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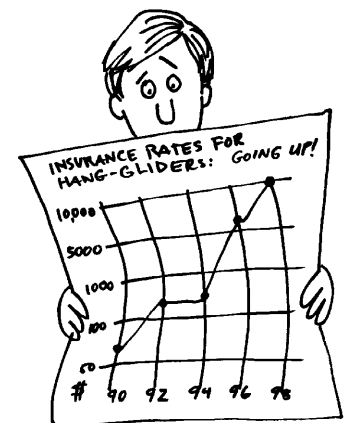
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CELEBRATE BASIC MATHS SKILLS

Basic does not mean boring! There certainly is nothing dull about . . .

- . . . calculating records for outrageous adventures such as egg-throwing, tightrope-walking, pancake-tossing or sky surfing
- . . . graphing the upside-down spills of wild whitewater kayak racers or the flat tyres of air-leaping freestyle bike tricksters
- . . . finding out about fast journeys on stilts, in taxis, on lawnmowers or on unicycles
- . . . using statistics about shaving, hair-cutting, building-climbing and other wild events
- . . . getting to know about accomplishments in bed-racing, bathtub-racing, wife carrying and barefoot waterskiing
- . . . solving problems about snowboarding injuries and wakeboarding tricks, alligator-wrestling matches and marathon rollercoaster rides
- . . . figuring out the probability of catching a great surfing wave, winning a balloon race, or falling off a wild bull.

These are just a few of the interesting adventures students can explore as they celebrate basic maths skills with graphing, statistics and probability. The idea of celebrating the basics is just what it sounds like . . . sharpening maths skills while enjoying the wild excitement of extreme sports and wacky adventures. Each page of this book invites students to practise a high-interest maths exercise sport. This is not just any ordinary fill-in-the-blanks way to learn. These exercises are fun and surprising, and they make good use of thinking skills. Students will do the useful work of practising a specific graphing, statistics or probability skill while stepping into a world of daredevil activities and wild fun.



The pages in this book can be used in many ways . . .

- for individual students to sharpen a particular skill
- with a small group needing to relearn or sharpen a skill
- as an instructional tool for teaching a skill to any size group
- by students working on their own
- by students working under the direction of an adult.

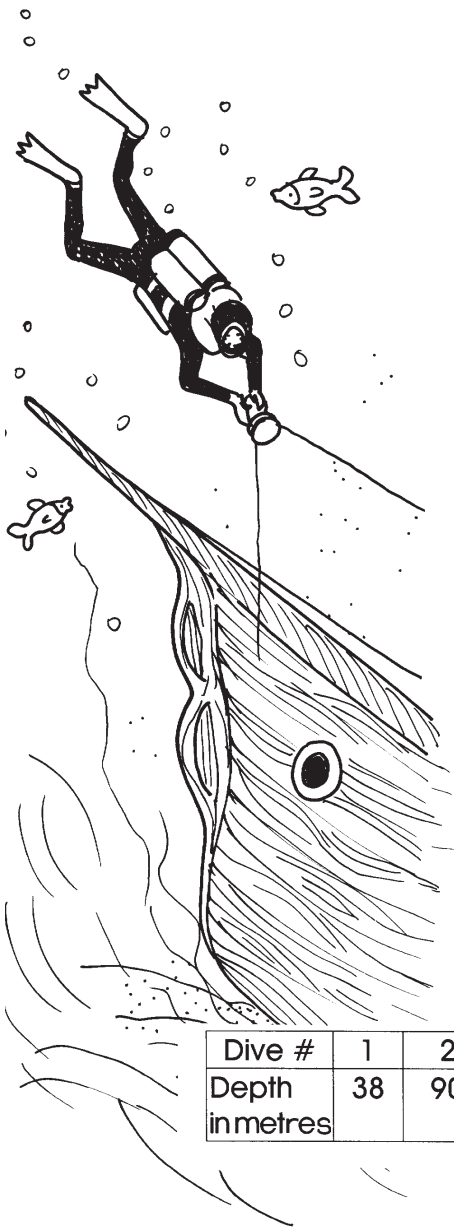
Each page may be used to introduce a new skill, to reinforce a skill, or to assess a student's ability to perform a skill. You'll also find an appendix of resources helpful to students and teachers, including a ready-to-use test for assessing graphing, statistics and probability skills.

As your students take on the challenges of these adventures with graphing, statistics and probability, they will grow! As you watch them check off the basic maths skills they've strengthened, you can celebrate with them!

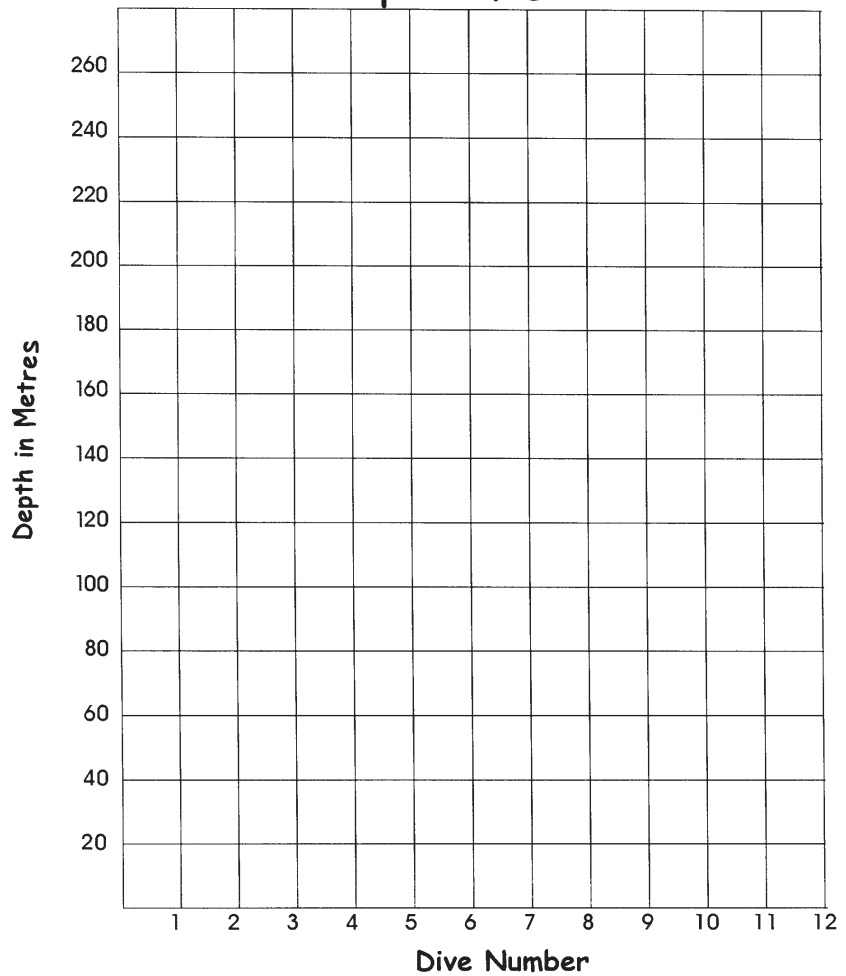
SINKING TO EXTREME DEPTHS

Exploring shipwrecks is a favourite adventure for many scuba divers. Some of them will go to great depths to snoop around in ghostly, sunken ships.

The Data Table shows the depths of 12 different dives. Show the depths by completing the line graph. Plot each data item, then draw the line to show the depths of the dives over a 12-day period.



Depths of Dives

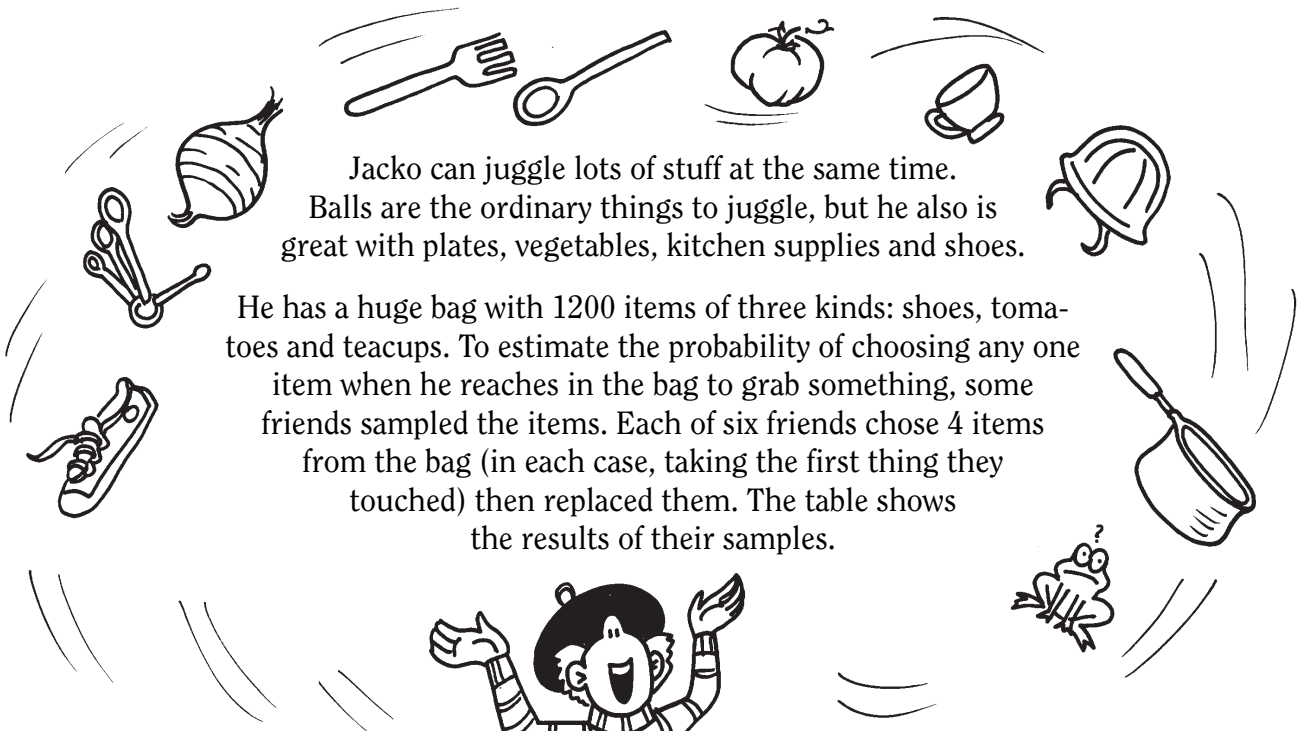


Dive Data

Dive #	1	2	3	4	5	6	7	8	9	10	11	12
Depth in metres	38	90	140	245	77	100	200	192	163	91	60	160

Name _____

EXTREME JUGGLING



Jacko can juggle lots of stuff at the same time. Balls are the ordinary things to juggle, but he also is great with plates, vegetables, kitchen supplies and shoes.

He has a huge bag with 1200 items of three kinds: shoes, tomatoes and teacups. To estimate the probability of choosing any one item when he reaches in the bag to grab something, some friends sampled the items. Each of six friends chose 4 items from the bag (in each case, taking the first thing they touched) then replaced them. The table shows the results of their samples.



Use the table to estimate the probability for each kind of item in the sample.

1. $P(\text{shoes}) =$ _____
2. $P(\text{tomatoes}) =$ _____
3. $P(\text{teacups}) =$ _____
4. $P(\text{shoes or teacups}) =$ _____
5. $P(\text{not shoes}) =$ _____
6. $P(\text{not tomatoes}) =$ _____

Out of 1200 items, predict the number that would be:

7. shoes _____
8. tomatoes _____
9. teacups _____

Results of Sampling of Items for Juggling			
Friend	Shoes (S)	Tomatoes (T)	Cups (C)
Jimbo	2	0	2
Angie	1	1	2
Marco	0	1	3
Sal	1	0	3
Bobbo	2	1	1
Franco	0	1	3
Totals			

10. A sampling of 30 athletes at the Extreme Competition found 6 with measles.

Predict the number out of all 900 athletes that had measles.

11. A bag of Ener-G Bars contains 2400 bars. A random sampling of 40 showed these results: 12 chocolate, 15 caramel, 5 banana, 8 marshmallow.

Predict the number of each bar in the bag:

- a. chocolate = _____
- b. caramel = _____
- c. banana = _____
- d. marshmallow = _____

Name _____

TERMS FOR GRAPHING, STATISTICS & PROBABILITY

- Average** — Synonym for mean: the sum of all the items in a given set of data divided by the number of items
- Bar Graph** — a graph that represents data with bars
- Circle Graph** — a graph that represents data by showing a circle divided into segments
- Combination** — a selection of a set of things from a larger set without regard to order
- Counting Principle** — a way to find the number of possible outcomes of an event with multiple stages: the total number of possible outcomes is the product of the outcomes of each stage
- Data** — information that is given in numerical form
- Dependent Events** — two events in which the result of the first event affects the outcome of the second event
- Double Bar Graph** — a graph that uses bars to compare two sets of data at the same time
- Double Line Graph** — a graph that uses two lines to compare the change in two sets of data over time
- Event** — a set of one or more outcomes
- Frequency** — the number of times an item appears in a set of data
- Frequency Graph** — a pictorial or graphic representation of frequencies of data
- Frequency Polygram** — a geometric curve shape formed when the dots are placed at the top centre of each bar on a bar graph, then connected with a line
- Frequency Table** — a chart or table which summarises and presents frequency data
- Histogram** — a bar graph showing frequency data
- Independent Events** — events whose outcomes have no effect on later events
- Interval** — amount of space or time
- Line Graph** — a graph that uses lines to show changes in data over time
- Mean** — the sum of data items divided by the number of items