 22 contract costing is moreover handy

chapter 22 contract costing1 chapter 22 contract costing - Feb 27 2023

web view notes chapter 22 contract costing1 from mba corre 104 at amity university chapter 22 contract costing meaning contract costing is a special type of job costing where the unit of cost is a expert help

download free chapter 22 contract costing - Jan 29 2023

web chapter 22 contract costing cost accounting nep 2020 apr 13 2023 1 cost accounting meaning nature scope and importance 2 cost concepts elements and classification 3 materials control and valuation 4 labour cost control 5 overhead expenses classification 6 overheads collection allocation

download chapter 22 contract costing documents and e books - Aug 04 2023

web download chapter 22 contract costing type pdf date april 2022 size 608 9kb author calvince ouma this document was uploaded by user and they confirmed that they have the permission to share it if you are author or own the copyright of this book please report to us by using this dmca report form report dmca

lecture notes 2 contract costing pdf cost expense scribd - Mar 31 2023

web each order is of long duration it is a variant of job costing as each contract is nothing but a job completed contract costing is used by concerns like construction firms civil engineering contractors ship builders etc 2 characteristics of contract costing

helpdesk bricksave com - Jul 23 2022

web helpdesk bricksave com

chapter 22 contract costing 1 studocu - Sep 05 2023

web the following are the costing procedure for different costs relating to the important expenses 1 materials a contract account is debited with the following transactions relating to materials i bulk of materials are purchased

contract costing pdf scribd - Jun 02 2023

web contract costing 1 docx free download as word doc doc docx pdf file pdf text file txt or read online for free

contract costing meaning features types with examples - Oct 26 2022

web contract costing meaning contract costing is a contract made between two parties known as a contractor i e the person executing the job and contractee i e the person for whom the job is done wherein specific job orders are undertaken for a relatively larger time frame which may take years to complete and the billing for the same is

chapter 22 contract costing dynamicrecycling - Dec 28 2022

web chapter 22 contract costing debits and credits expense top 5 problems on contract costing with solution contract costing meaning features procedure money

chapter 22 contract costing 134wzpxzqm47 documents and - Jul 03 2023

web contract costing is also termed as terminal costing the principles of job costing are applicable to contract costing and is used by such concerns of builders public works contractors constructional and mechanical engineering firms and ship builders etc who undertake work on a contract basis special features of contract costing

chapter 22 contract costing pdf debits and credits - Oct 06 2023

web chapter 22 contract costing meaning contract costing is a special type of job costing where the unit of cost is a single contract contract itself is a cost centre and is executed under the customer s specifications

cost accounting solution manual ch22 chapter 22 - Nov 26 2022

web mining division revenues 90 66 1 200 000 units 18 000 000 13 200 costs division variable costs 52 2 200 000 units 10 400 000 10 400 division fixed costs 8 3 200 000 units 1 600 000 1 600 total division costs 12 000 000 12 000 division operating income 6 000 000 1 200 metals division revenues 150 200 000 units 30 000 000

chapter 22 contract costing wiki lwn net - Mar 19 2022

web this extraordinary book aptly titled chapter 22 contract costing written by a very acclaimed author immerses readers in a captivating exploration of the significance of language and its profound impact on our existence