

Careers in Science	
A Steely Athletic Trainer	OK 38

Chapter 1



The Work of
Scientists

The Nature of Science and Technology	4
--	---

1 Scientific Inquiry	6
2 Measurement—A Common Language	13
3 Graphs in Science	22
4 Technology and Society	27
5 Technology Design Skills	34

Chapter 2



Introduction
to Matter

Introduction to Matter	44
------------------------------	----

1 Describing Matter	46
2 Measuring Matter	56
3 Changes in Matter	62
4 Integrating Physics Energy and Matter	70

Chapter 3



Solids, Liquids,
and Gases

Solids, Liquids, and Gases	80
----------------------------------	----

1 States of Matter	82
2 Changes of State	88
3 Gas Behavior	95
4 Integrating Mathematics Graphing Gas Behavior	102

Chapter 4

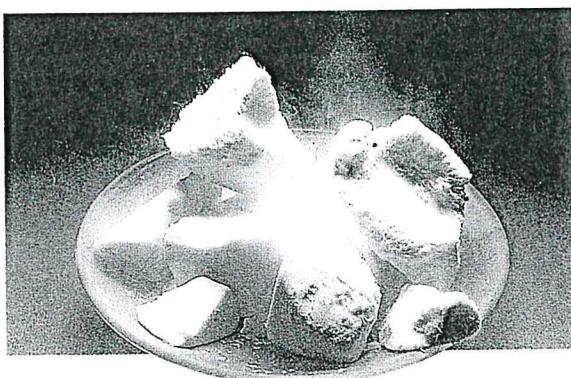


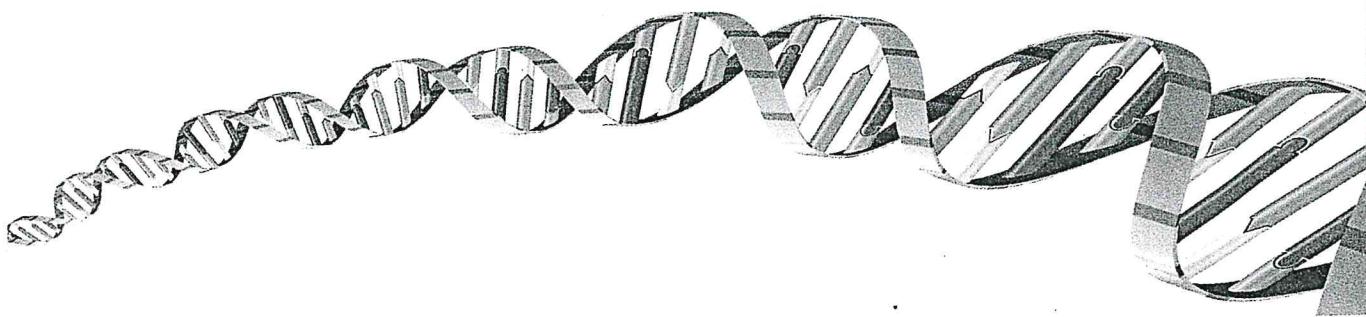
Acids, Bases,
and Solutions

Acids, Bases, and Solutions	112
-----------------------------------	-----

1 Understanding Solutions	114
2 Concentration and Solubility	122
3 Describing Acids and Bases	128
4 Acids and Bases in Solution	134
5 Integrating Life Science Digestion and pH	142

Interdisciplinary Exploration Gold—The Noble Metal	150
---	-----



**Chapter 5 Genetics: The Science of Heredity 156**Genetics: The
Science of Heredity

1 Mendel's Work	158
2 Integrating Mathematics Probability and Heredity	166
3 The Cell and Inheritance	174
4 The DNA Connection	179

Chapter 6 Modern Genetics 190

Modern Genetics

1 Human Inheritance	192
2 Human Genetic Disorders	199
3 Tech & Design Advances in Genetics	205

Chapter 7 Human Body: Structure and Control 218Bones, Muscles,
and Skin

1 Integrating Health Body Organization and Homeostasis	220
2 Bones, Muscles, and Skin	224
3 The Nervous System	234
4 The Endocrine System	240

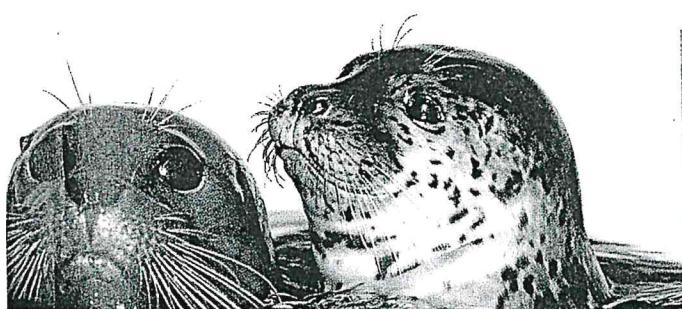
Chapter 8 Human Body: Functions and Processes 248

Circulation

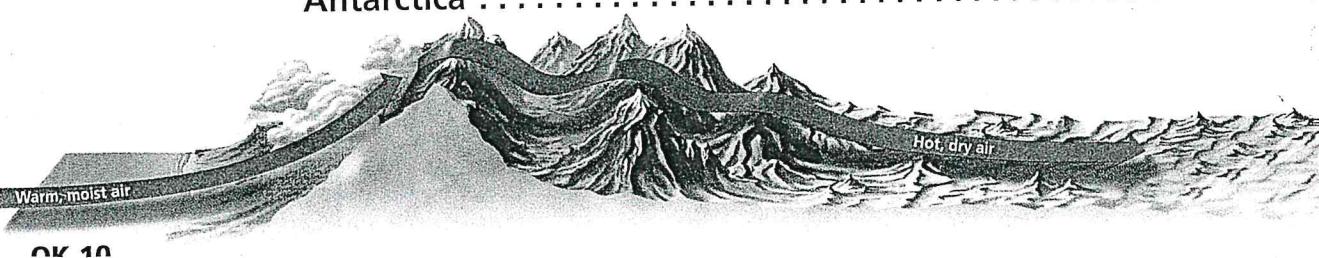
1 The Body's Transport System	250
2 Respiratory and Excretory Systems	258
3 The Digestive System	266
4 The Male and Female Reproductive Systems	271
5 The Body's Defenses	275

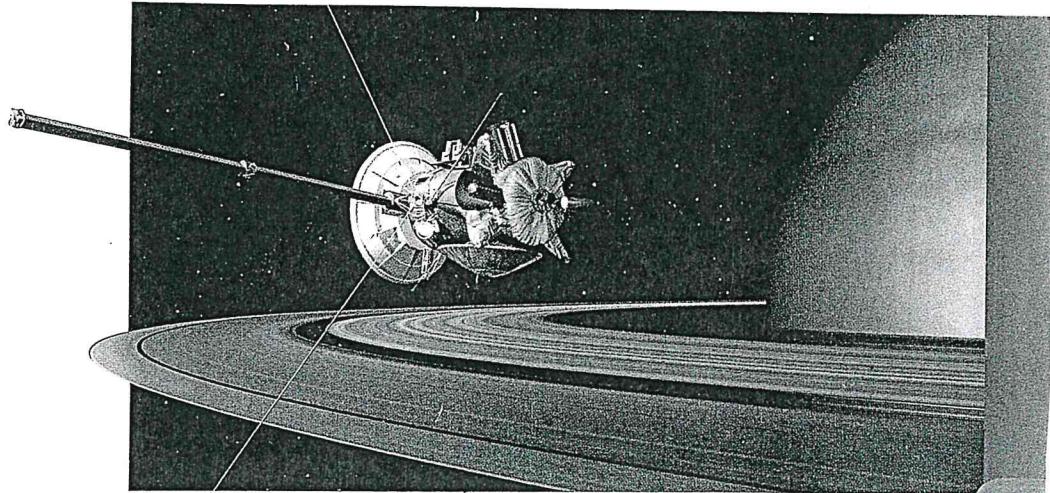
Chapter 9 Birds and Mammals 284Birds and
Mammals

1 Birds	286
2 Integrating Physics The Physics of Bird Flight	296
3 Mammals	300



Chapter 10 Animal Behavior	314
1 What Is Behavior?	316
2 Patterns of Behavior	324
3 Tech & Design Tracking Migrations	334
 Discovery CHANNEL SCHOOL VIDEO Animal Behavior	
Interdisciplinary Exploration Dogs—Loyal Companions	342
Chapter 11 The Atmosphere	348
1 The Air Around You	350
2 Integrating Physics Air Pressure	354
3 Layers of the Atmosphere	360
4 Integrating Environmental Science Air Quality	366
 Discovery CHANNEL SCHOOL VIDEO The Atmosphere	
Chapter 12 Weather Factors	378
1 Energy in Earth's Atmosphere	380
2 Integrating Physics Heat Transfer	386
3 Winds	390
4 Water in the Atmosphere	398
5 Precipitation	405
Chapter 13 Weather Patterns	414
1 Air Masses and Fronts	416
2 Storms	424
3 Tech & Design Predicting the Weather	436
 Discovery CHANNEL SCHOOL VIDEO Weather Patterns	
Chapter 14 Climate and Climate Change	450
1 What Causes Climate?	452
2 Climate Regions	462
3 Long-Term Changes in Climate	474
4 Integrating Environmental Science Global Changes in the Atmosphere	479
Interdisciplinary Exploration Antarctica	490





Contents

Chapter 15 Earth, Moon, and Sun 496



Earth, Moon,
and Sun

1	Earth in Space	498
2	Integrating Physics Gravity and Motion	504
3	Phases, Eclipses, and Tides	508
4	Earth's Moon	518
5	Traveling Into Space	522

Chapter 16 The Solar System 536



The Solar System

1	Observing the Solar System	538
2	The Sun	544
3	The Inner Planets	550
4	The Outer Planets	558
5	Comets, Asteroids, and Meteors	568
6	Integrating Life Science Is There Life Beyond Earth?	572

Chapter 17 Stars, Galaxies, and the Universe 580



Stars, Galaxies,
and the Universe

1	Tech & Design Telescopes	582
2	Characteristics of Stars	590
3	Lives of Stars	600
4	Star Systems and Galaxies	605
5	The Expanding Universe	612

OK 11