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प्रमुख  
एन.जी. लक्ष्मीनारायण

संपादक  
डॉ. अंकिता मिश्रा

विक्रय

प्रकाशन अधिकारी  
खेमचंद

अधीक्षक  
बी. वी. मुरालीकृष्णन

वितरण  
अरविन्द कौशिक  
दीपक तुली  
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जयसिंह



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khemchand@nrdc.in  
bvmurali@nrdc.in  
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● ‘आविष्कार’ नेशनल रिसर्च डिवेलपमेंट कारपोरेशन (एनआरडीसी) द्वारा प्रकाशित विज्ञान और प्रौद्योगिकी की लोकप्रिय विज्ञान मासिक पत्रिका है। ● ‘आविष्कार’ में किसी लेख के प्रकाशन हेतु चयन के संदर्भ में संपादक का निर्णय अंतिम होगा। प्रकाशित लेखों और लेखकों द्वारा भेजे गए चित्रों की मौलिकता के संबंध में लेखक स्वयं उत्तरदायी होंगे। ● ‘आविष्कार’ में प्रकाशित सामग्री का किसी भी रूप में उपयोग करने से पूर्व संपादक की अनुमति लेना आवश्यक है। ● ‘आविष्कार’ में प्रकाशित किसी यांत्रिक, वैद्युत, इलेक्ट्रॉनिक आदि युक्ति के काम न करने की स्थिति में पत्रिका/एनआरडीसी उसके लिए उत्तरदायी नहीं होगी। ● ‘आविष्कार’ में प्रकाशित विज्ञापनों में किए गए दावों के लिए पत्रिका और एनआरडीसी उत्तरदायी नहीं होगी।  
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समानो मन्त्रः समितिः समानी समानं मनः सहचित्तमेषाम्।  
24/4/2023... समानं मन्त्रमभिमन्त्रये वः समानेन वो हविषा जुहोमि॥  
समानी व आकृतिः समाना हृदयानि वः।  
समानमस्तु वो मनो यथा वः सुसहासति॥ ऋग्वेद

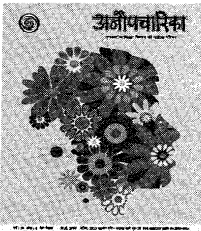
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राजस्थान प्रौढ़ शिक्षण समिति  
7-ए, झालाना झूंगरी संस्थान क्षेत्र,  
जयपुर-302004  
फोन : 2700559, 2706709, 2707677  
ई-मेल : raeajaipur@gmail.com

संरक्षक :  
श्रीमती आशा बोथरा  
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30/4/2023

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ETHICS AND EDUCATION  
Volume 18 Number 1 February 2023

Routledge  
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संजय सहाय  
प्रबंध निदेशक  
रचना यादव  
कार्यालय व्यवस्थापक  
वीना उनियाल  
प्रसार एवं लेखा प्रबंधक  
हारिस महमूद  
शब्द-संयोजन एवं रूपांकन  
प्रेमचंद गौतम  
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होंगे. अंक में प्रकाशित सामग्री के पुनर्प्रकाशन के  
लिए लिखित अनुमति अनिवार्य है. हंस में प्रकाशित  
रचनाओं में विचार लेखकों के अपने हैं. उनसे हंस  
की सहमति अनिवार्य नहीं है. साथ ही उनके मौलिक  
या अप्रकाशित होने का उत्तरदायित्व संपादक और  
प्रकाशक का नहीं है बल्कि यह दायित्व रचनाकार  
का है.

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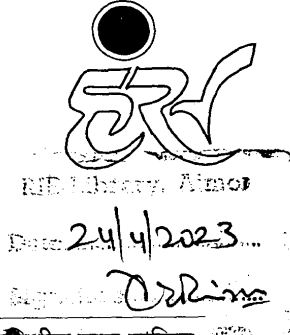
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पुनर्संस्थापक : राजेन्द्र यादव : 1986



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पूर्णांक-438 वर्ष : 37 अंक : 9 अप्रैल 2023



जनचेतना का प्रगतिशील कथा-मासिक

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अपना मोर्चा

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<p>सम्पादन-परामर्श सुभाष पंत हृषीकेश सुलभ सत्यनारायण योगेन्द्र आहूजा संपादन-सहयोग आनंद हर्षुल शम्पा शाह रश्मि रावत प्रबंध सम्पादक दयाशंकर सम्पादक हरिनारायण</p>	<p>कानूनी सलाहकार मनीष पाठक ● प्रचार/प्रसार मुदित ● सम्पादकीय कार्यालय एल-57 बी, दिलशाद गार्डन, दिल्ली-110095 मो. : 7303401407, 7701938525 E-mail : kathadeshnew@gmail.com ● कथादेश से सम्बन्धित सभी विवाद केवल दिल्ली न्यायालय के अधीन ही होंगे.</p>	<p>शाखा कार्यालय श्रीमती (डॉ.) स्मृति सिंह सावित्री सदन, कबीर मार्ग, बनी पार्क, जयपुर (राजस्थान) ● इस अंक का मूल्य 50/- संस्थागत मूल्य 60/- मूल्य वार्षिक (व्यक्तिगत) : 500/- रजिस्टर्ड डाक से : 700/- मूल्य वार्षिक (संस्था तथा लाइब्रेरी) : 700/- रजिस्टर्ड डाक से : 900/- आजीवन सदस्यता : 10000/- रजिस्टर्ड डाक से : 15000/- वार्षिक (विदेश) : 60 डॉलर</p>	<p>● सारे भुगतान बैंक या बैंक ड्राफ्ट कथादेश के नाम से किये जायें. ● मुद्रक, प्रकाशक, सम्पादक हरिनारायण, एल-57 B, दिलशाद गार्डन, दिल्ली-110095 द्वारा स्वास्तिक आफसेट, एम-120, नवीन शाहदरा, दिल्ली-110032 से मुद्रित.</p>
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## Five Keys for Growing Confident Math Learners

Interrogate deficit-based thinking and suggest asset-based language to develop mathematical identities, understandings, and consciousness.

*By Sam Rhodes,  
Alesia Mickle Moldavan,  
Montana Smithey,  
and Allison DePiro*



## Same Task but Different Learning Goals

This article models how to plan and facilitate implementing the same task in two sixth-grade classrooms with two different learning goals using the Five Practices structure.

*By Stephanie D. Sigmon,  
Kelly Q. Halpin, Damien J. Ettore,  
and Jennifer Suh*

Front & Center articles have messages that appeal to *MTLT* readers working with students across all grades, PK–12. This can be achieved in many ways, including writing on an issue of importance to all grade levels, providing relevant examples for different grade bands, or reframing a topic for each grade band in different sections of the article.

If you're interested in writing a Front & Center article for *MTLT*, please check out our updated Author Toolkit at [www.nctm.org/mltsubmit](http://www.nctm.org/mltsubmit). The Author Toolkit is a comprehensive authoring tool, with numerous examples, for preparing and submitting a paper to *MTLT*.

### The Life and Times of a Third-Grade Pencil

Students determine the usable lifespan of a pencil in this mathematical modeling activity.

By Matthew Kandel

### Variations on a Theme of Fibonacci

We introduce variations on the Fibonacci sequence, such as the sequences where each term is the sum of the previous three terms, the difference of the previous two, or the product of the previous two. We consider the ratio of the successive terms in ways that reinforce key behavioral concepts of polynomials.

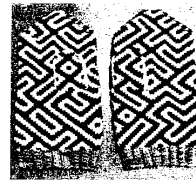
By Sheldon P. Gordon and Michael B. Burns

### Approximating Pi

This method using the area of regular polygons inscribed in circles to approximate a value for pi is similar to the method used by Archimedes using circumferences.

By Lidia Gonzalez

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नई शिक्षा वर्ष 72 अंक 8, मार्च, 2023

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Elaine Green  
Trust Manager  
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Finance Manager  
Mark Gough

### **Events Manager**

Rowena Wilson

### **Fundraising Manager**

Sharon Garfinkel  
+44 (0)7435 781842  
sharon@resurgence.org  
Outreach Officer  
Georgie Gilmore  
georgie@resurgence.org

### **Membership Manager**

Emily Martin  
+44 (0)1237 441293  
members@resurgence.org

### **Charity Administrator**

Jenny Routley  
+44 (0)1237 441293  
info@resurgence.org

### **Advertising Sales**

Dan Raymond-Barker  
+44 (0)7776 361671  
dan@emsm.org.uk

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Sharon Garfinkel  
+44 (0)7435 781842  
sharon@resurgence.org  
Outreach Officer  
Georgie Gilmore  
georgie@resurgence.org

Membership Manager  
Emily Martin  
+44 (0)1237 441293  
members@resurgence.org

Charity Administrator  
Jenny Routley  
+44 (0)1237 441293  
info@resurgence.org

Advertising Sales  
Dan Raymond-Barker  
+44 (0)7776 361671  
dan@emsm.org.uk

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Fundraising Manager  
Sharon Garfinkel  
+44 (0)7435 781842  
sharon@resurgence.org  
Outreach Officer  
Georgie Gilmore  
georgie@resurgence.org

Membership Manager  
Emily Martin  
+44 (0)1237 441293  
members@resurgence.org  
Charity Administrator  
Jenny Routley  
+44 (0)1237 441293  
info@resurgence.org  
Advertising Sales  
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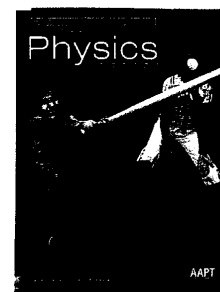
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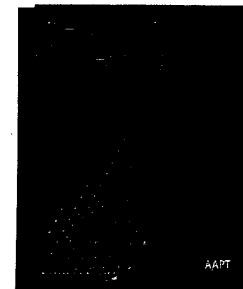
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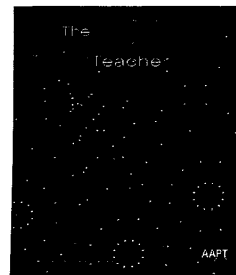
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