Abacus

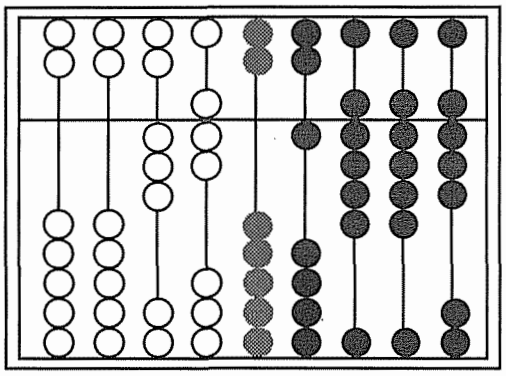
The Great Canadian Dinner



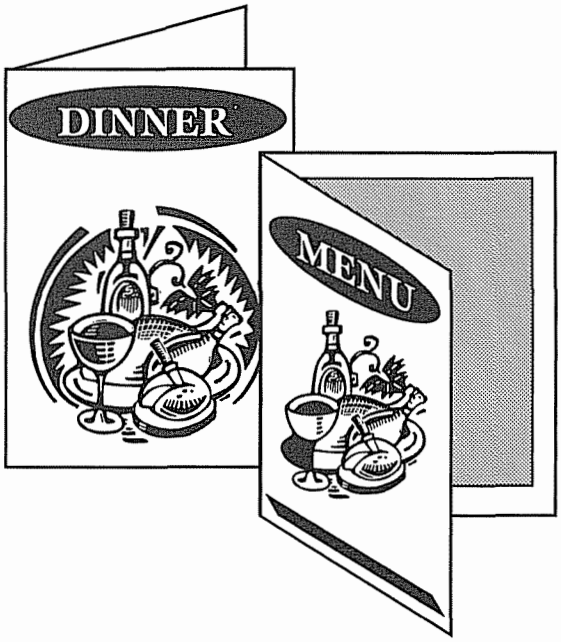
You're Invited

Make a Menu Activity!

Volume 37 1998



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Edited by Frances Schatz



Teachers Meet the Challenges in Elementary Mathematics

As your editor I am ecstatic about the number and quality of submitted activities for this issue. You will find a number of excellent ideas to use with your new class.

The Ontario Curriculum, Grades 1-8, emphasizes the need for relationships between mathematics and other curriculum. At the same time we are challenged to connect mathematical strands. Both ideas are addressed.

Two Halton District School Board teachers planned a Geometry and Data Management assignment. **Joanne Harris**, Centennial Middle School in Georgetown teamed up with **LouiseSpeck**, Brookville Public School in Campbellville to create an activity that involves art, geometry and statistics. This project links two strands: geometry/spatial sense and data management. Thank you Joanne and Louise.

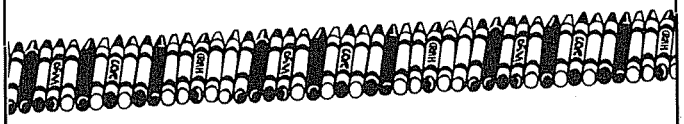
Three Waterloo District Public School Board elementary teachers cooperatively created 'The Great Canadian Dinner Party' project specifically for grade four; however, I feel it will be practical for other levels too. **Cynthia Dobbie**, Dickson School, Cambridge, **Kathy Banks**, Westmount PublicSchool, Kitchener, and **Dina Greenfield**, J.F. Carmichael Public School, Kitchener are the writers. Talk about a project that is not only cross-curricular but also addresses expectations in four strands of the mathematics program. Thank you Cynthia, Kathy and Dina.

Your editor would like to see samples of the above projects. Highlights from the samples will appear in a future issue. Send a submission from your school and your editor will send a surprise for your classroom.

Have a good year. Don't forget to submit your original activity ideas to the editor. Be sure to identify grade level and curriculum strand(s).

Frances Schatz

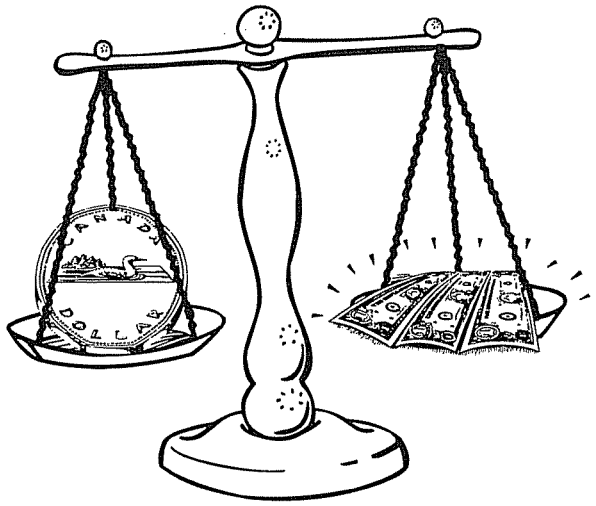
Three-Minute Minders to Start Class



1. There are 32 children in this class. Each of you need 16 crayons. I had ordered enough for this class but a box of 288 crayons was lost. How many crayons will each of you get? **Answer:** 7

2. My number is a two-digit perfect square. When I place a digit chosen from 5, 6, 7, 8 or 9, between these two digits, the new number is divisible by 12. What is my three-digit number? Is there more than one answer? **Answers:** 156, 396, 684

3. If a Canadian dollar is worth $0. 68 in United States dollars, how much is a United States dollar worth in Canadian dollars? **Answer:** $1.47



A WINNING CARD DESIGN

by Joanne Harris and Louise Speek

This assignment was designed to demonstrate to students that connections can be made between the various Strands in the Mathematics Curriculum. In addition, by collaborating with the Art teacher and the Art program, real world applications for Mathematics concepts can be more readily identified. Upon completion of this assignment the teacher will be able to assess whether the student has successfully achieved the following objectives from the grade 7 **Geometry and Spatial Sense** Strand and the **Data Management and Probability** Strand

- create and analyse designs that include translated, rotated, and reflected two-dimensional images using concrete materials and drawings
- describe designs in terms of images that are congruent, translated, rotated and reflected
- collect and organize data on tally charts and stem-and-leaf plots, and display data on frequency tables, using simple data collected by students (primary data)
- understand how tally charts and frequency tables can be used to record data
- describe information presented on tally charts, stem-and-leaf plots and frequency tables
- display data on bar graphs pictographs and circle graphs, with and without the help of technology
- make inferences and convincing arguments that are based on data analysis.

This assignment would be undertaken as a culminating activity following direct instruction on how to draw the basic images involved and on how to conduct surveys and record the results. Working with the Art teacher allows for opportunities to enhance the depth of drawing instruction and increase the quantity of time allocated to the activity. This assignment requires the student to utilize a variety of skills such as: communication and presenting skills, organizational skills, and technological skills. In addition the student must demonstrate an understanding of and ability to apply geometry and data management concepts. One assessment strategy calls for student reflection. Some sample items for reflection in student Math Journals:

1. What artistic or mathematical problems did I encounter?
2. What did I like about this assignment?
3. What are the strengths of this piece of artwork? (Tell me what you want me to notice about your work)
4. I wish I had been told more about....
5. I could have improved on the assignment by...
6. In 3 or 4 sentences tell me what you learned by completing this activity.

Project Evaluation

Cards:

- Correct size, correct number, accurate images (reflection, rotation, translation, one other)
- Effectiveness of Design (does it grab your attention)
- Visual Appeal-bold
- One card accurately enlarged

Test marketing:

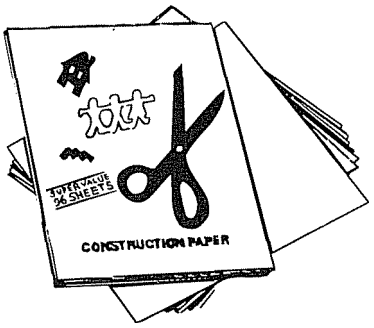
- Meets minimum sample size (30), is consistent (only grade 3's or only males),
- All rough work eg. Tally sheets, frequency cards kept and available

Presentation:

Correct Mathematical language used to describe cards, survey strategy and results

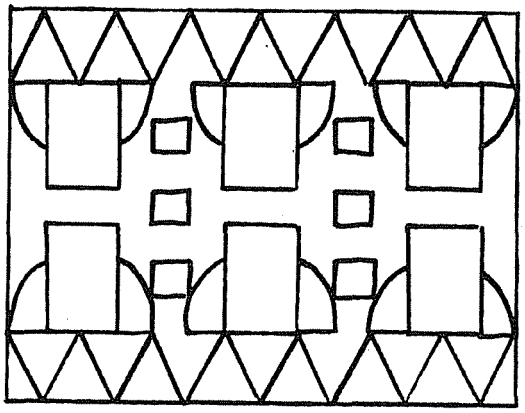
Presentation includes graph produced using computer technology such as IBM Microsoft Excel.

A Winning Card Design



PROBLEM:

You have obtained a job at the Acme Card Company. Your first assignment will be to design four different greeting cards. The cards are to be 11cm X 14cm. One card is to feature a translated two-dimensional image, one card a rotated two-dimensional image and one a reflected two-dimensional image. The fourth card can be a combination of images that will tessellate the plane or a second translated, rotated or reflected design. The completed card set is to be test marketed on a sample population. The test market must have a minimum of 30 participants. You could select 30 grade 4 students or 30 twelve year old girls. The most popular card from your test market is to be enlarged to 22cm X 28cm and presented to the company executives using the correct and appropriate Mathematical language. Your goal is to convince them that the design you have created should be included in the new spring collection.

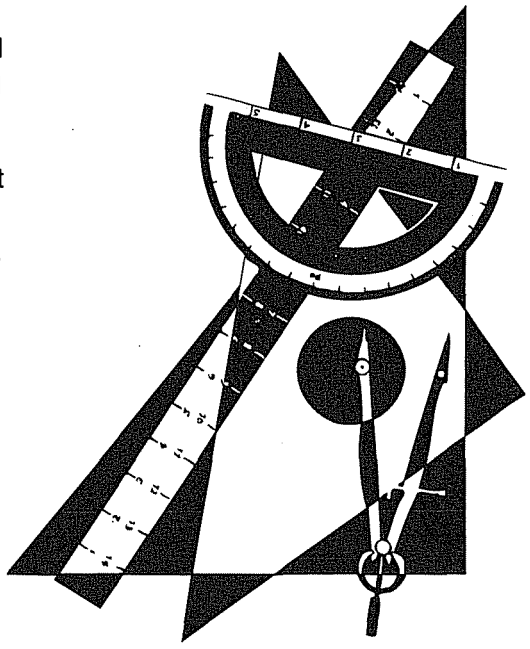


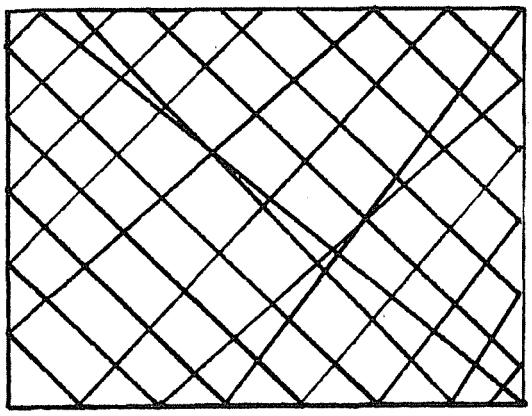
MATERIALS

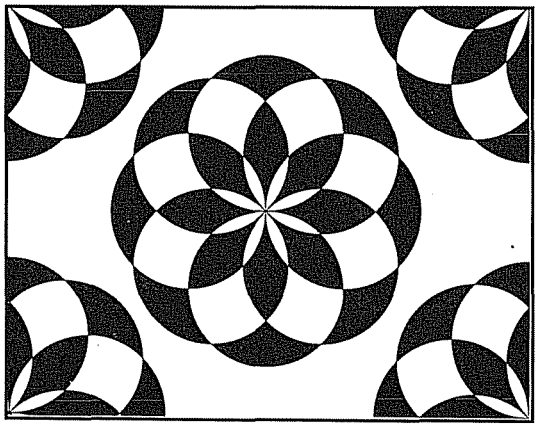
Four cards each 11cm X 14cm, pencil, ruler, paper,
one card 22cm X 28cm

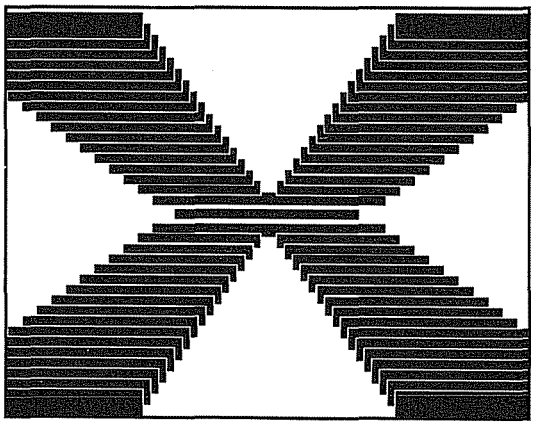
GOALS

1. Correctly draw and identify the original images
2. Accurately conduct a survey of a sample population. (Minimum size 30 individuals)
3. Accurately enlarge most popular card.
4. Convincingly present to company executives using appropriate language and appropriate support materials (graphs).









THE GREAT CANADIAN DINNER PARTY

by Cynthia Dobbie, Kathy Banks and Dina Greenfield

This is a Grade 4 Language Arts/Visual Arts/Mathematics activity that touches four strands in the curriculum. Number Sense and Numeration expectation has students exploring relations between decimals and fractions with quantities and dollars/cents. This overlaps with Measurement (applying the terms) and Data Management (collecting and organizing data). Designing the invitation (Geometry), writing the dinner invitation and menu plans (language arts) and making the project attractive (visual arts) makes this project pedagogically worthwhile.











Class Discussion - Teacher Input

1. Grocery stores list their prices for single items. You will require different amounts of each item. Calculate the cost for each food item.

Example

You need 6 L of Soda Pop. At Store I the price is 3 for $2. 99. From Store I you need 6 divided by 3 times $2. 99 which equals $5. 98. From Store II the price is $0. 90/L, thus cost is 6 times $0. 90 which equals $5. 40.

2. Complete your chart to include all items on your menu. Remember, the total will only be an estimate because your source of information might be old, the ad might have an error on an item or 'store's today price' had to change.

3. For homework visit your local grocery store or the one you chose from best estimated total with your parent/guardian. List your items and the actual posted prices. If you buy any of the items use the cash register receipt for the actual price.

4. Your father tells you that if you apply for a Super Saver card at Store I, you will save 10% off of your total order. How will this affect your total?Will you change your choice of store for shopping?

   10% of $12.19 = $1.22
   $12.19 - 1. 22 = $10. 97

5. When you have completed the total cost of the food you need and the number of people you are feeding, what is the cost per person for your dinner party? Do you think that this is a good deal?

   Take the total cost of food and divide by the number of people you will be serving.

Extension Ideas

1. Choose I menu item and create a recipe. The recipe must list all ingredients and give a step by step procedure for making the food. Use your imagination. Be creative.

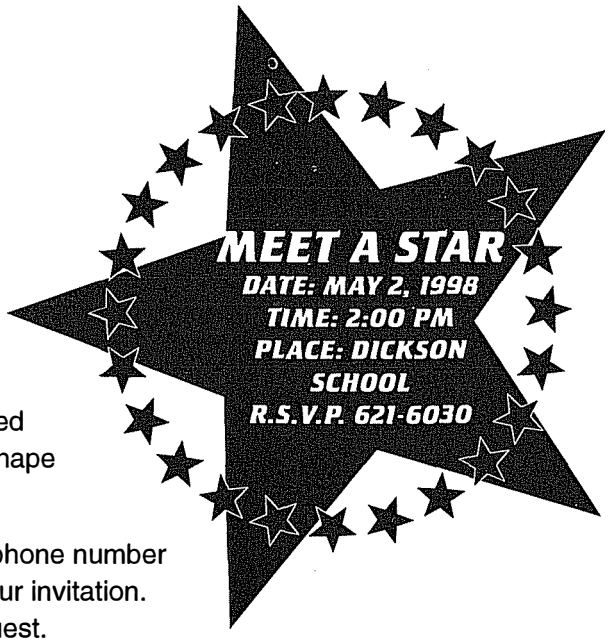
2. Why does the cash register receipt show more costs than your total? (Did you buy items not on your list? Do some items have tax?)

3. If you earn $3.25 a week for doing chores around the house, how many weeks would you have had to save for in order to cover your costs?

4. For your dinner party, has anything been forgotten? (Music, flowers, ??)

5. Comparison shopping: fresh versus canned or frozen? homemade with purchased ingredients versus 'ready to serve'.

THE GREAT CANADIAN DINNER PARTY



Design the Invitation

The season is fall and you have decided to host a dinner to which you have invited a famous Canadian. You also want to invite seven of your closest friends. Develop a theme for your party.

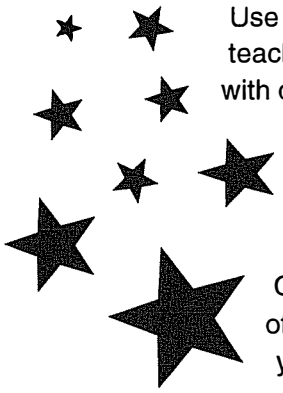
You can use print shop on the computer. You can make shaped invitations e. g. if your party is in the fall you may use a leaf shape cut-out.

The invitation must include date, time, address and your telephone number so that people will know where to reply to accept or refuse your invitation. Mention something about your party theme or your special guest.

Plan the Menu

You are the host/hostess of your 'Canadian Star' dinner. The menu must include: Appetizer (Beverage), Soup, Salad, Main Course(choice of two) and Dessert.

The Menu items should include as many Canadian products and references as possible. Some Canadian products include: Maple syrup, cheddar cheese, apples and potatoes. The Canadian references may include names of famous Canadians, rivers, lakes,cities, provinces or landmarks such as Vineland grapes or Millbank cheese.



Use your imagination and the menu headings to make your menu. Conference with your teacher to name the menu item and give a brief description for each. Decorate your menu with drawings or clipped pictures. Remember how many guests you plan to have and include how much you will need of each item. Your good copy will be evaluated by your class and yourself.

Shopping for Your Menu

Collect some weekly grocery store flyers or newspaper ads. Create a chart to record all of the necessary data you will need to select the best store. Here is a sample chart to get you started. You can include the actual names of the grocery stores in your area.

Menu	Quantity	Store I	Total Cost	Store II	Total Cost
Chicken Legs	3 kg	$1.82/kg	$5.46	$1.74/kg	$5.22
Potatoes	2.5 kg	$0.30/kg	0.75	0.40/kg	1.00
Soda Pop	6 L	3/$2.99	5.98	0.90/L	5.40
Estimated Grand Total			$12.19		$11.62

Decision: Shop at

_____

Actual Grand Total

_____



KRAFT CANADA • POST

• ALPHA-BITS • HONEYCOMB
• SHREDDIES
850 g VALUE PACK
2.99

CRISPY RICE KRISPIES SQUARE CEREAL 2.69

ICED TEA CRYSTALS 1.99

PRODUCT OF ONTARIO • CANADA #1

PEACHES & CREAM
CORN
SELECT YOUR OWN
COB
15¢

GREEN CABBAGE .99

ALL VARIETIES

• PEPSI • CRUSH
• 7-UP • SCHWEPPES
2 L BOTTLE
.99
BTL LIMIT 2
CASE OF 24 x 355 mL TINS
4.99
CASE LIMIT 1

POTATO CHIPS 1.69

POTATO CHIPS .99

PRODUCT OF ONTARIO

BROCCOLI
LARGE SIZE 18s
LARGE ORIGINAL BUNCH
EA. .69

WHITE CAULIFLOWER .99

PRODUCT OF ONTARIO • CANADA #1 • ARRIVING DAILY

REDHAVEN
PEACHES
FRESHTIME
FILL YOUR OWN BAG
kg 2.29

PRODUCT OF ONTARIO • CANADA #1

LARGE SIZE FIELD
TOMATOES
FILL YOUR OWN BAG 2.28 kg
LB. .99

PRODUCT OF U.S.A. • #1 GRADE

MEDIUM SIZE
SANTA ROSA PLUMS
FILL YOUR OWN BAG
kg 2.19

PRODUCT OF U.S.A. • MEXICO • ONTARIO • #1 GRADE

• CUCUMBERS
• GREEN ONIONS BUNCHED
• RADISHES
(.39 EA.)
3/$1

PRODUCT OF U.S.A. • EXTRA FANCY GRADE

GRANNY SMITH
APPLES
FILL YOUR OWN BAG
kg 1.61

PRODUCT OF • U.S.A. • ONTARIO • #1 GRADE

EXTRA LARGE SIZE
GREEN PEPPERS
FILL YOUR OWN BAG
kg 2.39

PRODUCT OF ONTARIO • FANCY GRADE

• IDA RED • EMPIRE
APPLES
LARGE 10 LB. FAMILY SIZE BAG
EA. 2.99

PRODUCT OF ONTARIO

• GREEN • WAXED • FLAT
BEANS
FILL YOUR OWN BAG
kg 2.29

PRODUCT OF U.S.A. • CALIFORNIA

VALENCIA
ORANGES
Sunkist
SELECT YOUR OWN LARGE SIZE 72s DOZ. 2.99

PRODUCT OF ONTARIO • CANADA #1

NEW WASHED WHITE
POTATOES
10 LB. BAG
1.99

LEAN GROUND BEEF
LOW PRICE EVERYDAY
4.49 kg

FRESH CHICKEN BREASTS
LOW PRICE EVERYDAY
4.79 kg

GENERAL MILLS

REGULAR
CHEERIOS
425 g BOX
1.99

MRS. SMITH'S FROZEN

• LEMON MERINGUE
• FRENCH SILK CHOCOLATE
PIES
680 g PKG.
EA. 2.29

PRODUCT OF ONTARIO • FRESH NEVER FROZEN

• SHOULDER ARM • BLADE
VEAL
3.28 kg
SALADS 2.99
1.49

FETA CHEESE 6.69

KALAMATA OLIVES 6.69

PRODUCT OF ONTARIO • SHANKLESS • 4-5 LB. AVG.

"FRESH NEVER FROZEN"
PICNIC PORK SHOULDERS
1.49 kg

PORK BUTT SHOULDER STEAKS 3.99

PORK SIDE RIBS 4.49

COD FISH 4.99

SLICED BEEF LIVER 2.19

TORPEDO SALAMI 2.99

SKINLESS CHICKEN BREAST 6.99

PRODUCT OF CANADA

CHICKEN LEG QUARTERS
FRESH NEVER FROZEN
kg 1.69

FRESH 18 kg BOX 26.88

DUCK LEG QUARTERS 2.19

CHICKEN DRUMSTICKS 1.49

ARCTIC GARDENS • FROZEN • CANADA FANCY

VEGETABLES
1 kg BAG
EA. 1.69

SALT & PEPPER 1.49

SPINACH .69

MAPLE LEAF MEATS

• ROYALL LUNCHEON MEAT 340 g TIN
• BURNS FLAKES 340 g TIN
EA. .99

OLIVE OIL 9.99

VIENNA SAUSAGE .49

Great Canadian Dinner Party Evaluation

Name: _____ Date: _____

3 = skill demonstrated independently
2 = skill demonstrated with limited assistance
1 = skill demonstrated with assistance

SCORE: ☐

Product

The menu included appetizer, soup, salad, choice of two menu items and dessert. ☐

Spelling and punctuation in final draft were correct. ☐

Appropriate Canadian references were used. ☐

Writing was neat and easy to read. ☐

Ideas were creative/imaginative. ☐

The menu was eye catching, colourful and neatly done. ☐

Process

Good copy was completed on time. ☐

All stages of writing process were followed correctly. (teacher's instructions) ☐

Student stayed on task during work periods. ☐

Teacher's comments: _____

_____

_____

_____

Self-Evaluation: Something I liked about this activity. _____

_____

_____

_____

Something I need to improve next time. _____

_____

_____