# repetition science definition

**repetition science definition** is a cornerstone concept in various scientific disciplines, describing the process of repeating experiments, observations, or procedures to achieve reliable, accurate, and consistent results. This article explores the detailed meaning of repetition in science, why it is essential, and how it contributes to the advancement of scientific knowledge. Readers will learn about the different forms of repetition, methods for applying it in research, the role it plays in experimental design, and its impact on scientific validity. The article also discusses common challenges and best practices associated with repetition in scientific studies. Whether you are a student, researcher, or simply curious about scientific processes, this comprehensive guide will clarify the importance and definition of repetition in science and answer popular questions surrounding the topic.



## Understanding the Repetition Science Definition

Repetition in science refers to the deliberate act of conducting an experiment, observation, or measurement multiple times to confirm the reliability and accuracy of results. The repetition science definition encompasses the process of reproducing scientific activities under the same or varied conditions to minimize random errors, enhance validity, and ensure findings are not due to chance. This concept is integral to the

scientific method, helping researchers build confidence in their data and supporting the reproducibility of scientific knowledge. Whether in laboratory settings, field studies, or theoretical modeling, repetition serves as a foundational element for verifying results and drawing robust conclusions.

# Role of Repetition in Scientific Research

## Ensuring Reliability and Validity

One of the primary roles of repetition in science is to ensure that research findings are reliable and valid. When experiments or observations are repeated, researchers can identify patterns, inconsistencies, or errors, making their conclusions more robust. Reliability refers to the consistency of results over repeated trials, while validity addresses whether the research measures what it intends to measure. Repetition helps differentiate between genuine effects and random fluctuations, strengthening scientific credibility.

## Supporting Statistical Significance

Repetition increases the sample size, which is crucial for statistical analysis. A larger number of repeated trials or observations allows scientists to perform more accurate statistical tests, reducing the likelihood of false positives or negatives. This supports the determination of statistical significance, indicating whether results are likely due to real effects rather than random chance.

# Types of Repetition in Science

## Experimental Repetition

Experimental repetition involves repeating the same experiment multiple times under identical conditions. This approach detects experimental errors, identifies outliers, and confirms reproducibility. Experimental repetition is commonly used in laboratory research, where controlled environments allow for precise replication of procedures.

## Observational Repetition

Observational repetition refers to the repeated observation of natural phenomena, behaviors, or environmental conditions. Unlike experimental repetition, observational repetition often deals with variables that cannot be controlled, such as weather patterns or animal behaviors. Repetition helps ensure observations are not unique to a specific time or location.

## Methodological Repetition

Methodological repetition involves repeating studies using different methods or approaches to cross-verify findings. By applying alternative methodologies, researchers can determine whether results hold true across varying procedures, adding another layer of confidence to scientific conclusions.

- Experimental repetition: repeating experiments under controlled conditions
- Observational repetition: conducting multiple observations in natural settings
- Methodological repetition: using varied methods to confirm results
- Temporal repetition: repeating studies over different time periods
- Spatial repetition: conducting repetitions in different locations

# Repetition and Experimental Design

## Control Groups and Variables

Effective experimental design incorporates repetition to separate true effects from random variation. This includes using control groups and carefully managing independent and dependent variables. Repetition strengthens the experimental framework, allowing researchers to test hypotheses more effectively and improve the reliability of results.

## Sample Size Considerations

Choosing an adequate sample size is directly linked to repetition. Experiments with larger sample sizes and repeated trials provide more reliable data, reduce the impact of outliers, and improve the generalizability of findings. Researchers often perform power analyses to decide how many repetitions are necessary for meaningful results.

# Benefits of Repetition in Science

## Enhancing Accuracy and Precision

Repetition minimizes the influence of errors and increases the precision of measurements. By averaging results across multiple repetitions, scientists can reduce data variability and approach the true value of the measured phenomenon.

## Building Scientific Consensus

Repetition facilitates the building of scientific consensus. When multiple researchers independently repeat experiments and obtain similar results, the scientific community gains confidence in the findings. This is essential for establishing widely accepted scientific theories and principles.

1. Reduces random error and increases confidence in results
2. Supports statistical analysis and significance
3. Improves data accuracy and precision
4. Facilitates peer review and consensus building
5. Strengthens reproducibility and reliability of scientific knowledge

# Challenges and Limitations of Repetition

## Resource Constraints

Repeating experiments or observations can be resource-intensive, requiring additional time, materials, and funding. In some cases, limitations in resources may restrict the ability to perform adequate repetitions, potentially affecting the reliability of results.

## Human Error and Bias

Despite repetition, human error and bias can influence outcomes. Proper training, standardized protocols, and objective measurements are vital to minimizing these effects. Blind or double-blind methodologies are often used to reduce bias in repeated trials.

### Limitations in Natural Sciences

In fields such as astronomy, geology, or ecology, repetition may be constrained by the uniqueness or non-repeatability of certain events. Researchers must adapt their approaches to account for these limitations, often relying on observational repetition and statistical modeling.

## Best Practices for Effective Repetition

### Standardization of Procedures

Standardizing experimental procedures ensures that repetitions are consistent and comparable. Detailed documentation, protocol adherence, and clear communication among research teams are crucial for effective repetition.

### Use of Controls and Blinding

Incorporating control groups and blinding techniques enhances the objectivity and reliability of repeated experiments. These methods help eliminate biases and ensure that observed effects are due to the studied variables rather than external influences.

### Data Recording and Analysis

Accurate data recording and thorough analysis are essential for interpreting repeated results. Modern data management systems, statistical software, and rigorous review processes support the effective use of repetition in scientific research.

## Real-World Examples of Repetition in Science

### Clinical Trials

In medical and pharmaceutical research, repetition is fundamental to validating the efficacy and safety of treatments. Clinical trials involve multiple phases and repeated measurements to ensure consistent outcomes before a drug is approved for public use.

### Physics Experiments

Physics relies heavily on repetition to confirm the laws of nature. Experiments such as measuring the speed of light or gravitational acceleration are repeated countless times to verify consistency and accuracy.

### Environmental Studies

Environmental scientists use repetition to monitor changes in ecosystems, pollution levels, and climate patterns. Repeated measurements over time help identify trends, anomalies, and the impact of human activities on the environment.

## Repetition in Different Scientific Disciplines

### Biology

Biological research often depends on repetition to study genetic traits, evolutionary processes, and ecological interactions. Repeated experiments and observations help biologists understand complex living systems and verify their findings.

### Chemistry

Chemistry experiments, such as titrations or reactions, are repeated to ensure accurate measurement of substances and confirmation of chemical laws. Consistent repetition is necessary for the development of new compounds and materials.

### Social Sciences

In social sciences, repetition is used in surveys, behavioral studies, and psychological experiments to confirm results across diverse populations and settings. This enhances the validity and generalizability of research findings.

## Frequently Asked Questions

## Q: What is the repetition science definition?

A: The repetition science definition refers to the process of conducting scientific experiments, observations, or measurements multiple times to ensure reliability, accuracy, and validity of results.

## Q: Why is repetition important in scientific research?

A: Repetition is crucial in scientific research because it helps confirm findings, reduce random errors, support statistical analysis, and improve the credibility of outcomes.

## Q: What are some examples of repetition in science?

A: Examples include repeating clinical trials, laboratory experiments, observational studies, and field measurements to verify consistency and accuracy.

## Q: How does repetition improve experimental design?

A: Repetition enhances experimental design by increasing sample size, reducing the impact of outliers, and supporting the use of control groups for more reliable results.

## Q: What challenges are associated with repetition in science?

A: Challenges include resource constraints, potential human error or bias, and difficulties in repeating unique natural events or phenomena.

## Q: What types of repetition are used in scientific studies?

A: Types of repetition include experimental, observational, methodological, temporal, and spatial repetition, each serving different research purposes.

## Q: How is repetition different from replication in science?

A: Repetition refers to multiple trials within a single study, while replication involves independent researchers repeating an entire study to confirm its findings.

## Q: Can repetition eliminate all forms of error in science?

A: While repetition reduces random errors and increases reliability, it cannot eliminate all forms of error, such as systematic errors or biases.

## Q: What are best practices for effective repetition in research?

A: Best practices include standardizing procedures, using control groups and blinding, accurate data recording, and thorough statistical analysis.

## Q: Is repetition used in both qualitative and quantitative research?

A: Yes, repetition is valuable in both qualitative and quantitative research to confirm patterns, trends, and ensure the trustworthiness of data.

## Repetition Science Definition



# Repetition: The Science Definition and its Impact on Learning and Memory

Introduction:

Have you ever noticed how easily you remember song lyrics after repeated listening, or how practicing a skill makes you more proficient? This isn't magic; it's the power of repetition. This post dives deep into the science behind repetition, exploring its definition, the neurological processes involved, and its crucial role in learning, memory consolidation, and even the formation of habits. We'll unravel the mysteries of how repetition shapes our brains and behaviors, providing a comprehensive understanding of this fundamental principle. Get ready to unlock the science behind why practice makes perfect!

# What is Repetition in the Science of Learning?

The scientific definition of repetition, in the context of learning and memory, goes beyond simply doing something again and again. It refers to the repeated engagement with a specific stimulus or action, leading to strengthened neural pathways in the brain. This strengthened connection improves the efficiency and speed of information processing, ultimately impacting memory encoding, storage, and retrieval. It's not just about frequency; the quality of repetition also plays a crucial role.

Spaced repetition, for example, is far more effective than massed repetition (cramming).

## Neurological Mechanisms Behind Repetition

Repetition's impact stems from changes at the synaptic level, the connections between neurons. Repeated activation of a neural pathway strengthens the synapses through a process called long-term potentiation (LTP). LTP involves an increase in the efficacy of synaptic transmission, making it easier for signals to travel across the synapse. This strengthening reinforces the memory trace, making it more resistant to decay and easier to recall. Additionally, repetition can lead to the formation of new synapses, further expanding the neural network associated with the learned information.

## The Role of Repetition in Memory Consolidation

Memory consolidation is the process of stabilizing a memory trace after its initial acquisition. Repetition plays a vital role in this process. By repeatedly activating the neural pathways associated with a memory, we strengthen its representation in the brain, moving it from short-term to long-term storage. This is why repeated review of study material is crucial for effective learning and retention.

# Different Types of Repetition and their Effectiveness

While repetition is a powerful tool, not all repetition is created equal. The effectiveness of repetition is significantly influenced by its timing and context.

## Massed Repetition vs. Spaced Repetition

Massed repetition involves repeated exposure to information in a short period. While initially effective, it suffers from diminishing returns and often leads to poorer long-term retention compared to spaced repetition. Spaced repetition involves spreading out repetitions over time, with increasing intervals between each repetition. This technique leverages the spacing effect, leading to superior memory retention and recall.

## Interleaving and Contextual Variation

Interleaving, the practice of mixing different subjects or tasks during study sessions, enhances learning by promoting discrimination between concepts. While seemingly contradictory to focused repetition, it strengthens the neural representations by forcing the brain to actively retrieve and differentiate information. Similarly, contextual variation, changing the environment or circumstances during repetitions, enhances memory by creating multiple retrieval cues.

## Repetition and Habit Formation

Repetition is not only crucial for learning facts and skills; it's the cornerstone of habit formation. Repeatedly performing an action, especially in the same context, strengthens the neural pathways associated with that behavior. Over time, this leads to the automation of the behavior, making it a habit. This is why breaking bad habits often requires conscious effort to disrupt the ingrained neural pathways.

## Conclusion

The science of repetition demonstrates its profound impact on learning, memory, and behavior. Understanding the underlying neurological mechanisms, and strategically employing different types of repetition, can significantly enhance learning effectiveness and facilitate the formation of positive habits. By optimizing our approach to repetition, we can unlock our brain's full potential for acquiring knowledge and developing skills.

## FAQs:

1. Is cramming an effective form of repetition? No, cramming relies on massed repetition, which leads to poor long-term retention. Spaced repetition is far more effective for long-term memory.

2. How can I use spaced repetition techniques in my studies? Utilize flashcards, spaced repetition software (like Anki), or schedule your review sessions strategically, increasing the time interval between each repetition.

3. Does repetition work for all types of learning? While highly effective for many forms of learning, the optimal type and frequency of repetition may vary depending on the complexity of the material and individual learning styles.

4. Can too much repetition be detrimental? Yes, excessive or monotonous repetition can lead to boredom, reduced attention, and decreased learning efficiency. Varying the methods and incorporating interleaving can mitigate this.

5. How does repetition relate to muscle memory? "Muscle memory" is actually a neurological phenomenon. Repeated motor actions strengthen the neural pathways controlling those muscles, improving coordination and efficiency, much like how repetition affects cognitive memory.

**repetition science definition:** *Reproducibility and Replicability in Science* National Academies of Sciences, Engineering, and Medicine, Policy and Global Affairs, Committee on Science, Engineering, Medicine, and Public Policy, Board on Research Data and Information, Division on Engineering and Physical Sciences, Committee on Applied and Theoretical Statistics, Board on Mathematical Sciences and Analytics, Division on Earth and Life Studies, Nuclear and Radiation Studies Board, Division of Behavioral and Social Sciences and Education, Committee on National Statistics, Board on Behavioral, Cognitive, and Sensory Sciences, Committee on Reproducibility and Replicability in Science, 2019-10-20 One of the pathways by which the scientific community confirms the validity of a new scientific discovery is by repeating the research that produced it. When a scientific effort fails to independently confirm the computations or results of a previous study, some fear that it may be a symptom of a lack of rigor in science, while others argue that such an observed inconsistency can be an important precursor to new discovery. Concerns about reproducibility and replicability have been expressed in both scientific and popular media. As these concerns came to light, Congress requested that the National Academies of Sciences, Engineering, and Medicine conduct a study to assess the extent of issues related to reproducibility and replicability and to offer recommendations for improving rigor and transparency in scientific research. Reproducibility and Replicability in Science defines reproducibility and replicability and examines the factors that may lead to non-reproducibility and non-replicability in research. Unlike the typical expectation of reproducibility between two computations, expectations about replicability are more nuanced, and in some cases a lack of replicability can aid the process of scientific discovery. This report provides recommendations to researchers, academic institutions, journals, and funders on steps they can take to improve reproducibility and replicability in science.

**repetition science definition:** Repetitions in Gesture Jana Bressem, 2021-09-07 Repetitive sequences play a major role as a pattern-building device and are a basic syntagmatic linguistic means on all language levels in spoken and signed languages. Little attention has been paid to investigating them in multimodal language use. Do gestures exhibit different types of repetitive sequences? Do they build complex units based on these types and if so, how is the pattern building to be described? How is the interrelation of gestural and spoken units in such complex units? Is it possible to identify repetitive patterns that are comparable to spoken and signed languages and/or patterns specific to the gestural modality? Based on a corpus-analysis of multimodal usage-events, 7 chapters explore gestural repetitions with regard to their structure, semantic and syntactic relevance for multimodal utterances, and cognitive saliency. Fine-grained cognitive-linguistic analyses of multimodal usage events reveal that gestural repetitions are not only a basic principle of building patterns in spoken and signed languages, but also in gestures. By addressing questions of mediality and multimodality of language-in-use, the book contributes to the investigation of repetition as a fundamental means of sign and meaning construction (crosscutting modalities) and enhances the understanding of the multimodal character of language in use.

**repetition science definition:** *Gilles Deleuze's Difference and Repetition* James Williams, 2013-01-31 A new edition of this introduction to Deleuze's seminal work, Difference and Repetition, with new material on intensity, science and action and new engagements with Bryant, Sauvagnargues, Smith, Somers-Hall and de Beistegui.

**repetition science definition:** *Encyclopedia of the Sciences of Learning* Norbert M. Seel, 2011-10-05 Over the past century, educational psychologists and researchers have posited many theories to explain how individuals learn, i.e. how they acquire, organize and deploy knowledge and skills. The 20th century can be considered the century of psychology on learning and related fields of interest (such as motivation, cognition, metacognition etc.) and it is fascinating to see the various

mainstreams of learning, remembered and forgotten over the 20th century and note that basic assumptions of early theories survived several paradigm shifts of psychology and epistemology. Beyond folk psychology and its naïve theories of learning, psychological learning theories can be grouped into some basic categories, such as behaviorist learning theories, connectionist learning theories, cognitive learning theories, constructivist learning theories, and social learning theories. Learning theories are not limited to psychology and related fields of interest but rather we can find the topic of learning in various disciplines, such as philosophy and epistemology, education, information science, biology, and – as a result of the emergence of computer technologies – especially also in the field of computer sciences and artificial intelligence. As a consequence, machine learning struck a chord in the 1980s and became an important field of the learning sciences in general. As the learning sciences became more specialized and complex, the various fields of interest were widely spread and separated from each other; as a consequence, even presently, there is no comprehensive overview of the sciences of learning or the central theoretical concepts and vocabulary on which researchers rely. The Encyclopedia of the Sciences of Learning provides an up-to-date, broad and authoritative coverage of the specific terms mostly used in the sciences of learning and its related fields, including relevant areas of instruction, pedagogy, cognitive sciences, and especially machine learning and knowledge engineering. This modern compendium will be an indispensable source of information for scientists, educators, engineers, and technical staff active in all fields of learning. More specifically, the Encyclopedia provides fast access to the most relevant theoretical terms provides up-to-date, broad and authoritative coverage of the most important theories within the various fields of the learning sciences and adjacent sciences and communication technologies; supplies clear and precise explanations of the theoretical terms, cross-references to related entries and up-to-date references to important research and publications. The Encyclopedia also contains biographical entries of individuals who have substantially contributed to the sciences of learning; the entries are written by a distinguished panel of researchers in the various fields of the learning sciences.

**repetition science definition:** Fostering Integrity in Research National Academies of Sciences, Engineering, and Medicine, Policy and Global Affairs, Committee on Science, Engineering, Medicine, and Public Policy, Committee on Responsible Science, 2018-01-13 The integrity of knowledge that emerges from research is based on individual and collective adherence to core values of objectivity, honesty, openness, fairness, accountability, and stewardship. Integrity in science means that the organizations in which research is conducted encourage those involved to exemplify these values in every step of the research process. Understanding the dynamics that support â€ or distort â€ practices that uphold the integrity of research by all participants ensures that the research enterprise advances knowledge. The 1992 report Responsible Science: Ensuring the Integrity of the Research Process evaluated issues related to scientific responsibility and the conduct of research. It provided a valuable service in describing and analyzing a very complicated set of issues, and has served as a crucial basis for thinking about research integrity for more than two decades. However, as experience has accumulated with various forms of research misconduct, detrimental research practices, and other forms of misconduct, as subsequent empirical research has revealed more about the nature of scientific misconduct, and because technological and social changes have altered the environment in which science is conducted, it is clear that the framework established more than two decades ago needs to be updated. Responsible Science served as a valuable benchmark to set the context for this most recent analysis and to help guide the committee's thought process. Fostering Integrity in Research identifies best practices in research and recommends practical options for discouraging and addressing research misconduct and detrimental research practices.

**repetition science definition: Data Architecture: A Primer for the Data Scientist** W.H. Inmon, Daniel Linstedt, Mary Levins, 2019-04-30 Over the past 5 years, the concept of big data has matured, data science has grown exponentially, and data architecture has become a standard part of organizational decision-making. Throughout all this change, the basic principles that shape the architecture of data have remained the same. There remains a need for people to take a look at the

bigger picture and to understand where their data fit into the grand scheme of things. Data Architecture: A Primer for the Data Scientist, Second Edition addresses the larger architectural picture of how big data fits within the existing information infrastructure or data warehousing systems. This is an essential topic not only for data scientists, analysts, and managers but also for researchers and engineers who increasingly need to deal with large and complex sets of data. Until data are gathered and can be placed into an existing framework or architecture, they cannot be used to their full potential. Drawing upon years of practical experience and using numerous examples and case studies from across various industries, the authors seek to explain this larger picture into which big data fits, giving data scientists the necessary context for how pieces of the puzzle should fit together. - New case studies include expanded coverage of textual management and analytics - New chapters on visualization and big data - Discussion of new visualizations of the end-state architecture

**repetition science definition:** *Good Habits, Bad Habits* Wendy Wood, 2019-10-01 A landmark book about how we form habits, and what we can do with this knowledge to make positive change We spend a shocking 43 percent of our day doing things without thinking about them. That means that almost half of our actions aren't conscious choices but the result of our non-conscious mind nudging our body to act along learned behaviors. How we respond to the people around us; the way we conduct ourselves in a meeting; what we buy; when and how we exercise, eat, and drink—a truly remarkable number of things we do every day, regardless of their complexity, operate outside of our awareness. We do them automatically. We do them by habit. And yet, whenever we want to change something about ourselves, we rely on willpower. We keep turning to our conscious selves, hoping that our determination and intention will be enough to effect positive change. And that is why almost all of us fail. But what if you could harness the extraordinary power of your unconscious mind, which already determines so much of what you do, to truly reach your goals? Wendy Wood draws on three decades of original research to explain the fascinating science of how we form habits, and offers the key to unlocking our habitual mind in order to make the changes we seek. A potent mix of neuroscience, case studies, and experiments conducted in her lab, Good Habits, Bad Habits is a comprehensive, accessible, and above all deeply practical book that will change the way you think about almost every aspect of your life. By explaining how our brains are wired to respond to rewards, receive cues from our surroundings, and shut down when faced with too much friction, Wood skillfully dissects habit formation, demonstrating how we can take advantage of this knowledge to form better habits. Her clear and incisive work shows why willpower alone is woefully inadequate when we're working toward building the life we truly want, and offers real hope for those who want to make positive change.

**repetition science definition: Repetition and Identity** Catherine Pickstock, 2013-10-03 A fresh and unusual perspective on the literary, Catherine Pickstock argues that the mystery of things can only be unravelled through the repetitions of fiction, history, inhabited subjectivity, and revealed event.

**repetition science definition: Repetition** Søren Kierkegaard, 1961

**repetition science definition:** *The Story of Science: Newton at the Center* Joy Hakim, 2016-04-26 In volume two, students will watch as Copernicus's systematic observations place the sun at the center of our universe—to the dismay of establishment thinkers. After students follow the achievements and frustrations of Galileo, Kepler, and Descartes, they will appreciate the amazing Isaac Newton, whose discoveries about gravity, motion, colors, calculus, and Earth's place in the universe set the stage for modern physics, astronomy, mathematics, and chemistry. In the three-book The Story of Science series, master storyteller Joy Hakim narrates the evolution of scientific thought from ancient times to the present. With lively, character-driven narrative, Hakim spotlights the achievements of some of the world's greatest scientists and encourages a similiar spirit of inquiry in readers. The books include hundreds of color photographs, charts, maps, and diagrams; informative sidebars; suggestions for further reading; and excerpts from the writings of great scientists.

**repetition science definition:** The Journal of Philosophy, Psychology and Scientific Methods ,

**repetition science definition: Evolution of Translational Omics** Institute of Medicine, Board on Health Sciences Policy, Board on Health Care Services, Committee on the Review of Omics-Based Tests for Predicting Patient Outcomes in Clinical Trials, 2012-09-13 Technologies collectively called omics enable simultaneous measurement of an enormous number of biomolecules; for example, genomics investigates thousands of DNA sequences, and proteomics examines large numbers of proteins. Scientists are using these technologies to develop innovative tests to detect disease and to predict a patient's likelihood of responding to specific drugs. Following a recent case involving premature use of omics-based tests in cancer clinical trials at Duke University, the NCI requested that the IOM establish a committee to recommend ways to strengthen omics-based test development and evaluation. This report identifies best practices to enhance development, evaluation, and translation of omics-based tests while simultaneously reinforcing steps to ensure that these tests are appropriately assessed for scientific validity before they are used to guide patient treatment in clinical trials.

**repetition science definition: Science** John Michels (Journalist), 1914

**repetition science definition: Titian Remade** Maria H. Loh, 2007 This insightful volumes the use of imitation and the modern cult of originality through a consideration of the disparate fates of two Venetian painters - the canonised master Titian and his artistic heir, the little-known Padovanino.

**repetition science definition:** A Dictionary of Science, Literature, and Art ... With the derivation and definition of all the terms in general use. Edited by W. T. Brande ... assisted by Joseph Cauvin, etc William Thomas BRANDE, 1847

**repetition science definition: Reading Fluency** Timothy Rasinski, William Rupley, David Paige, Chase Young, 2021-01-21 Reading fluency has been identified as a key component of proficient reading. Research has consistently demonstrated significant and substantial correlations between reading fluency and overall reading achievement. Despite the great potential for fluency to have a significant outcome on students' reading achievement, it continues to be not well understood by teachers, school administrators and policy makers. The chapters in this volume examine reading fluency from a variety of perspectives. The initial chapter sketches the history of fluency as a literacy instruction component. Following chapters examine recent studies and approaches to reading fluency, followed by chapters that explore actual fluency instruction models and the impact of fluency instruction. Assessment of reading fluency is critical for monitoring progress and identifying students in need of intervention. Two articles on assessment, one focused on word recognition and the other on prosody, expand our understanding of fluency measurement. Finally, a study from Turkey explores the relationship of various reading competencies, including fluency, in an integrated model of reading. Our hope for this volume is that it may spark a renewed interest in research into reading fluency and fluency instruction and move toward making fluency instruction an even more integral part of all literacy instruction.

**repetition science definition:** Wordsworth's Poetry of Repetition , 2023-05-19 This book explores those moments of repetition, placing them in the early nineteenth century context from which they emerged, and teasing out through extended close attention to the poetry itself the complexities of repetition and recapitulation.

**repetition science definition:** The Mathematical Gazette , 1900

**repetition science definition: Forms and Degrees of Repetition in Texts** Gabriel Altmann, Reinhard Köhler, 2015-03-10 The present volume presents objective methods to detect and analyse various forms of repetitions. Repetition of textual elements is more than a superficial phenomenon. It may even be considered as constitutive for units and relations in a text: on a primary level when no other way exists to establish a unit – as in a musical composition (a motif can be recognised as such only after at least one repetition) – and on a secondary, artistic level, where repetition is a consequence of the transfer of the equivalence principle from the paradigmatic axis to the syntagmatic one as showed by R. Jakobson. The analysis of repetitive elements and structures in

texts with objective mathematical means can serve several practical and theoretical purposes, among them: Characterisation of texts by means of parameters (measures, indicators) as taken from established mathematical statistics or specifically constructed ones in individual cases. Comparison of texts on the basis of their quantitative characteristics and classification of the texts by the results. Research for the laws of text, which control the mechanisms connected to text creation. As a remote aim, the construction of a theory of text consisting of a system of text laws. The final attempt of every possible quantitative text analysis is the construction of a text theory. The book illustrates this on examples of such laws and corresponding empirical tests.

**repetition science definition: Science and Sociology** Sheldon Ekland-Olson, Jack P. Gibbs, 2017-09-01 Science and Sociology is from beginning to end an exploration of what this implies for the social sciences, and sociology in particular. The authors argue that over the last several decades, sociology has become less a science and more a quest for isolated assessments of situations, whether they come from demographic analyses, survey research, or ethnographic studies. Above all else, this book is an attempt to promote and advance scientific sociology, and we write at length specifying the how and why of this objective. With this objective in mind, the question becomes: What would a scientific sociology look like?

**repetition science definition: Reproducibility** Harald Atmanspacher, Sabine Maasen, 2016-07-05 2017 PROSE Award Honorable Mention The PROSE Awards draw attention to pioneering works of research and for contributions to the conception, production, and design of landmark works in their fields. Featuring peer-reviewed contributions from noted experts in their fields of research, Reproducibility: Principles, Problems, Practices, and Prospects presents state-of-the-art approaches to reproducibility, the gold standard of sound science, from multi- and interdisciplinary perspectives. Including comprehensive coverage for implementing and reflecting the norm of reproducibility in various pertinent fields of research, the book focuses on how the reproducibility of results is applied, how it may be limited, and how such limitations can be understood or even controlled in the natural sciences, computational sciences, life sciences, social sciences, and studies of science and technology. The book presents many chapters devoted to a variety of methods and techniques, as well as their epistemic and ontological underpinnings, which have been developed to safeguard reproducible research and curtail deficits and failures. The book also investigates the political, historical, and social practices that underlie reproducible research in contemporary science studies, including the difficulties of good scientific practice and the ethos of reproducibility in modern innovation societies. Reproducibility: Principles, Problems, Practices, and Prospects is a guide for researchers who are interested in the general and overarching questions behind the concept of reproducibility; for active scientists who are confronted with practical reproducibility problems in their everyday work; and for economic stakeholders and political decision makers who need to better understand the challenges of reproducibility. In addition, the book is a useful in-depth primer for undergraduate and graduate-level courses in scientific methodology and basic issues in the philosophy and sociology of science from a modern perspective. “A comprehensive, insightful treatment of the reproducibility challenges facing science today and of ways in which the scientific community can address them.” Kathleen Hall Jamieson, Elizabeth Ware Packard Professor of Communication, University of Pennsylvania “How can we make sure that reproducible research remains a key imperative of scientific communication under increasing commercialization, media attention, and publication pressure? This handbook offers the first interdisciplinary and fundamental treatment of this important question.”Torsten Hothorn, Professor of Biostatistics, University of Zurich Harald Atmanspacher, PhD, is Associate Fellow and staff member at Collegium Helveticum, ETH and University Zurich and is also President of the Society for Mind-Matter Research. He has pioneered advances in complex dynamical systems research and in a number of topics concerned with the relation between the mental and physical. Sabine Maasen, PhD, is Professor for Sociology of Science and Director of the Munich Center for Technology in Society (TU Munich) and Associate Fellow at Collegium Helveticum (ETH and University Zurich). Her research focuses on the interface of science, technology, and society, notably with respect to

neuroscience and its applications.

**repetition science definition:** *Masked Priming* Sachiko Kinoshita, Stephen J. Lupker, 2004-06-02 Masked priming has a short and somewhat controversial history. When used as a tool to study whether semantic processing can occur in the absence of conscious awareness, considerable debate followed, mainly about whether masked priming truly tapped unconscious processes. For research into other components of visual word processing, however - in particular, orthographic, phonological, and morphological - a general consensus about the evidence provided by masked priming results has emerged. This book contains thirteen original chapters in which these three components of visual word processing are examined using the masked priming procedure. The chapters showcase the advantages of masked priming as an alternative to more standard methods of studying language processing that require comparisons of matched items. Based on a recent conference, this book offers up-to-date research findings, and would be valuable to researchers and students of word recognition, psycholinguistics, or reading.

**repetition science definition: Gender in the Classroom** David Sadker, Ellen S. Silber, 2016-08-23 What’s missing from your teacher education program? According to research studies, one glaring omission is gender. Tomorrow’s teachers receive little instruction or training on the tremendous impact of gender in the classroom. Just how does gender influence teaching, the curriculum, and the lives of teachers and students in the classroom? This unique book has been designed to answer these questions. Gender in the Classroom is intended to be used across the teacher education curriculum--from subject-specific methods courses to foundations, from educational psychology to student teaching. It can be adopted for an entire program, or several instructors can adopt it jointly, or a single instructor can adopt it as one of several or a supplementary text for a course. A comprehensive Instructor’s Manual provides information and materials for teacher educators who adopt the text. Each chapter offers practical information and skills about gender and sex differences, curriculum, and specific teaching methods. Written in a lively style, the text features a number of interactive activities to engage and instruct the reader. The chapters follow a common format designed to invite student interest and action. Each is built around Essential Equity Questions that focus on pertinent gender-related questions and issues in a specific subject area:*the role of women in education--intersections of the teaching profession, feminism, and teachers as activists for social change; *gender differences in cognitive ability, attitudes, and behavior;*how to teach and implement Title IX;*how to observe classrooms to “see” gender bias;*social studies education; *English/language arts methods; *science education; and*mathematics and technology education.Interactions in each chapter engage students in activities to promote understanding. Each Interaction is linked to one or more specific INTASC standards. In the last chapter, the emphasis is on applying many of the skills learned previously--it gives student teachers and their supervisors several tools they can use for analyzing classroom teaching and detecting gender bias. This chapter also includes a culminating activity for identifying and correcting curricular bias. In fact, many of the techniques in this text can be applied to uncover and correct not only gender bias, but racial, ethnic, and cultural bias as well.The Instructor's Manual [978-0-8058-5475-6] is now available electronically (please contact our customer service department to request a copy).

**repetition science definition:** *The Deleuze and Guattari Dictionary* Eugene B. Young, 2013-10-10 The Deleuze and Guattari Dictionary is a comprehensive and accessible guide to the world of Gilles Deleuze and Felix Guattari, two of the most important and influential thinkers in twentieth-century European philosophy. Meticulously researched and extensively cross-referenced, this unique book covers all their major sole-authored and collaborative works, ideas and influences and provides a firm grounding in the central themes of Deleuze and Guattari's groundbreaking thought. Students and experts alike will discover a wealth of useful information, analysis and criticism. A-Z entries include clear definitions of all the key terms used in Deleuze and Guattari's writings and detailed synopses of their key works. The Dictionary also includes entries on their major philosophical influences and key contemporaries, from Aristotle to Foucault. It covers

everything that is essential to a sound understanding of Deleuze and Guattari's philosophy, offering clear and accessible explanations of often complex terminology. The Deleuze and Guattari Dictionary is the ideal resource for anyone reading or studying these seminal thinkers or Modern European Philosophy more generally.

**repetition science definition: A Dictionary of Science, Literature, & Art** William Thomas Brande, 1842

**repetition science definition:** *Characterizing the Robustness of Science* Léna Soler, Emiliano Trizio, Thomas Nickles, William Wimsatt, 2012-03-22 Mature sciences have been long been characterized in terms of the “successfulness”, “reliability” or “trustworthiness” of their theoretical, experimental or technical accomplishments. Today many philosophers of science talk of “robustness”, often without specifying in a precise way the meaning of this term. This lack of clarity is the cause of frequent misunderstandings, since all these notions, and that of robustness in particular, are connected to fundamental issues, which concern nothing less than the very nature of science and its specificity with respect to other human practices, the nature of rationality and of scientific progress; and science’s claim to be a truth-conducive activity. This book offers for the first time a comprehensive analysis of the problem of robustness, and in general, that of the reliability of science, based on several detailed case studies and on philosophical essays inspired by the so-called practical turn in philosophy of science.

**repetition science definition:** *Realism and the Aim of Science* Karl Popper, 2013-04-15 Realism and the Aim of Science is one of the three volumes of Karl Popper’s Postscript to the Logic of scientific Discovery. The Postscript is the culmination of Popper’s work in the philosophy of physics and a new famous attack on subjectivist approaches to philosophy of science. Realism and the Aim of Science is the first volume of the Postcript. Popper here formulates and explains his non-justificationist theory of knowledge: science aims at true explanatory theories, yet it can never prove, or justify, any theory to be true, not even if is a true theory. Science must continue to question and criticise all its theories, even those that happen to be true. Realism and the Aim of Science presents Popper’s mature statement on scientific knowledge and offers important insights into his thinking on problems of method within science.

**repetition science definition:** Discourse Patterns in Spoken and Written Corpora Karin Aijmer, Anna-Brita Stenström, 2004-01-01 This book brings together a number of empirical studies that use corpora to study discourse patterns in speech and writing. It explores new trends in the area of text and discourse characterized by the alliance between text linguistics and areas such as corpus linguistics, genre analysis, literary stylistics and cross-linguistic studies. The contributions to the volume show how established corpora can be used to ask a number of new questions about the interface between speech and writing, the relation between grammar and discourse, academic discourse, cohesive markers, stylistic devices such as metaphor, deixis and non-verbal communication. The corpora used for text-analysis can also be tailor-made for the study of particular genres such as journal article abstracts, lectures, e-mailing list messages, headlines and titles. A recent development is to bring in contrastive data from bilingual corpora to show what is language-specific in the organization of the text.

**repetition science definition: Politics and the English Language** George Orwell, 2021-01-01 George Orwell set out ‘to make political writing into an art’, and to a wide extent this aim shaped the future of English literature – his descriptions of authoritarian regimes helped to form a new vocabulary that is fundamental to understanding totalitarianism. While 1984 and Animal Farm are amongst the most popular classic novels in the English language, this new series of Orwell’s essays seeks to bring a wider selection of his writing on politics and literature to a new readership. In Politics and the English Language, the second in the Orwell’s Essays series, Orwell takes aim at the language used in politics, which, he says, ‘is designed to make lies sound truthful and murder respectable, and to give an appearance of solidity to pure wind’. In an age where the language used in politics is constantly under the microscope, Orwell’s Politics and the English Language is just as relevant today, and gives the reader a vital understanding of the tactics at play. 'A writer who can –

and must – be rediscovered with every age.' — Irish Times

**repetition science definition:** *Algorithms - ESA 2001* Friedhelm Meyer auf der Heide, 2001-08-15 It is only during the last decade that the functions of sinusoidal endothelial cells, Kupffer cells, hepatic stellate cells, pit cells and other intrahepatic lymphocytes have been better understood. The development of methods for isolation and co-culturing various types of liver cells has established that they communicate and cooperate via secretion of various intercellular mediators. This monograph summarizes multiple data that suggest the important role of cellular cross-talk for the functions of both normal and diseased liver. Special features of the book include concise presentation of the majority of detailed data in 19 tables. Original schemes allow for the clear illustration of complicated intercellular relationships. This is the first ever presentation of the newly emerging field of liver biology, which is important for hepatic function in health and disease and opens new avenues for therapeutic interventions.

**repetition science definition: Imagination and Science in Romanticism** Richard C. Sha, 2021-03-02 How did the idea of the imagination impact Romantic literature and science? 2018 Winner, Jean-Pierre Barricelli Book Prize, The International Conference on Romanticism Richard C. Sha argues that scientific understandings of the imagination indelibly shaped literary Romanticism. Challenging the idea that the imagination found a home only on the side of the literary, as a mental vehicle for transcending the worldly materials of the sciences, Sha shows how imagination helped to operationalize both scientific and literary discovery. Essentially, the imagination forced writers to consider the difference between what was possible and impossible while thinking about how that difference could be known. Sha examines how the imagination functioned within physics and chemistry in Percy Bysshe Shelley's Prometheus Unbound, neurology in Blake's Vala, or The Four Zoas, physiology in Coleridge's Biographia Literaria, and obstetrics and embryology in Mary Shelley's Frankenstein. He also demonstrates how the imagination was called upon to do aesthetic and scientific work using primary examples taken from the work of scientists and philosophers Davy, Dalton, Faraday, Priestley, Kant, Mary Somerville, Oersted, Marcet, Smellie, Swedenborg, Blumenbach, Buffon, Erasmus Darwin, and Von Baer, among others. Sha concludes that both fields benefited from thinking about how imagination could cooperate with reason—but that this partnership was impossible unless imagination's penchant for fantasy could be contained.

**repetition science definition: Encyclopedia of Information Science and Technology, First Edition** Khosrow-Pour, D.B.A., Mehdi, 2005-01-31 Comprehensive coverage of critical issues related to information science and technology.

**repetition science definition:** Water-Formed Deposits Zahid Amjad, Konstantinos D. Demadis, 2022-03-24 Water-Formed Deposits: Fundamentals and Mitigation Strategies wholly presents the important issue of deposits in aqueous systems, both industrial and biological. By analyzing causes, mechanisms and mitigation strategies, the book helps researchers/engineers/end-users gain a fundamental understanding of the issues underlying deposit formation and mitigation. It covers numerous, fundamental aspects of water-formed deposits, while also giving an applications' perspective. The book's goal is to assist the reader in his/her understanding of the important issues of scale formation, while also helping with potential solutions. - Provides a fundamental understanding of deposit formation by presenting basic science and mechanisms - Presents an applications perspective - Reveals a systematic overview of deposit-related challenges and their mitigation - Correlates structure to performance in mitigation strategies - Analyzes current legal aspects and regulations - Includes case studies from the real industrial world for the industrial reader/end user

**repetition science definition:** *The Art of Scientific Discovery* George Gore, 1878

**repetition science definition: Auravana Social System** Auravana, 2022-07-12 This publication is the Social System for a community-type society; it is a standardized social system for the organized structuring of a mutually fulfilled social population. A social system describes the organized structuring of a social environment. A social system is a grouping of units of individuation (here, units of consciousness) forming a cooperative network in which information is shared and

integrated through a whole, data structure. The term social system is used, in general, to refer to lifeforms in definite relation to each other, which have enduring patterns of behavior in that relationship. This social system standard identifies humanity's aligned interests, and that which everyone has socially in common. It is an organizing system for social navigation that specifies a direction, orientation, and approach to socio-technical life. The standard details the purpose for the society's existence (a direction), its value system (an orientation), and its approach (a methodology and methods). Herein, these concepts, their relationships and understandings, are defined and modeled. Discursive reasoning is provided for the selection of this specific configuration of a social system, as opposed to the selection and encoding of other configurations, and their consequences are evidenced. The social system provides a description of who humanity is, and where humanity is going, by identifying its social organization.

**repetition science definition: Experimental Life Prolongation** Vladimir V. Frolkis, Khachik K. Muradian, 1991-10-24 This book presents results of lifespan prolongation studies obtained from experimental animal models and clinical and epidemiological human investigations. Modern theories, experimental models, and mathematical models of aging are described, as well as factors identified in lifespan prolongation, such as reduced body temperature, calorie- and protein-restricted diets, antioxidants, enterosorption, motor activity, modulators of genome expression, ionizing radiation, vitamins, microelements, and revitalizers. Gerontologists, physiologists, biochemists, and physicians active in the field of aging will find this book to be an interesting addition to their reference library.

**repetition science definition:** A Dictionary of Science, Literature and Art, Comprising the Definitions and Derivations of the Scientific Terms in General Use ... William Thomas Brande, 1875

**repetition science definition: Change Through Repetition** Yarden Ben-Zur, Babylonia Constantinides, Alexander García Düttmann, Simon Gröger, Annika Haas, Leonie Hunter, Elisa Leroy, Bahar Majdzadeh, Brigitte Rath, Doris Rebhan, Florencia Sannders, Burak Üzümkesici, Matthias Warstat, Penny Dan Xu, Johanna Zorn, 2020-12-03 Art and politics are related through repetition. Both realms are structured by practices of repetition and share a common room of sens(e)uality – aesthetics in the emphatic sense of the word. It is the aesthetics and practices of repetition that reveal the relation between both realms. This volume proposes to explore aesthetic and cultural phenomena that effect change in the non-aesthetical realm, not so much in spite, but precisely because of their being 'mere' repetitions. Repetition shapes art works through procedures and processes of reproduction, copying, depiction, or reenactment. As representation of the world, mimetic art's relationship to the political and social world can be conceived as repetition. When can mimetic works of art nonetheless become a trigger, participant in or vehicle for political and social transformation? How do mimetic practices as diverse as those of the Research Institute Forensic Architecture, the theater of Milo Rau, video installations with found footage from social media and the fictional NSK State address and change regimes of visibility? How can practices such as performative gender constitution and propaganda, which (ostensibly) affirm regimes of visibility, be understood as processes of change through repetition? How do commemorative cultures and practices of documentation interrelate? How is historical reality produced through mimesis with a view to an imaginary political future? By exploring works of art from a wide range of historical periods, places, media and contexts – from the political thought hidden in Hegel's Aesthetics through Hélène Cixous's practice of writing difference(s), from contemporary applied theater through the Gezi Park Uprising in 2013, and from installations of fictional national museums through to the artistic commemoration of assassinated political activists in Iran – all contributions in this volume attempt to show how a concept of change through repetition can help redefine the relationship between art and politics and to enlighten us on the transformative potential of repetition in 'political art'.

**repetition science definition: Forum of Education** , 1927

**repetition science definition: The Forum of Education** , 1927