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HAPPY HOLIDAYS from your friends at Scholastic *MATH* Magazine!

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Please excuse the pun, but this issue of *MATH* is fraction-packed!
On pages 4–5, movie star Jack Black helps us come to terms with the fractions of an inch you'll find on a ruler or tape measure. On pages 8–9, we meet a high school student who tours with the Radio City holiday show, and we learn that musical notes are given fractional labels as well. We have a very funny practice test on pages 12–13, and the skill this month is multiplication of fractions and also mixed numbers. We're literally cover-to-cover with fractions this issue: A fraction puzzle on the front cover and a simplifying-fractions activity on the back page!

See you in the new year,
Jack Silbert
Jack Silbert, Editor

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SKILLS GUIDE

= Calculator Use Suitable = Critical Thinking = Writing in Math

ARTICLE	MAJOR FOCUS	REAL-LIFE CONNECTIONS	SUPPLEMENTARY SKILLS	NCTM STANDARDS*
ACTIVITY: cover Jack at His Lowest!	Writing a fraction	• Jack Black, star of *Gulliver's Travels*	• Measures: feet to inches • Fractions in lowest terms	1, 4, 8, 9
FAST MATH: p. 2	Mixed skills	• *The Voyage of the Dawn Treader* • *Degrassi*'s Charlotte Arnold	• Measures: hours, days, years; solving for variables; etc.	1, 2, 4, 7, 8, 9
MATH FOR YOUR DAILY LIFE: p. 4 Jack Black's Ruler Rules	Ruler skills: fractions of an inch	• *Gullivers Travels*'s Jack Black • Measurement around the home	• Equivalent fractions • Visual discrimination	1, 4, 8, 9, 10
STATISTICS: p. 6 Sandwich Wars	Making a box-and-whisker plot	• Recent high-fat, high-calorie sandwich creations	• Median of a set • Range of a set	1, 5, 7, 8, 9, 10
MATH AT WORK: p. 8 Singing Sy's Fraction Action	Fraction addition	• Career: stage actor • Fractions in written music	• Fractions that add up to 1 • Lowest common denominator	1, 7, 8, 9, 10
SPORTS BY THE NUMBERS: p. 10 Volleyball: A Big Hit	Averages	• Volleyball statistics • NCAA women's championship	• Rounding decimals • Whole number +, –, ÷	1, 6, 8, 9
PRACTICE TEST: p. 12 Product Placement!	Multiplying fractions	• Standardized test practice	• Mixed numbers to improper frax • Area of a triangle	1, 2, 3, 4, 8, 9, 10
MATH WIZ COMICS: p. 14 LCM? OMG!	Least common multiples	• Comic strips as a literacy tool	• Whole number ×, ÷	1, 8
STAR WRAP: back page Simply Katerina	Simplifying fractions	• TV's *The Vampire Diaries* • Actress Katerina Graham	• Greatest common factor • Whole number ÷	1, 8

***NCTM Middle School Curriculum Standards**

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

For more detailed information about the National Council of Teachers of Mathematics Standards, write to:
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There is still time for students to enter our
MATH WIZ COMICS CONTEST!
Entries must be received by Dec. 20, 2010.
Details in our November 8/22 issue.
Complete rules and entry cover sheet at
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TEACHING TIPS

COVER

Jack at His Lowest!

Make sure students understand the language "what fraction of Jack's height are the Lilliputians." Students need to compare the tallest Lilliputian height to Jack's height.

PAGES 2 – 3

Fast Math

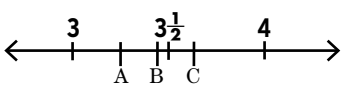
***MATH* Spotlight on... Charlotte Arnold:** Some students may use substitution and try both values of x to see which makes the equation true!

Nutty Numbers: If students assume that the quotient is a whole number they should be able to reason that 8 is the correct answer to the first part of the equation (8×228 would have a 4 in the ones place; 7×228 and 9×228 would not). Students should be able to compute mentally the rest of the problem.

PAGES 4 – 5

Jack Black's Ruler Rules

It is helpful to review the scale on a ruler. Counting by $\frac{1}{8}$'s, students should recognize that some have simpler names such as $\frac{2}{8} = \frac{1}{4}$. As a warm-up, you could draw a magnified number line with points A, B, and C labeled as shown below. Note that 3, $3\frac{1}{2}$, and 4 are labeled. Ask students to name each mixed number by using visual clues and reasoning.



Answers: A = $3\frac{1}{4}$; B = $3\frac{7}{16}$; C = $3\frac{5}{8}$

PAGES 6 – 7

Who Loses in the Sandwich Wars?

If students have not worked with box-and-whisker plots, explain that the plot is made on a number line and the plot allows you to see how the data is distributed. Five key points are used when making a box-and-whisker. To help students model finding the 5 key points, give each student a Post-It note. On the note they write how many pairs of shoes they own. (If this might be a sensitive question, they could guess at how many pairs of shoes they think their teacher owns.) Putting their notes on the board, have a student sort the notes into ascending order. From the sorted data, record the least value, greatest value, and median. To find the first and third quartiles, find the medians of the lower and upper halves. Use these 5 values to make a box-and-whisker plot. Students should then be set to answer the questions in this article.

PAGES 10 – 11

Volleyball: A Big Hit

Calculators will be helpful in answering the questions. Review rounding a decimal to the nearest hundredth and to the nearest whole number. If your students play Four Square, use a statistic from that game to practice computing a statistic.

PAGES 12 – 13

Product Placement!

When students encounter a problem where they need to multiply fractions, I make a pointing motion with both of my index fingers as I lunge forward. Students remember, "multiply straight across." I follow this with a diagonal motion of my hand to remind them to divide out common factors first! Try this problem with students:

$\frac{1}{2} \times \frac{2}{5} \times \frac{5}{9} \times \frac{9}{13} =$

PAGES 14 – 15

LCM? OMG!

Students often mix up least common multiple and greatest common factor. Review what multiples are. The numbers found in this article are small enough so that the listing method should be easy to use until example #6. If students aren't familiar with using the prime factorization method, the LCM (88, 154) could take a while using the listing method. Since $88 = 2^3 \times 11$ and $154 = 2 \times 7 \times 11$, the LCM $(88, 154) = 2^3 \times 7 \times 11 = 616$.

BACK PAGE

Simply Katerina

The problem posed above for pages 12–13 would have given the product $\frac{90}{1170}$. To simplify, the GCF would have been 90.

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

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Maurice R. Robinson, founder, 1895-1982

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EXTENSION ACTIVITIES

PAGES 2 – 3

Fast Math

Critic's Corner: *The Voyage of the Dawn Treader*: Have students figure out their age in Narnian time.

MMMunchies: There are *many* Web sites that debate the ambiguity of the 12 a.m. – 12 p.m. question. It would make a quick report for your students.

Letter, Later: What is the maximum number of years between 1937 and 2010 that could have been leap years? (Answer: 19; actual number: 18)

Nutty Numbers: If your students want to learn more about the efforts to rebuild Haiti, next month's issue will include a feature on the one-year anniversary of the earthquake.

PAGES 4 – 5

Jack Black's Ruler Rules

Have students make up their own unit of linear measure. Give each student a length of adding machine tape. Ask them to determine what the lenth of one "unit" will be. By folding the paper tape, they can determine the lengths of $\frac{1}{2}$, $\frac{1}{4}$, and $\frac{3}{4}$ of a unit, and so on. Students name their unit and then measure items in the room, such as the dimensions of a book, width of a desk, height of the chalkboard, etc.

PAGES 6 – 7

Who Loses in the Sandwich Wars?

A nice extension is to have students explore the data from two fast-food restaurants. The data would display the grams of fat in the various sandwiches offered at the restaurant. Students would then make a double box-and-whisker plot using one number line.

PAGES 8 – 9

Sy's Fraction Action

Students hopefully have studied the concepts presented here in their music class. Certainly there will be volunteers in your class to help discuss measures and notes. Students could write a 4-measure song in $\frac{4}{4}$ time using a variety of notes.

PAGES 10 – 11

Volleyball: A Big Hit

Students who play volleyball might wish to discuss other statistics in the sport.

PAGES 12 – 13

Product Placement!

Have a conversation with your class about product placement. Do your students have examples of a movie or TV show they watched that had product placement? How do they feel when they see obvious product placement? Did they ever want to buy a product because it was in a movie or TV show?

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

■ *DON'T MISS OUR JAN. 10, 2011 ISSUE...*

FEATURE: It's one year after the devastating earthquake in Haiti. We look at the damage with an **earthquake magnitude scale** and discuss relief efforts.

MATH FOR YOUR DAILY LIFE: *Big Time Rush* star James Maslow talks about ongoing **costs of driving a car.**

SPORTS BY THE NUMBERS: Why isn't women's ski jumping an Olympic sport? We cover the controversy and examine the scoring system.

MATH AT WORK: A travel-guide professional explains the importance of **currency conversions.**

...AND MUCH, MUCH MORE!

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