

1983

Cover - Front Matter - Table of Contents

Follow this and additional works at: <https://scholarworks.uni.edu/istj>



Part of the [Science and Mathematics Education Commons](#)

Recommended Citation

(1983) "Cover - Front Matter - Table of Contents," *Iowa Science Teachers Journal*: Vol. 20 : No. 3 , Article 1.
Available at: <https://scholarworks.uni.edu/istj/vol20/iss3/1>

This Front Matter is brought to you for free and open access by the Iowa Academy of Science at UNI ScholarWorks. It has been accepted for inclusion in Iowa Science Teachers Journal by an authorized editor of UNI ScholarWorks. For more information, please contact scholarworks@uni.edu.



***IOWA
SCIENCE
TEACHERS
JOURNAL***

*Winter 1983-84
Vol. 20 (3)*

ISSN No. 0021-0676

THE IOWA SCIENCE TEACHERS JOURNAL

The Iowa Science Teachers Journal is co-sponsored by the Iowa Academy of Science and the University of Northern Iowa. The journal is dedicated to the improvement of science teaching and to the stimulation of interest in scientific studies. The journal is published tri-annually.

SUBSCRIPTION

For subscriptions, circulation data, additional copies and change of address, write the Managing Editor, *ISTJ*, Iowa Academy of Science, P.O. Box 868, Cedar Falls, Iowa 50613. Single copies may be obtained for \$2.00.; a year's subscription is \$4.50. Any secondary science teacher in Iowa may obtain a subscription free of charge if a request is mailed to the Managing Editor. All such requests must be made on school stationery.

PUBLICATION POLICY

Manuscripts for publication will be received from all individuals interested in science education at any academic level. Preferential treatment will be given to Academy members and to papers with topics of special scientific and educational interest to science educators in Iowa.

All non-solicited manuscripts submitted to the editor will be reviewed by two authorities in the area concerned. All manuscripts must be typewritten, double-spaced on one side of a sheet and submitted in duplicate. Every attempt will be made to publish papers within a year after approval for publication. News items will be published promptly. Publication deadlines are April, September and December.

For information concerning news items, announcements or articles, contact Carl W. Bollwinkel, Ph.D., Editor, *Iowa Science Teachers Journal*, Dept. of Teaching, Price Laboratory School, University of Northern Iowa, Cedar Falls, Iowa 50613.

Responsibility

Experiments, laboratory exercises, lecture demonstrations and other descriptions of the use of chemicals, apparatus and instruments are presented in this journal as illustrative and directed at qualified teachers. Although every effort is made to ensure and encourage safe practices and safe use of chemicals, *ISTJ* cannot assume responsibility for uses made of its published materials. All those teachers planning to use materials from our pages should make choices and develop procedures for laboratory and classroom safety in accordance with local needs and situations.

IOWA SCIENCE TEACHERS JOURNAL

Volume 20

Number 3

Winter 1983-84

Contents

- 2 SURVEY OF IN-SERVICE NEEDS OF IOWA SCIENCE TEACHERS
Timothy Cooney and Darrel Hoff
- 9 PERCEPTIONS OF SCIENCE OF THIRD, SEVENTH, AND ELEVENTH GRADE
STUDENTS ENROLLED IN CEDAR RAPIDS (IOWA) SCHOOLS
Stuart O. Yager and Robert E. Yager
- 15 AN INTERESTING WINTERTIME TEMPERATURE PHENOMEN
Laurent Hodges
- 17 THE IDENTIFICATION OF UNKNOWN BACTERIA
Steve Ziser
- 22 COLLECTING REPTILES AND AMPHIBIANS FOR CLASSROOM USE
Donald J. Perschau
- 27 READING ROCKS: EARLY HISTORY OF PALEONTOLOGY
Mary Simonis-Parish and Doris A. Simonis
- 32 ELEMENT-ARY PUNS
Rita K. Voltmer, Jody M. Hines and James L. Kelly
- 33 OUTSTANDING SCIENCE STUDENT AWARD
- 39 INDEX TO VOLUME 20

Departments

34 SCIENCE NOTES

37 SCIENCE CALENDAR

38 EDITOR'S CORNER

The Cover

The cover is a rendering in black marker based on a painting by
Andrew Wyeth. The art work was done by

Brian Peters

Peters is a senior art major with an emphasis in graphic design at the
University of Northern Iowa.