

Table of Contents

Introduction v

On Using This Book x

Dynamo Demos

1 The Mysterious Can 3

2 Invisible Crushing Fingers 7

3 Uncle’s Animal 11

4 Apple 1 Liftoff 15

5 Double Puncture 18

6 Super Boiling 23

7 Bouncy, Bouncy 27

8 Launch Those Pennies! 30

9 The Mysteries of Möbius Strips 34

10 Defying Gravity 39

11 The Mystery of the Breaking Eggs 42

12 Stop That Leak! 45

13 Bubble, Bubble 48

14 Stop Rolling 52

15 The Mysterious Rising Water 55

16 The Problem of the Sunken Egg 59

17 The Hanging Hammer 62

18 Worth Its Weight 65

19 Will the Water Fall Out? 69

20 The Water Baton 72

21 A Dirty Problem 75

22 Blow Up the Balloon..... 77

23 A Colorful Column 80

24 Fire and Ice 83

25 Sticky Water 86

26 Is It There? 89

Free resource from www.criticalthinking.com. Commercial redistribution prohibited

27	Pick It Up	92
28	Toad in a Hole	95
29	Cans of Pop Puzzle	97
30	Momentum Magic	100
31	Hot Air Balloon	105
32	The Mystery of the Clay Sticks	109
33	The Sagging Cord Puzzle	112
34	A Messy Mixture	115
35	A Sound Reproducer	118
36	Which One Is the Magnet?	121

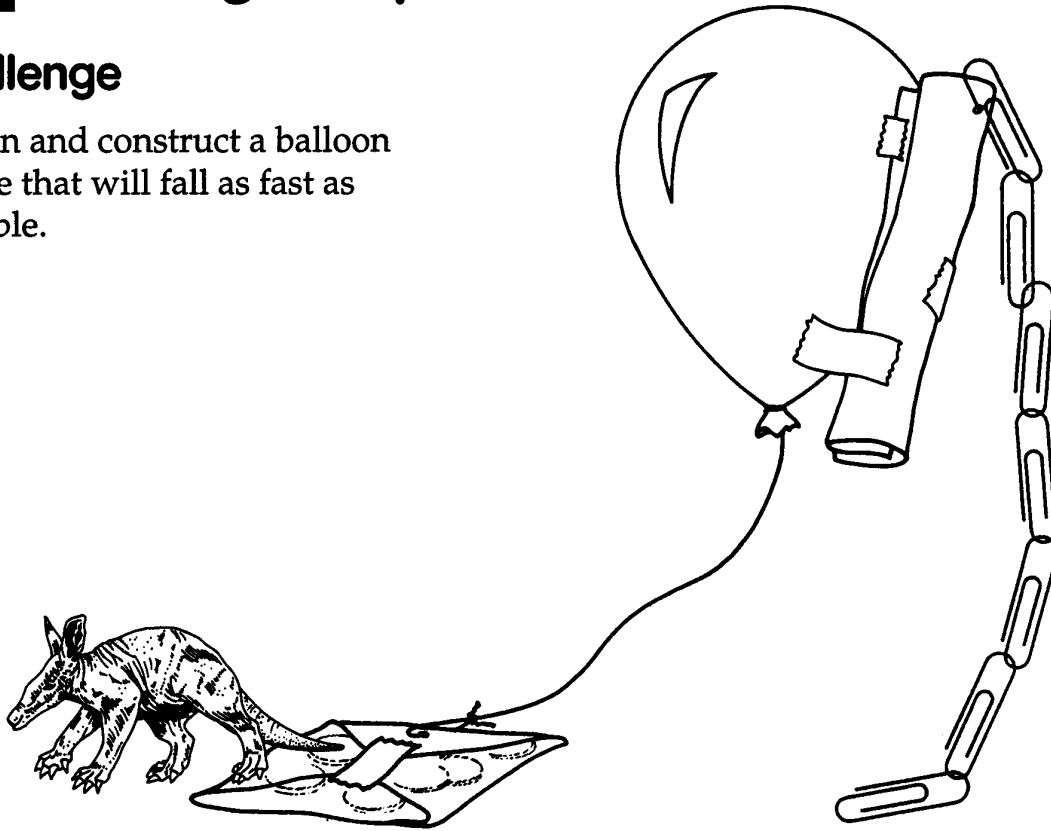
Creative Challenges

	Creative Challenges Introduction	126
1	Wacky Wire	127
2	The Leaning Tower	129
3	Build a Barge	131
4	Bombs Away!	133
5	Airmobile	135
6	Fantastic Fliers	137
7	Strummin' on the Old Banjo	139
8	Racing Blimps	141
9	Crazy Cantilever	143
10	Marble Mania	146
11	Write It—Do It	148
12	Bizarre Beans	150
13	Captain Nemo's Contraption	153
14	Watermobile	155
15	Keep That Cube!	157
16	Flame Out	159
17	Puncture and Pop	161
18	Hole in One	163

8 Racing Blimps

Challenge

Design and construct a balloon device that will fall as fast as possible.



Rules

1. Your teacher will supply the following construction supplies:
 - one balloon
 - 24 inches of masking tape
 - 2 pieces of paper, 8.5 × 11 inches in size
 - 10 paper clips
 - 15 pennies
 - scissors to cut tape and/or paper
2. The scissors cannot be part of your device.
3. All balloons will be inflated with the same amount of air.
4. The construction supplies can be attached to each other or to the balloon in any pattern. You do not have to use all the construction supplies.
5. Your device cannot be designed to pop the balloon on purpose.
6. Your balloon device must be completed within the time limit set by the teacher.
7. The balloon device that falls the fastest from a given distance will be declared the winning design.