

Natuurwetenskap

Eenheid 9: Kragte

Soorte kragte

- 'n Krag is 'n stoot- of 'n trekkrag wat op 'n voorwerp uitgeoefen word.
- Krag word gemeet in Newton (N).
- Kragte wat twee voorwerpe op mekaar uitoefen werk altyd gelyktydig en in pare.
- Kragte in 'n kragpaar is altyd:
 - Ewe groot
 - Werk in teenoorgestelde rigtings
 - Werk gelyktydig op verskillende voorwerpe in

Uitwerking van 'n krag

'n Krag kan die volgende uitwerkings op die voorwerp hê:

- Versnel, vertraag of tot stilstand bring
- Vervorm
- Rigtingsverandering
- Draaiing

Meting van krag

- Krag word gemeet deur middel van 'n Newtonmeter (newton-trekskaal).
- Dis 'n trekskaal met 'n metaalveer daarin.

Gebalanseerde kragte

- Kragte wat ewe groot is en in teenoorgestelde rigtings werk.
- Netto krag = 0
- Dit beteken die kragte balanseer mekaar uit.

Ongebalanseerde kragte

- Kragte wat in teenoorgestelde rigtings werk, maar nie ewe groot is nie.
- Netto krag > 0

Netto krag
=
Resultante
krag



Natuur Wetenskap Graad 9 November

Pieter Cornelis Schoonees

A red circular graphic with a gradient, appearing as a partial circle or a thick arc, located to the right of the author's name.

Natuur Wetenskap Graad 9 November:

Informatics in Schools: Focus on Learning Programming Valentina Dagienė, Arto Hellas, 2017-11-22 This book constitutes the refereed proceedings of the 10th International Conference on Informatics in Schools Situation Evolution and Perspectives ISSEP 2017 held in Helsinki Finland in November 2017 The 18 full papers presented together with 1 invited talk were carefully reviewed and selected from 41 submissions ISSEP presents this year a broad range of themes ranging from making informatics accessible to visually impaired students and computational thinking to context and country specific challenges as well as teacher development and training

Onderwysnuusflitse ,1979 **Lantern** ,1959 Woordeboek van die Afrikaanse taal Pieter Cornelis Schoonees, 2005

Getting the books **Natuur Wetenskap Graad 9 November** now is not type of challenging means. You could not solitary going similar to books growth or library or borrowing from your connections to entre them. This is an agreed easy means to specifically get guide by on-line. This online declaration Natuur Wetenskap Graad 9 November can be one of the options to accompany you as soon as having supplementary time.

It will not waste your time. tolerate me, the e-book will enormously song you further thing to read. Just invest little era to get into this on-line message **Natuur Wetenskap Graad 9 November** as skillfully as review them wherever you are now.

https://recruitmentslovakia.sk/book/detail/Documents/mathematics_grade11_caps_paper2_final_2014.pdf

Table of Contents Natuur Wetenskap Graad 9 November

1. Understanding the eBook Natuur Wetenskap Graad 9 November
 - The Rise of Digital Reading Natuur Wetenskap Graad 9 November
 - Advantages of eBooks Over Traditional Books
2. Identifying Natuur Wetenskap Graad 9 November
 - 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 Natuur Wetenskap Graad 9 November
 - User-Friendly Interface
4. Exploring eBook Recommendations from Natuur Wetenskap Graad 9 November
 - Personalized Recommendations
 - Natuur Wetenskap Graad 9 November User Reviews and Ratings
 - Natuur Wetenskap Graad 9 November and Bestseller Lists
5. Accessing Natuur Wetenskap Graad 9 November Free and Paid eBooks

- Natuur Wetenskap Graad 9 November Public Domain eBooks
- Natuur Wetenskap Graad 9 November eBook Subscription Services
- Natuur Wetenskap Graad 9 November Budget-Friendly Options
- 6. Navigating Natuur Wetenskap Graad 9 November eBook Formats
 - ePub, PDF, MOBI, and More
 - Natuur Wetenskap Graad 9 November Compatibility with Devices
 - Natuur Wetenskap Graad 9 November Enhanced eBook Features
- 7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Natuur Wetenskap Graad 9 November
 - Highlighting and Note-Taking Natuur Wetenskap Graad 9 November
 - Interactive Elements Natuur Wetenskap Graad 9 November
- 8. Staying Engaged with Natuur Wetenskap Graad 9 November
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Natuur Wetenskap Graad 9 November
- 9. Balancing eBooks and Physical Books Natuur Wetenskap Graad 9 November
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Natuur Wetenskap Graad 9 November
- 10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
- 11. Cultivating a Reading Routine Natuur Wetenskap Graad 9 November
 - Setting Reading Goals Natuur Wetenskap Graad 9 November
 - Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of Natuur Wetenskap Graad 9 November
 - Fact-Checking eBook Content of Natuur Wetenskap Graad 9 November
 - 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

Natuur Wetenskap Graad 9 November Introduction

Free PDF Books and Manuals for Download: Unlocking Knowledge at Your Fingertips In today's fast-paced digital age, obtaining valuable knowledge has become easier than ever. Thanks to the internet, a vast array of books and manuals are now available for free download in PDF format. Whether you are a student, professional, or simply an avid reader, this treasure trove of downloadable resources offers a wealth of information, conveniently accessible anytime, anywhere. The advent of online libraries and platforms dedicated to sharing knowledge has revolutionized the way we consume information. No longer confined to physical libraries or bookstores, readers can now access an extensive collection of digital books and manuals with just a few clicks. These resources, available in PDF, Microsoft Word, and PowerPoint formats, cater to a wide range of interests, including literature, technology, science, history, and much more. One notable platform where you can explore and download free Natuur Wetenskap Graad 9 November PDF books and manuals is the internet's largest free library. Hosted online, this catalog compiles a vast assortment of documents, making it a veritable goldmine of knowledge. With its easy-to-use website interface and customizable PDF generator, this platform offers a user-friendly experience, allowing individuals to effortlessly navigate and access the information they seek. The availability of free PDF books and manuals on this platform demonstrates its commitment to democratizing education and empowering individuals with the tools needed to succeed in their chosen fields. It allows anyone, regardless of their background or financial limitations, to expand their horizons and gain insights from experts in various disciplines. One of the most significant advantages of downloading PDF books and manuals lies in their portability. Unlike physical copies, digital books can be stored and carried on a single device, such as a tablet or smartphone, saving valuable space and weight. This convenience makes it possible for readers to have their entire library at their fingertips, whether they are commuting, traveling, or simply enjoying a lazy afternoon at home. Additionally, digital files are easily searchable, enabling readers to locate specific information within seconds. With a few keystrokes, users can search for keywords, topics, or phrases, making research and finding relevant information a breeze. This efficiency saves time and effort, streamlining the learning process and allowing individuals to focus on extracting the information they need. Furthermore, the availability of free PDF books and manuals fosters a culture of continuous learning. By removing financial barriers, more people can access educational resources and pursue lifelong learning, contributing to personal growth and professional development. This democratization of knowledge promotes

intellectual curiosity and empowers individuals to become lifelong learners, promoting progress and innovation in various fields. It is worth noting that while accessing free Natuur Wetenskap Graad 9 November PDF books and manuals is convenient and cost-effective, it is vital to respect copyright laws and intellectual property rights. Platforms offering free downloads often operate within legal boundaries, ensuring that the materials they provide are either in the public domain or authorized for distribution. By adhering to copyright laws, users can enjoy the benefits of free access to knowledge while supporting the authors and publishers who make these resources available. In conclusion, the availability of Natuur Wetenskap Graad 9 November free PDF books and manuals for download has revolutionized the way we access and consume knowledge. With just a few clicks, individuals can explore a vast collection of resources across different disciplines, all free of charge. This accessibility empowers individuals to become lifelong learners, contributing to personal growth, professional development, and the advancement of society as a whole. So why not unlock a world of knowledge today? Start exploring the vast sea of free PDF books and manuals waiting to be discovered right at your fingertips.

FAQs About Natuur Wetenskap Graad 9 November 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 web-based 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. Natuur Wetenskap Graad 9 November is one of the best book in our library for free trial. We provide copy of Natuur Wetenskap Graad 9 November in digital format, so the resources that you find are reliable. There are also many Ebooks of related with Natuur Wetenskap Graad 9 November. Where to download Natuur Wetenskap Graad 9 November online for free? Are you looking for Natuur Wetenskap Graad 9 November PDF? This is definitely going to save you time and cash in something you should think about.

Find Natuur Wetenskap Graad 9 November :

mathematics grade11 caps paper2 final 2014

math punchline answer key

mathematics 25 09 2014 grade 11

mathematics nqf level4 question papers and memo

mathlinks 8 answer key

mathematics trail examination question papers in mpumalanga

mathematicsvisionproject module 6 test key

math 0580 21 m j 14 markscheme

math common core performance task

master policy letter 64

mathematics a paper 3h 14 may 2014

mathematical literacy exam paper 1 november 2014

mathematics p1 september 2014 memo mpumalanga province

mathematicsn4 memo april 2012

mathematics paper2 db e november2014 grade 12

Natuur Wetenskap Graad 9 November :

code assurances 2018 abebooks - May 11 2023

web code des assurances code de la mutualité 2018 annoté et commenté 24e éd and a great selection of related books art and collectibles available now at abebooks co uk

cima code assurances portail du droit des 24 pays d afrique - Apr 29 2022

web hÇÚxv ifÔ éé n jòwåge œoÄ s ÚfÜ Ú æÔt äžYöËÿf é ã tmkc 3Äzf eeqæ y ÉÔ 9 Œõ iëmñf ýfá ýh åqYœü é ŒûwYézt¾

code des assurances edition 2018 amazon singapore - Oct 16 2023

web hello select your address all

code des assurances définition assurland com - Aug 02 2022

web le code des assurances renferme l ensemble des lois et règlements qui régissent les sociétés d assurance et les rapports entre assureurs et assurés le code des

code des assurances edition 2018 by la bibliothèque juridique - Jun 12 2023

web code des assurances edition 2018 la bibliothèque juridique présente le texte officiel du code des assurances français dans son intégralité ce livre le texte intégral du

extrait code des assurances 2018 by infopro digital issuu - Nov 05 2022

web sep 20 2017 code des assurances 2018 code des le choix des professionne ls depuis 40 an s lt assurances commentÉ 34e édition isbn 978 2 35474 265

code des assurances edition 2018 by la bibliothèque juridique - Sep 03 2022

web code des assurances edition 2018 by la bibliothèque juridique code des assurances tlcharger le pdf 2020 code des assurances code de la mutualit 2017 annot et info

code des assurances edition 2018 paperback sundog books - Nov 24 2021

web la biblioth que juridique pr sente le texte officiel du code des assurances fran ais dans son int gralit ce livre contient le texte int gral du code des assurances une table

code cima fanaf federation des societes d assurances de - Jul 01 2022

web nov 13 2018 le code des assurances cima nouvelle Édition 2018 share article previous rÈglement n 007 cima pcma pce 2018modifiant et complÉtant

code des assurances edition 2018 paperback the toadstool - Apr 10 2023

web la biblioth que juridique pr sente le texte officiel du code des assurances fran ais dans son int gralit ce livre contient le texte int gral du code des assurances une table

code des assurances 2018 collectif amazon sg books - Sep 15 2023

web hello select your address all

code des assurances des etats membres de la cima - Mar 29 2022

web une commission régionale de contrôle des assurances crca un secrétariat général il est annexé à ce traité un code des assurances dit code cima ce code

code des assurances edition 2018 la bibliothèque juridique - Feb 08 2023

web code des assurances edition 2018 la bibliothèque juridique 9781984975065 books amazon ca

code des assurances définition de code des assurances dico - Feb 25 2022

web assurance vie le contrat d assurance vie est un contrat à capital variable ou à prime unique régi par le code des assurances et soumis au régime fiscal de l assurance vie

article 8 mentions du contrat d assurance code cima 2019 - Dec 26 2021

web article 8 mentions du contrat d assurance modifié par décision du conseil des ministres du 11 avril 2011 le moment à partir duquel le risque est garanti et la durée de cette

code cima cima - May 31 2022

web code des assurances des États membres de la cima code des assurances des États membres de la cima livre i le contrat
livre ii les assurances obligatoires livre iii les

code des assurances edition 2018 paperback 1 february 2018 - Mar 09 2023

web buy code des assurances edition 2018 by la bibliotheque juridique online on amazon ae at best prices fast and free
shipping free returns cash on delivery available

code des assurances edition 2018 amazon com au - Jul 13 2023

web code des assurances edition 2018 la bibliotheque juridique amazon com au books

code des assurances edition 2018 dna viz tpq - Oct 04 2022

web oct 29 2023 l assurance jouant un rôle économique et social fondamental dans la société française le contrat d
assurance est devenu omniprésent tant dans la vie privée que

code des assurances edition 2018 amazon fr - Aug 14 2023

web noté 5 retrouvez code des assurances edition 2018 et des millions de livres en stock sur amazon fr achetez neuf ou d
occasion

code des assurances edition 2018 bookshop - Dec 06 2022

web code des assurances edition 2018 la biblioth que juridique pr sente le texte officiel du code des assurances fran ais dans
son int gralit ce livre contient le texte int gral du

code des assurances edition 2018 paperback barnes noble - Jan 07 2023

web feb 1 2018 code des assurances edition 2018 la bibliothèque juridique présente le texte officiel du code des assurances
français dans

qu est ce que le code des assurances lesfurets - Jan 27 2022

web jul 30 2020 le code des assurances est un document qui régit le droit des assurances il contient un ensemble de lois et
de règles qui doivent être appliquées par

six drawing lessons the charles eliot norton lectures - May 12 2023

web r 650 incorporating elements of graphic design and ranging freely from discussions of plato s cave to the enlightenment
s role in colonial oppression to the depiction of animals

six drawing lessons by william kentridge overdrive - Oct 25 2021

web sep 1 2014 based on the 2012 charles eliot norton lectures six drawing lessons is the most comprehensive collection
available of kentridge s thoughts on art art making

six drawing lessons william kentridge harvard university - Jan 08 2023

web sep 1 2014 table of contents see all the charles eliot norton lectures anyone who has seen the film animations of the great south african artist will be fascinated by the

[six drawing lessons the charles eliot norton lectures](#) - Nov 06 2022

web abebooks com six drawing lessons the charles eliot norton lectures buy with confidence book is in very good condition with minimal signs of use six drawing

six drawing lessons the charles eliot norton lectures - Sep 23 2021

web abebooks com six drawing lessons the charles eliot norton lectures new six drawing lessons the charles eliot norton lectures by kentridge william new

six drawing lessons the charles eliot norton lectures 55 - Dec 07 2022

web six drawing lessons the charles eliot norton lectures 55 by william kentridge at abebooks co uk isbn 10 0674365801 isbn 13 9780674365803 harvard university

six drawing lessons william kentridge google books - Nov 25 2021

web based on the 2012 charles eliot norton lectures six drawing lessons is the most comprehensive collection available of kentridge s thoughts on art art making and the

six drawing lessons the charles eliot norton lectures - Mar 30 2022

web six drawing lessons the charles eliot norton lectures william kentridge new york test prep reading comprehension common core workbook grade 4 covers

six drawing lessons the charles eliot norton lectures - Aug 03 2022

web jul 13 2021 six drawing lessons the charles eliot norton lectures william kentridge artificial perception and music recognition lecture notes in computer

charles eliot norton lectures wikipedia - Feb 26 2022

web six drawing lessons in praise of shadows a brief history of colonial revolts vertical thinking a johannesburg biography practical epistemology life in the studio in

six drawing lessons the charles eliot norton lectures - Dec 27 2021

web mar 1 2022 six drawing lessons the charles eliot norton lectures william kentridge 1 of 5 stars 2 of 5 stars 3 of 5 stars 4 of 5 stars 5 of 5 stars the bounty by

[six drawing lessons the charles eliot norton](#) - Aug 15 2023

web buy six drawing lessons the charles eliot norton lectures 55 illustrated by william kentridge isbn 0000674365801 from amazon s book store everyday low prices and

[six drawing lessons william kentridge harvard](#) - Apr 11 2023

web sep 1 2014 based on the 2012 charles eliot norton lectures six drawing lessons is the most comprehensive collection available of kentridge s thoughts on art art making

six drawing lessons the charles eliot norton lectures - Jun 01 2022

web abebooks com six drawing lessons the charles eliot norton lectures six drawing lessons the charles eliot norton lectures by kentridge william used acceptable

kentridge w six drawing lessons charles eliot norton lectures - Jan 28 2022

web kentridge w six drawing lessons charles eliot norton lectures kentridge william isbn 0000674365801 kostenloser versand für alle bücher mit versand und verkauf

six drawing lessons the charles eliot norton lectures - Oct 05 2022

web based on the 2012 charles eliot norton lectures six drawing lessons is the most comprehensive collection available of kentridge s thoughts on art art making and the

the charles eliot norton lectures harvard university press - Jul 02 2022

web working space stella frank here is a rare opportunity to view painting through the discerning eyes of one of the world s foremost abstract painters stella uses the crisis of

six drawing lessons 55 the charles eliot norton lectures - Feb 09 2023

web sep 2 2014 based on the 2012 charles eliot norton lectures six drawing lessons is the most comprehensive collection available of kentridge s thoughts on art art making

the charles eliot norton lectures six drawing lessons by - Sep 04 2022

web find many great new used options and get the best deals for the charles eliot norton lectures six drawing lessons by william kentridge 2014 hardcover at the best

six drawing lessons the charles eliot norton lectures - Jul 14 2023

web sep 1 2014 based on the 2012 charles eliot norton lectures six drawing lessons is the most comprehensive collection available of kentridge s thoughts on art art making

six drawing lessons the charles eliot norton lectures open - Mar 10 2023

web sep 1 2014 six drawing lessons the charles eliot norton lectures by william kentridge sep 01 2014 harvard university press edition hardcover in english

six drawing lessons the charles eliot norton lectures - Apr 30 2022

web oct 18 2021 six drawing lessons the charles eliot norton lectures william kentridge six drawing lessons the charles eliot norton lectures william

six drawing lessons charles eliot norton lectures 55 - Jun 13 2023

web sep 1 2014 based on the 2012 charles eliot norton lectures six drawing lessons is the most comprehensive collection available of kentridge s thoughts on art art making

adult bible study guide resources - Jun 01 2022

web resources sabbath school toolbox formerly lead magazine sabbath school toolbox is a quarterly magazine that brings more power and polish to your sabbath school programs and sabbath school teaching for specific products books contact don lay with pacific press 1 800 447 7377 x2512 or email him at email protected adventist book center

2013 q4 the sanctuary sabbath school net - Jun 13 2023

web oct 17 2013 the adult sabbath school bible study guide is prepared by the office of the adult bible study guide of the general conference of seventh day adventists

bible study material seventh day adventist christian church in - Aug 03 2022

web find a range of bible study and sabbath school resource materials guides lessons videos and more here

methods of bible study adventist org - Aug 15 2023

web oct 12 1986 bible study presuppositions principles and methods preamble this statement is addressed to all members of the seventh day adventist church with the purpose of providing guidelines on how to study

adult bible study guides adventist digital library - Jul 14 2023

web study and teaching description the adult sabbath school bible study guide is prepared by the office of the adult bible study guide of the general conference of seventh day adventists

seventh day adventist bible study guide pdf - Jul 02 2022

web may 19 2022 read more about seventh day adventist bible study guide pdf seventh day adventist bible study for beginners and seventh day adventist bible study topics each lesson has a brief summary of the topic covered followed by questions that can be answered in preparation for class discussion

bible study resources croydon seventh day adventist church - Oct 05 2022

web bible study guides discover bible school simple and easy to follow bible study guides that answer some of life s challenging questions and bring bible prophecy to life with beautiful illustrations there s also a kids zone and study guides on the life of jesus christ based upon the four gospels matthew mark luke and john visit site

circle adventist bible studies adventist learning community - Mar 10 2023

web the it is written bible study guides are the perfect way to learn god s plan for your life these free guides are here to guide you step by step into a deeper understanding of the bible the 25 guides cover the major themes of the bible using simple questions

sda bible study guide apps on google play - Apr 30 2022

web may 7 2022 read sda bible study guide sabbath school lesson study guide in many languages here you can find pdf format of lessons along with powerpoint slides in pdf lesson outline lesson

[bible study north american division of seventh day adventists](#) - Nov 06 2022

web bibles and bible study guides for people who are legally blind christian record services for the blind offers bibles and bible study guides in braille audio and large print the large print and braille bible study guides include quizzes to

quarterly lesson sabbath school - Feb 26 2022

web sep 13 2023 sabbath school lesson weekly and quarterly lessons for in depth bible study of word of god resources are lesson reading video audio pdf ppt mission story and video

[20th edition revised 2022 adventist org](#) - Dec 27 2021

web to foster bible study prayer nurture and spiritual why a church manual why does the seventh day adventist church have a church manual god is a god of order as evidenced in his works of creation and redemption consequently order belongs to the essence of his church order is achieved

the seventh day resource centre - Sep 04 2022

web introduction study 1 the scriptures study 2 prophecy of the next world empire study 3 the second coming of christ study 4 signs of christ s coming study 5 god s plan to save you from sin study 6 justification by faith study 7 bible sanctification study 8 the home of the saved study 9 the millennium study 10 god s rest study

2021 q 1 isaiah sabbath school net - Jan 28 2022

web you may download the full lesson quarterly for studying isaiah from amazon in kindle format main lesson authors is roy gane a hebrew scholar currently a teacher of old testament at the seventh day adventist theological seminary on the campus of andrews university in berrien springs michigan

[adult sabbath school study guides more sabbath school net](#) - Feb 09 2023

web aug 12 2011 adult sabbath school bible study guides online archive of adult bible study guides in html format current adult bible study guides in pdf format teachers edition standard edition and easy reading edition scroll to bottom of page sabbath school for mobile devices such as iphone ipad ipod android phones and tablets

the book of revelation adult sabbath school bible study guide - Dec 07 2022

web biblical prophecies are like a lamp shining in a dark place 2 pet 1 19 they are intended to provide guidance for our life today and hope for our future we will need this prophetic guide until the coming of christ and the establishment of god s everlasting kingdom study this week s lesson to prepare for sabbath january 5 lesson

[adult bible study guide this quarter seventh day adventist](#) - Jan 08 2023

web this quarter years after the exciting start of the christian mission in ephesus the ephesians struggled with the

significance of their christian faith paul writing to them from prison worries that the believers in ephesus may lose heart forgetting what it means to be jesus disciples in their sophisticated pagan culture

seventh day adventists believe bible study guide the 28 - Mar 30 2022

web apr 18 2022 i hope you enjoy this seventh day adventist bible study guide and fully comprehend the plan god has for you and this world i hope you see the bigger picture and god s immeasurable love for us through the study of the bible please note that this is a study book that guides you in studying the bible a fuller more detailed edition that [study the bible online free guides and lessons adventist org](#) - May 12 2023

web use these simple and practical bible study guides to find the answers to some of life s challenging questions looking for a free online bible study to lead you through god s word find one in the list below

adventist archives adult sabbath school lessons - Apr 11 2023

web the subjects of the adult sabbath school lessons and later the adult bible study guides from 1888 onward are listed and often linked to here this list also includes information where available about the authors or principal contributors of the lessons