

THE SCIENCE TEACHER

CONTENIDO

VOLUME 78 No. 4 APRIL/MAY 2011

FEACTURES ON THE THEME

- 34 **From Misconceptions to Conceptual Change.**
Tips for identifying and overcoming students' misconceptions.
Julia Gooding and Bill Metz.
- 38 **Acting Learning Strategies: The Top 10.**
10 strategies to help students overcome their naive conceptions of science.
Claudia Khourey-Bowers.
- 44 **Fire and Ecological Disturbance.**
A 5E lesson to address an important misconception.
Michael Dentzau and Victor Simpson.
- 52 **The Reasons for the Seasons.**
Using temperature data to challenge students' misconceptions.
Jeffrey D. Thomas.
- 58 **Get in the Game With Team Density.**
Using sports balls to confront students' naïve conceptions about density.
Deborah Herrington and Pamela Scott.

DEPARTAMENTS

- 6 **Editor's Corner**
Private Worlds.
- 8 **Safer Science**
Live Animals and Dissection.
- 10 **Science 2.0**
Stop-Motion Mitosis.
- 12 **The Green Room**
What's in Your Trash?
- 14 **The New Teacher's Toolbox.**
Piloting New Ideas: The Brown-Bag Friday Seminar.
- 16 **Headline Science**
Wireless Technology • Rising Sea Levels • Killer Mice • Invasive Plants •
Quest for Designer Bacteria • Thick Disc of Older Stars • Rock Redwoods •

Microwave photons • Flowing Magma • Graphene Superconductor Functions.

43 **Author Guidelines.**

62 **Idea Bank.**
Celebrating *Serendipity*: Connecting Chemistry and History.

64 **Career of the Month.**
An Interview With Scientific Photographer Flip Nicklin.

68 **Health Wise.**
Are plastic water bottles safe to drink from and reuse repeatedly?

70 **NSTA Recommends**

84 **Index of Advertisers**

COVER

Every time we teach new concepts compete with students' misconceptions. It is only by identifying and examining these naïve ideas that we can hope to bring about conceptual change. This issue of *The Science Teacher* addresses common science misconceptions and provides tips on overcoming them.