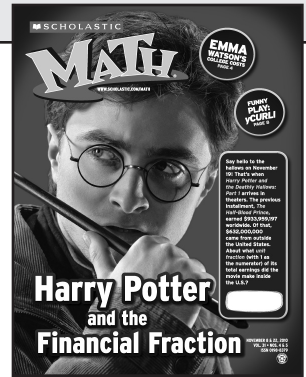


MATH

TEACHER'S EDITION
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Have students who love to draw? "Math Wiz Comics" contest on page 22!



This issue is 24 pages instead of 16, so there is something for everyone... and then some! An interesting pair of articles for students might be "Emma's College Costs" (pp. 4–5) and "Splashes and Taxes" (pp. 14–15). In the first, we learn about college costs from Emma Watson of the Harry Potter films. In the second, we learn how *MATH's* summer intern helps pay her college costs with a part-time job. There's a really fun variable read-aloud play (pp. 8–9) based on TV's *iCarly*. Plus a smartphone graph, temperature-telling cricket, NFL punting stats, a flying car's MPG, and much more!

Happy Thanksgiving,

Jack Silbert
Jack Silbert, Editor

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SKILLS GUIDE



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ARTICLE	MAJOR FOCUS	REAL-LIFE CONNECTIONS	SUPPLEMENTARY SKILLS	NCTM STANDARDS*
ACTIVITY: cover Harry Potter & Financial Fraction	Unit fractions	• New Harry Potter movie • Movie earnings	• Whole number $-$, $+$ • Two-step problems	1, 6, 8, 9
FAST MATH: p. 2	Mixed skills	• Deep-sea isopod found • TV's <i>Big Bang Theory</i>	• Geometric progression; metric/standard measures; time; etc.	1, 2, 4, 7, 8, 9, 10
MATH FOR YOUR DAILY LIFE: p. 4 Emma's College Costs!	Money math: college costs	• Harry Potter's Emma Watson • Attending college	• Money $+$, $-$, \times , \div • Reading a chart	1, 4, 7, 8, 9, 10
STATISTICS: p. 6 Smartphones' Soaring Sales	Completing a line graph	• Rise of smartphone popularity in the United States	• Fraction conceptualization • Visual discrimination	1, 5, 7, 8, 9, 10
READ-ALoud PLAY: p. 8 yCurl!	Pre-algebra: solving for variables	• Spoof of TV show <i>iCarly</i>	• Inverse operations • Whole number $+$, $-$, \div	1, 2, 8
FEATURE: p. 10 Tempa-Chirp	Pre-algebra: using a formula	• Snowy tree cricket • Dolbear's Law	• Order of operations • Measurement: degrees Fahrenheit	1, 2, 4, 6, 8, 9
SPORTS BY THE NUMBERS: p. 12 Puts the Foot in Football	Problem solving: multi-step problems	• Net punting average statistic • Raiders' punter Shane Lechler	• Whole number $-$, \times , \div • Rounding decimals	1, 2, 4, 5, 6, 7, 8, 9, 10
MATH AT WORK: p. 14 Splashes and Taxes	Money $+$, $-$, \times	• Job profile: lifeguard • Paycheck taxes and deductions	• Rounding money amounts • Introduction to percentages	1, 2, 4, 8, 9
FEATURE: p. 16 Believe It... A Flying Car!	Rate: miles per gallon	• Terrafugia Transition flying car • Fuel efficiency	• Whole number \times , $+$ • Decimal \times	1, 4, 8, 9
PRACTICE TEST SERIES: p. 18 On the Other Side	Pre-algebra: equations with variables on both sides	• Standardized test practice	• Inverse operations • Visual representation	1, 2, 6, 7, 8, 9, 10
MATH WIZ COMICS/CONTEST: p.20 Decimals for the Birds!	Equivalent decimals/frax w/ powers-of-10 denominators	• Comic strips as a literacy tool	• Writing fractions as decimals • Vocab: numerator, denominator	1, 6, 8
LOGIC PUZZLES: p. 23 Brain Twisters	Problem solving: using logic	• NBA stars LeBron, Durant, Kobe • TV's Selena Gomez	• Guess-and-check • Combinatorics	1, 3, 4, 6, 7, 8, 9, 10
STAR WRAP: back page Jason's The Greatest	Greatest common factor	• Singer Jason Derülo	• Whole number $+$	1, 8

*NCTM Middle School Curriculum Standards

- | | |
|--------------------------------|------------------------|
| 1. Number and Operations | 6. Problem Solving |
| 2. Algebra | 7. Reasoning and Proof |
| 3. Geometry | 8. Communication |
| 4. Measurement | 9. Connections |
| 5. Data Analysis & Probability | 10. Representation |

For more detailed information about the National Council of Teachers of Mathematics Standards, write to: NCTM, 1906 Association Drive, Reston, VA 20191-9988. Phone: (703) 620-9840. Fax: (703) 476-2970. E-mail: infocentral@nctm.org

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Educational Publishers



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TEACHING TIPS

COVER

Harry Potter and the Financial Fraction

This is a nice example of when front-end rounding is very useful.

PAGES 2 – 3

Fast Math

The Big Bang Theory: Some students will use trial and error to find out what 14 is being multiplied by to get a product of 238. Remind students that division and multiplication are inverse operations. Divide 238 by 14!

TiMMMes Table: Whoops! Someone forgot 160!

iPod? No. Isopod: Have students estimate first: $76.2 \div 2 \approx 38$ and $76.2 \div 3 \approx 25$. Therefore, 76.2 is about 31 inches.

Nutty Numbers: Ask a student to share how this equation could be solved using mental math. Example: $3,500 \div 70$ is the same as $350 \div 7$ which is 50; $50 \times 4 = 200$; $50 \times .4 = 20$; $200 + 20 = 220$; $590 - 220 = 370$.

PAGES 4 – 5

Emma's College Costs

College may seem like a ways away for your students. However, they may have familiarity with the costs associated with college. Discuss with students what the costs are, recognizing that students may not be familiar with the vocabulary (tuition, room and board).

PAGES 6 – 7

Smartphone Sales

A line graph displays the change

in data over time. Discuss cell phones and smartphones with students to see what they know about this technology before looking at the actual data. What do students think the growth has been? What would that data look like if graphed?

PAGES 8 – 9

yCurl

Ask for volunteers to read the play aloud. If possible, video the students as they “act” the parts and play the video for the class. This may not be YouTube material, but my students love acting out plays like this and having them videotaped.

PAGES 12 – 13

Puts the Foot in Football

There's a lot of vocabulary in this article, so discussing this first will be helpful. Let a student familiar with football lead the discussion. Be sure to work through the example together.

PAGES 14 – 15

Splashes and Taxes

This is a great article to help students with a topic they won't be familiar with, but they will become familiar fairly soon! You might review with students how to convert between percents and decimals before they begin.

PAGES 16 – 17

Believe It... A Flying Car!

Ask how many students' families own an electric vehicle or if they have a relative with an electric vehicle. My students are still fascinated with my electric vehicle. Discuss what gas mileage means: If a car uses 10 gallons of gas to drive 340 miles, the car gets 34 miles on one gallon of gas. We would abbreviate this to 34 mpg.

PAGES 18 – 19

On the Other Side

If students have solved equations with variables on both sides, this will be a good review. If they have not, you might have them try the practice test just to see how they reason out the problems.

PAGES 20 – 21

Decimals for the Birds!

It might be helpful to do a quick review of place value. Some students are confused because there is no “one-ths” place value; it starts with tenths, hundredths, thousandths, and so on. I also like to relate equivalent decimals and fractions to money: \$0.10 is ten cents which is $\frac{1}{10}$ of a dollar; \$0.25 is one quarter of dollar.

For a list of
INTERNET RESOURCES
related to this issue, visit:
www.scholastic.com/math/links

EXTENSION ACTIVITIES

PAGES 2 – 3

Fast Math

Critic's Corner: *The Big Bang Theory*:

Have students explore what happens when the factor is less than one. Example: 512, 256, 128, ...

MATH Spotlight on... Phelps Bros.:

How long would it take to reach your nearest airport? Look up a departing flight and determine when you'd have to leave school. Don't forget time for luggage, security, and boarding!

PAGES 4 – 5

Emma's College Costs

Have students research changes in average college costs (perhaps data starting with the year they were born). It's important to separate data for private vs. public colleges.

PAGES 10 – 11

Tempa-Chirp

The formula given is equivalent to

counting the number of chirps for 15 seconds and adding 40. Share more trivia with your students: Amos Dolbear also invented the first telephone receiver in 1865, 11 years before Alexander Graham Bell, but he couldn't prove it and Bell was awarded the patent for the invention.

PAGES 16 – 17

Believe It... A Flying Car!

Have students determine the cost of driving 15,000 miles in one year if gas is approximately \$2.60 per gallon. Assume car A (electric) averages 45 mpg and car B (gas only) averages 28 mpg.

PAGES 20 – 21

Decimals for the Birds!

Repeating decimals can also be written as fractions. Students may be familiar with $0.\overline{3} = \frac{1}{3}$ and $0.\overline{6} = \frac{2}{3}$.

Challenge your students to determine what fraction is equivalent to the repeating decimals $0.\overline{2}$, $0.\overline{5}$, and $0.\overline{15}$.

PAGE 22

Star in Our Comic!

Encourage your students to enter our contest. Visit our Web site, www.scholastic.com/math/contest to print out cover sheets for your class.

PAGE 23

Brain Twisters

These are classic problems that students should enjoy solving. Have students work with a partner and then share solutions with the whole class. Then have students come up with their own brain twisters to challenge the rest of the class.

Teaching tips and extension activities
written by Laurie Boswell
*Laurie is a teacher and the headmaster of
Riverside School in Lyndonville, Vermont.*

RESOURCES FOR THIS ISSUE AT

WWW.SCHOLASTIC.COM/MATH

Digital package for pp. 14-15:

- Projectable PDF of article
- Differentiated-instruction reproducible activities
- Listen-and-read podcast for struggling readers

■ DON'T MISS OUR FRACTION- PACKED DECEMBER 13 ISSUE!

MATH FOR YOUR DAILY LIFE: *Gulliver's Travels* star Jack Black talks about **fractions of an inch** on rulers and tape measures. That would be handy on Lilliput!

STATISTICS: The KFC Double Down inspired other restaurants to produce freaky, fatty sandwich creations. This inspires an activity to **make a box-and-whisker plot** comparing fat in fast-food cheeseburgers.

MATH AT WORK: Meet a high-school student who takes a break to travel, sing, and dance with the Radio City holiday show tour! He needs to know **musical fractions**.

SPORTS BY THE NUMBERS: Can the Penn State women's volleyball team win the NCAA championship for the fourth year in a row? Students calculate the sport's statistics to see how top players match up.

...AND MUCH, MUCH MORE!