



education

Department of
Education
FREE STATE PROVINCE

PHYSICAL SCIENCES PAPER 1 (PHYSICS)

GRADE 12

TERMS & DEFINITIONS, QUESTIONS & ANSWERS PER TOPIC

2020

TABLE OF CONTENTS

HOW TO USE THIS DOCUMENT	2
TERMS AND DEFINITIONS	3
QUESTIONS.....	7
NEWTON'S LAWS.....	7
VERTICAL PROJECTILE MOTION	12
MOMENTUM AND IMPULSE	17
WORK, ENERGY AND POWER	22
DOPPLER EFFECT	28
ELECTROSTATICS.....	33
ELECTRIC CIRCUITS	40
ELECTRICAL MACHINES.....	49
OPTICAL PHENOMENA AND PROPERTIES OF MATERIALS	54
ANSWERS TO QUESTIONS	60
NEWTON'S LAWS.....	60
VERTICAL PROJECTILE MOTION	68
MOMENTUM AND IMPULSE	79
WORK, ENERGY AND POWER	83
DOPPLER EFFECT	91
ELECTROSTATICS.....	95
ELECTRIC CIRCUITS	105
ELECTRICAL MACHINES.....	113
OPTICAL PHENOMENA AND PROPERTIES OF MATERIALS	119
BIBLIOGRAPHY	126

Grade 1physics Scope For Paper 1

Karin Nielsen-Saines



Grade 1physics Scope For Paper 1:

The Top Books of the Year Grade 1physics Scope For Paper 1 The year 2023 has witnessed a remarkable surge in literary brilliance, with numerous captivating novels captivating the hearts of readers worldwide. Lets delve into the realm of top-selling books, exploring the engaging narratives that have captivated audiences this year. The Must-Read : Colleen Hoover's "It Ends with Us" This heartfelt tale of love, loss, and resilience has captivated readers with its raw and emotional exploration of domestic abuse. Hoover masterfully weaves a story of hope and healing, reminding us that even in the darkest of times, the human spirit can prevail. Grade 1physics Scope For Paper 1 : Taylor Jenkins Reids "The Seven Husbands of Evelyn Hugo" This spellbinding historical fiction novel unravels the life of Evelyn Hugo, a Hollywood icon who defies expectations and societal norms to pursue her dreams. Reids absorbing storytelling and compelling characters transport readers to a bygone era, immersing them in a world of glamour, ambition, and self-discovery. Grade 1physics Scope For Paper 1 : Delia Owens "Where the Crawdads Sing" This evocative coming-of-age story follows Kya Clark, a young woman who grows up alone in the marshes of North Carolina. Owens spins a tale of resilience, survival, and the transformative power of nature, captivating readers with its evocative prose and mesmerizing setting. These popular novels represent just a fraction of the literary treasures that have emerged in 2023. Whether you seek tales of romance, adventure, or personal growth, the world of literature offers an abundance of engaging stories waiting to be discovered. The novel begins with Richard Papen, a bright but troubled young man, arriving at Hampden College. Richard is immediately drawn to the group of students who call themselves the Classics Club. The club is led by Henry Winter, a brilliant and charismatic young man. Henry is obsessed with Greek mythology and philosophy, and he quickly draws Richard into his world. The other members of the Classics Club are equally as fascinating. Bunny Corcoran is a wealthy and spoiled young man who is always looking for a good time. Charles Tavis is a quiet and reserved young man who is deeply in love with Henry. Camilla Macaulay is a beautiful and intelligent young woman who is drawn to the power and danger of the Classics Club. The students are all deeply in love with Morrow, and they are willing to do anything to please him. Morrow is a complex and mysterious figure, and he seems to be manipulating the students for his own purposes. As the students become more involved with Morrow, they begin to commit increasingly dangerous acts. The Secret History is a brilliant and gripping novel that will keep you guessing until the very end. The novel is a warning tale about the dangers of obsession and the power of evil.

<https://staging.conocer.cide.edu/files/virtual-library/HomePages/Manual%20Rca%20Dtv%20Tuner%20Dta800b11.pdf>

Table of Contents Grade 1physics Scope For Paper 1

1. Understanding the eBook Grade 1physics Scope For Paper 1
 - The Rise of Digital Reading Grade 1physics Scope For Paper 1
 - Advantages of eBooks Over Traditional Books
2. Identifying Grade 1physics Scope For Paper 1
 - 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 Grade 1physics Scope For Paper 1
 - User-Friendly Interface
4. Exploring eBook Recommendations from Grade 1physics Scope For Paper 1
 - Personalized Recommendations
 - Grade 1physics Scope For Paper 1 User Reviews and Ratings
 - Grade 1physics Scope For Paper 1 and Bestseller Lists
5. Accessing Grade 1physics Scope For Paper 1 Free and Paid eBooks
 - Grade 1physics Scope For Paper 1 Public Domain eBooks
 - Grade 1physics Scope For Paper 1 eBook Subscription Services
 - Grade 1physics Scope For Paper 1 Budget-Friendly Options
6. Navigating Grade 1physics Scope For Paper 1 eBook Formats
 - ePub, PDF, MOBI, and More
 - Grade 1physics Scope For Paper 1 Compatibility with Devices
 - Grade 1physics Scope For Paper 1 Enhanced eBook Features
7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Grade 1physics Scope For Paper 1
 - Highlighting and Note-Taking Grade 1physics Scope For Paper 1
 - Interactive Elements Grade 1physics Scope For Paper 1
8. Staying Engaged with Grade 1physics Scope For Paper 1

- Joining Online Reading Communities
- Participating in Virtual Book Clubs
- Following Authors and Publishers Grade 1physics Scope For Paper 1
- 9. Balancing eBooks and Physical Books Grade 1physics Scope For Paper 1
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Grade 1physics Scope For Paper 1
- 10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
- 11. Cultivating a Reading Routine Grade 1physics Scope For Paper 1
 - Setting Reading Goals Grade 1physics Scope For Paper 1
 - Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of Grade 1physics Scope For Paper 1
 - Fact-Checking eBook Content of Grade 1physics Scope For Paper 1
 - 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

Grade 1physics Scope For Paper 1 Introduction

In the digital age, access to information has become easier than ever before. The ability to download Grade 1physics Scope For Paper 1 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 Grade 1physics Scope For Paper 1 has opened up a world of possibilities. Downloading Grade 1physics Scope For Paper 1 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 Grade 1physics Scope For Paper 1 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 Grade 1physics Scope For Paper 1. 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 Grade 1physics Scope For Paper 1. 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 Grade 1physics Scope For Paper 1, 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 Grade 1physics Scope For Paper 1 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 Grade 1physics Scope For Paper 1 Books

1. Where can I buy Grade 1physics Scope For Paper 1 books? Bookstores: Physical bookstores like Barnes & Noble, Waterstones, and independent local stores. Online Retailers: Amazon, Book Depository, and various online bookstores offer a wide range of books in physical and digital formats.
2. What are the different book formats available? Hardcover: Sturdy and durable, usually more expensive. Paperback:

- Cheaper, lighter, and more portable than hardcovers. E-books: Digital books available for e-readers like Kindle or software like Apple Books, Kindle, and Google Play Books.
3. How do I choose a Grade 1physics Scope For Paper 1 book to read? Genres: Consider the genre you enjoy (fiction, non-fiction, mystery, sci-fi, etc.). Recommendations: Ask friends, join book clubs, or explore online reviews and recommendations. Author: If you like a particular author, you might enjoy more of their work.
 4. How do I take care of Grade 1physics Scope For Paper 1 books? Storage: Keep them away from direct sunlight and in a dry environment. Handling: Avoid folding pages, use bookmarks, and handle them with clean hands. Cleaning: Gently dust the covers and pages occasionally.
 5. Can I borrow books without buying them? Public Libraries: Local libraries offer a wide range of books for borrowing. Book Swaps: Community book exchanges or online platforms where people exchange books.
 6. How can I track my reading progress or manage my book collection? Book Tracking Apps: Goodreads, LibraryThing, and Book Catalogue are popular apps for tracking your reading progress and managing book collections. Spreadsheets: You can create your own spreadsheet to track books read, ratings, and other details.
 7. What are Grade 1physics Scope For Paper 1 audiobooks, and where can I find them? Audiobooks: Audio recordings of books, perfect for listening while commuting or multitasking. Platforms: Audible, LibriVox, and Google Play Books offer a wide selection of audiobooks.
 8. How do I support authors or the book industry? Buy Books: Purchase books from authors or independent bookstores. Reviews: Leave reviews on platforms like Goodreads or Amazon. Promotion: Share your favorite books on social media or recommend them to friends.
 9. Are there book clubs or reading communities I can join? Local Clubs: Check for local book clubs in libraries or community centers. Online Communities: Platforms like Goodreads have virtual book clubs and discussion groups.
 10. Can I read Grade 1physics Scope For Paper 1 books for free? Public Domain Books: Many classic books are available for free as they're in the public domain. Free E-books: Some websites offer free e-books legally, like Project Gutenberg or Open Library.

Find Grade 1physics Scope For Paper 1 :

[manual rca dtv tuner dta800b11](#)

manual notebook semp toshiba is 1412

manual renault koleos

[manual para autocad 2009](#)

manual opel zafira 2006

manual rca universal remote rcr312w

manual nuvola 24 fi

[manual of the planes netbook](#)

manual nokia x2 rm618

manual pimespo forklift

manual orion rx 250

[manual opel tigra](#)

manual opel meriva 2004

~~manual or automatic jeep~~

manual quad kymco mxu 50

Grade 1physics Scope For Paper 1 :

physical science if8767 answer key pg 63 2022 wrbb neu - Dec 07 2022

web some of the worksheets for this concept are physical science if8767 answers file type physical science if8767 density work physical science if8767 physical science

physical science if8767 worksheets k12 workbook - Jun 13 2023

web physical science if8767 worksheets there are 8 printable worksheets for this topic worksheets are answers to physical science if8767 density physic

[physical science if8767 18 worksheets learny kids](#) - Apr 30 2022

web aug 11 2023 see answers 3 best answer copy put the following steps of the scientific method in the proper order research the problem observe and record make

physical science if8767 answer key pg 63 pdf pdf voto uneal edu - Sep 04 2022

web displaying all worksheets related to instructional fair and physical science if8767 worksheets are physical science if8767 answer key heat calculations physical

[get the free physical science if8767 answer key form pdffiller](#) - Mar 30 2022

web displaying 8 worksheets for if8767 pg 101 worksheets are physical science if8767 answers pg 81 instructional fair inc chemistry if8767 answer key i

0physicalscienceanswerkey pdf continue physical science - Mar 10 2023

web give physical science if8767 answer key pg 63 and numerous ebook collections from fictions to scientific research in any way accompanied by them is this physical

physical science if8767 answer key pg 63 pdf download - Jun 01 2022

web fill physical science if8767 answer key edit online sign fax and printable from pc ipad tablet or mobile with pdf filler instantly try now

physical science if8767 worksheets teacher worksheets - Apr 11 2023

web 1 physical science if8767 answers file type 2 physical science if8767 3 density worksheet physical science if8767 4

physical science if8767 answer key page 17 5

density if8767 worksheets k12 workbook - Sep 23 2021

physical science if8767 worksheet answers - Jul 14 2023

web worksheets are physical science if8767 answers file type physical science if8767 density work physical science if8767

physical science if8767 answer key 17

if8767 pg 101 worksheets kiddy math - Jan 28 2022

web jul 7 2023 physical science if8767 worksheets kiddy math some of the worksheets for this concept are physical science if8767 answers file type physical science

physical science if8767 worksheets teacher worksheets - Aug 15 2023

web some of the worksheets displayed are physical science if8767 answers file type physical science if8767 density work

physical science if8767 physical science if8767

get physical science if8767 answer key us legal forms - Dec 27 2021

web physical science if8767 answer key instructional fair inc is available on our online library physical science if8767 answer displaying all worksheets related to if8767

physical science if8767 answer key pg 63 pdf wrbb neu - Jan 08 2023

web all access to physical science if8767 answer key pg 63 pdf free download physical science if8767 answer key pg 63 pdf or read physical science if8767 answer

physical science if8767 answer key page 61 answers for 2023 - Feb 09 2023

web physical science if8767 answer key pg 63 1 physical science if8767 answer key pg 63 yeah reviewing a books physical science if8767 answer key pg 63 could grow

physical science if8767 worksheets learny kids - Oct 05 2022

web displaying top 8 worksheets found for instructional fair and physical science if8767 some of the worksheets for this

concept are physical science if8767 answer key heat

physical science if8767 jupiter goinglobal com - Oct 25 2021

the answers to physical science if8767 answers - Feb 26 2022

web complete physical science if8767 answer key online with us legal forms easily fill out pdf blank edit and sign them save or instantly send your ready documents

instructional fair and physical science if8767 learny kids - Aug 03 2022

web physical science if8767 answers physical science if8767 answer key page 62 keyword found showing top 8 worksheets in the category density if8767 some

physical science if8767 answer key instructional fair i - May 12 2023

web physical science if8767 instructional fair display top 8 worksheets found for this concept some of the worksheets for this concept are substance mixtures answers to physical

physical science if8767 answer key pg 63 pdf free download - Nov 06 2022

web science if8767 answer key pg 63 pdf but end up in malicious downloads rather than enjoying a good book with a cup of coffee in the afternoon instead they are facing with

instructional fair and physical science if8767 k12 workbook - Jul 02 2022

web some of the worksheets for this concept are physical science if8767 answer key heat calculations heat calculations physical science if8767 answers physical science

physical science if8767 answer key cutandpastecontest com - Nov 25 2021

web showing 8 worksheets for density if8767 worksheets are density work physical science if8767 answers to density work pg 13 physical science if8767 d

top 30 easiest diy woodworking projects ideas for beginners - Dec 11 2022

web sep 14 2023 try out the easiest and most fun woodworking projects for beginners all listed together for your convenience pick from 30 options learn now for free

free online project wood working projects articles - May 04 2022

web free online project wood working projects articles and easy free woodworking projects added and updated every day treated wood posts custom built timber products may 8th 2018 building products plus supplies treated posts throughout texas and louisiana whether you need a single bundle or multiple truckloads call us at 800 816

12 woodworking projects and how to sell them online shopify - Jun 05 2022

web aug 5 2021 12 handmade woodworking projects that sell selling handmade products is a great way to turn your

creative passions into a real online business each of these woodworking project ideas requires different materials tools and **free woodworking projects videos and articles wood shop** - Aug 19 2023

web sep 5 2023 free woodworking projects videos and articles wood shop woodworking projects home woodworking projects woodworking videos and articles that share woodworking projects for woodworkers of all skill levels including furniture making projects diy workbench projects hand tool projects and more

free online wood projects ideas for woodworking - Aug 07 2022

web sketchup makes the top of our list this is a popular option not only because it provides you with a good free platform for your woodworking ted discusses free online woodworking plans and projects in an easy hold you by the hand direction woodworking projects tutorials the spruce crafts - Feb 13 2023

web woodworking projects tutorials browse our free woodworking tutorials and plans for beginner and intermediate woodworkers these projects range from yard games to furniture diy bird feeder

47 easy woodworking projects industry diy - Sep 08 2022

web sep 26 2023 47 easy woodworking projects by ty criswell last updated september 26 2023 use these great beginner plans to get started building an awesome wood project today this article is for anyone who wants to try their hand at building some easy woodworking projects that don t require a ton of specialized skills or tools

woodworking projects and plans free finewoodworking - Oct 21 2023

web jun 23 2023 woodworking projects and plans free build a classic ming table part 1 october 12 2023 complexity and serenity coexist in this exceptional chinese piece a riff on the faceted glass door october 3 2023 improv with some classic krenovian techniques editor s letter sebby s box september 28 2023 the future of our craft is in good hands

52 easiest woodworking projects for beginners the saw guy - Mar 02 2022

web are you looking for more diy wood projects free woodworking plans or other resources check out some of the other articles i have written lacquer vs polyurethane what is the difference different types of hammers and how to use them the best whittling knives in 2021 the best multimeters in 2021 review buyers guide

10 simple woodworking projects the family handyman - Jan 12 2023

web mar 18 2020 2 10 family handyman build this light but strong bench in about four hours it s an easy woodworking project that even beginners can tackle with multiple purposes use it as a table and as scaffolding as well as for sitting this bench which is very inexpensive to make is great for taking a break while completing long painting jobs

free woodworking plans wood - Sep 20 2023

web free elegant hole saw bracelet woodworking plan free hidden hook coat rack woodworking plan free cope cutting sled woodworking plan download these free woodworking plans for your next project you ll find plans for cabinets desks

bookshelves tables kitchen items toys and much more

project plans wood - May 16 2023

web project plans in this section you ll find free woodworking plans and other downloadable plans for furniture gifts decorations outdoor projects and toys kids furniture you ll also find plans for holiday projects woodturning and workshop jigs fixtures free woodworking plans

13 wood projects you can sell online 2024 shopify - Jul 06 2022

web may 17 2022 in this article we ll cover the most profitable woodworking projects as well as everything you need to get started for some of these projects you need little more than some wood glue and a few pieces of quality wood each of the following woodworking project ideas requires different materials tools and expertise

free online woodworking projects ideas for woodworking - Jul 18 2023

web the fast free and easy method to your next woodworking project 1 over 150 free woodworking plans articles inside the member s area you ll gain instant access to over 150 highly detailed woodworking projects designs e books the detailed step by step instructions will save you so much time 2 bring woodworkers guild of

free online project wood working projects articles pdf - Apr 03 2022

web free online project wood working projects articles large scale change for non profits dec 14 2022 the impetus to purchase this book is to provide social profit leaders change agents and new organization development od practitioners who need a simple monday ready tool kit so they can help their social profit organization build capacity

12 free woodworking projects and plans for every diy - Nov 10 2022

web aug 31 2020 read on to find inspiration from 12 free woodworking plans and projects here free workbench woodworking plan free bookcase plan free coffee table plan free picnic table plan free shed plan free doghouse plan free wine rack plan free desk plan free home bar plans free adirondack chair plan free birdhouse plan

39 woodworking projects perfect for beginners cut the wood - Oct 09 2022

web if you are new to the art of woodworking there is nothing to worry about it is not so much difficult that you cannot learn remember learning never stops so have the courage to start the art of woodworking and take your time out to learn it

prepare your wood projects the best way with an online - Mar 14 2023

web design free project plans with the 3dbyme solution and follow the easy instructions to create your own beautiful designs in wood using woodworking plans also means you ll save money as we ll tell you exactly what to buy and where to buy it from the wood to the screws and hardware

28 free woodworking plans cut the wood - Jun 17 2023

web spending some quality time to complete some free woodworking projects can make you feel a great satisfaction after

looking at to the finished assembly here are 28 free woodworking plans that will surely get you comfortable with

wood working projects online ideas for woodworking - Apr 15 2023

web expert advice on woodworking and furniture making with thousands of how to videos step by step articles project plans

photo galleries tool reviews guide to selling woodworking projects online 12 options to consider 1 etsy 2 facebook 3

instagram 4 flea markets craft shows 5 antique booth 6

phet simulation refraction and snells law 1 docx phet - Apr 07 2022

phet simulation refraction and snells law docx course hero - Jan 04 2022

bending light 1 1 30 phet interactive simulations - May 20 2023

web to use snell s law to mathematically analyze situations involving the refraction of light at a boundary readings the

physics classroom tutorial refraction and the ray model of

solved run the snell s law simulation on the phet website - Jul 22 2023

web bending light 1 1 30 phet interactive simulations

teacher toolkit the physics classroom - Mar 18 2023

web bending light snell s law refraction reflection phet interactive simulations colorado edu open the simulation click on

intro and then on the red button on the little laser

snell s law questions answers schoolworkhelper - Jul 10 2022

web phet simulation online lab snell s law grade levels 9th 12th higher education adult education homeschool subjects

physics physical science engineering resource

snell s law simulation 9 steps instructables - Aug 11 2022

web may 24 2022 snell s law formula snell s law explains the relationship between the angle of refraction incidence and the

refractive law of indices for the specified media such as

solved bending light snell s law refraction reflection - Oct 13 2022

web mar 29 2013 snell s law lab inquiry based description subject physics level high school type lab duration 60 minutes

answers included yes language english

discovering snell s law phet contribution phet interactive - Jun 09 2022

web phet exploration refraction and snell s law name you will use the bending light phet simulation which is embedded into

canvas but also available at the following link

phet simulation online lab snell s law tpt - Feb 05 2022

[snell s law formula geeksforgeeks](#) - Mar 06 2022

snells law complete toolkit the physics classroom - Jun 21 2023

web bending light part i discovering snell s law with bending light 1 1 1 1 start the phet simulation entitled bending light the simulation is available at the following website

[snell s law lab inquiry based phet contribution](#) - May 08 2022

bending light snell s law refraction reflection - Feb 17 2023

web may 22 2017 refraction and snell s law lab use ray diagrams to model the refraction of light from air into glass deduce whether the index of refraction for a material is a

refraction and snell s law lab phet contribution - Sep 12 2022

web using the protractor in the toolbox measure the following and record your answers in the table below a angle of incidence between the normal line and the ray from the light

[physics tutorial snell s law of refraction the physics](#) - Jan 16 2023

web accessed 6 may 2022 snell s law simulation we were challenged to create a simulation that demonstrated snell s law in order to better understand the reflection and refraction

virtual lab investigating refraction of light phet contribution - Dec 15 2022

web 1 using snell s law determine the constant when the angle of incidence and the angle of refraction are a 50 and 30 b 30 and 18 c 60 and 38 2 a what is the angle of

snell s law with phet interactive simulations youtube - Sep 24 2023

web deib in stem ed donate explore bending of light between two media with different indices of refraction see how changing from air to water to glass changes the bending angle

solved experiments in physics lab snell s law and total chegg - Apr 19 2023

web mar 25 2020 three short virtual lab investigations 1 validating snell s law 2 describing the intensity of the reflected and refracted rays and 3 determining the refractive index of

snell s law example 1 video khan academy - Nov 14 2022

web aug 12 2017 description the lab has students collect data and determine a connection between the ratio s that exist within snell s law hence deriving the law in addition

bending light snell s law phet interactive simulations - Aug 23 2023

web science physics physics questions and answers run the snell s law simulation on the phet website phet colorado edu en

simulation bendinglight figure out the index