TIPS-SCIENCE
Grade 6-8 Pikesville Set

ASTRONOMY
S-1 Galactic Olympics
S-2 Planetary Scavenger
S-3 It's All Relative!
S-4 It's a String Thing
S-5 Outrageous Orbits
S-6 Wide Open Spaces

DIVERSITY OF LIFE
S-7 Classification is Key
S-8 Bat-Man!
S-9 You Be the Judge
S-10 Name Game
S-11 Picture Perfect
S-12 That's Not Growing Back
S-13 Refrigerator Safari
S-14 Tricky Taxonomy

ECOLOGY
S-15 Parts of the Ecosystem
S-16 Climographs
S-17 Fresh Water
S-18 Oil and Water
S-19 Population Growth
S-20 Bath or Shower

GENETICS
S-21 How Does Heredity Affect You?
S-22 Tall or Short Pea Plants
S-23 Colorblindness
S-24 "Designer" Fruits and Vegetables
S-25 Cloning...Cloning...Cloning
S-26 Striving for Perfection
S-27 Same or Different...Which is Better?

GEODESY
S-28 Journey Through the Earth's Layers
S-29 The Plates Are Crashing!
S-30 I Feel the Earth Move!
S-31 Should We Stay or Should We Go?

HUMAN SYSTEMS
S-32 This Is the Hardest One!
S-33 Lasting Impressions
S-34 Frozen in Time
S-35 It's The Law!

MACHINES
S-45 Levers Have Class
S-46 Design a Bike
S-47 Cut and Paste Circuits
S-48 Wasted Energy
S-49 It's About Hard Work

OCEANOGRAPHY
S-50 Float or Sink
S-51 "Egg"cellent Experiment
S-52 Profile Mapping
S-53 So You Want to Be an Oceanographer...
S-54 Designer Fish

SKILLS AND PROCESSES
S-55 Cylinder Challenge
S-56 Out of Control!

TEACHERS INVOLVE PARENTS IN SCHOOLWORK

SOUND AND LIGHT
S-57 The Eyes Have It!
S-58 Mirror Madness
S-59 Perfect Pitch
S-60 Somewhere Over the Rainbow
S-61 Good Vibrations
S-62 Ride the Wave

NOTE: See TIPS Research—Summary of Results and list of references in the Manual for Teachers: Interactive Homework for the Middle Grades (2017).
Overview

Researchers worked with teachers to design, implement, and test the process called Teachers Involve Parents in Schoolwork (TIPS).

TIPS activities require students to talk with someone at home about something interesting that they are learning in class. TIPS solves some important problems with homework:

- TIPS helps all parents become involved, not just the few who are comfortable with school subjects.
- TIPS activities include a section for students and parents to discuss how a school skill is used in the real world.
- TIPS includes a section for home-to-school communications for parents’ comments or questions.

Studies show that, overwhelmingly, parents appreciate teachers’ efforts to keep them informed and involved. There are positive results for student learning, homework completion, and attitudes about homework.

Acknowledgments

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TIPS-MATH

Grade 6

NUMBER SYSTEM
M6-1 Math in Our World
M6-2 Divide and Conquer
M6-3 Divisibility Rocks
M6-4 Prime Time
M6-5 Here's the Low Down
M6-6 Make a Match
M6-7 Greatest Common Factor
M6-8 Writing Decimals as Fractions
M6-9 How Does It Compare?
M6-10 Measure Up
M6-11 There is Value in the Place
M6-12 Line Up
M6-13 Trading Places
M6-14 Integer Football Game

EXPRESSIONS AND EQUATIONS
M6-15 Which Comes First
M6-16 Step Equations

RATIOS AND PROPORTIONS
M6-17 Know the Ratio

GEOMETRY
M6-18 Enter the Area of Triangles
M6-19 Walk It Off—Find the Perimeter
M6-20 Battle Boxes—Coordinate Grid
M6-21 Find a Familiar Face

STATISTICS AND PROBABILITY
M6-22 Venn There, Done That
M6-23 A Tree Grows in Math Class
M6-24 Growth Patterns
M6-25 Stem and Leaf Plots
M6-26 Tally Ho—Frequency Tables
M6-27 MMM...Mean, Mode, Median

Grade 8

DIVERSITY IN MATTER
S8-1 Testing Theories – Where Does Water Come From?
S8-2 What Really Happens?
S8-3 Made to Measure
S8-4 Matter, Matter Everywhere
S8-5 On Your Mark, Get Set, Go!
S8-6 Does it Matter?
S8-7 The Gas Phase – Can You Pour a Gas?
S8-8 What’s in the Air?
S8-9 Everything Floats on Something
S8-10 How Dense is It?
S8-11 Let's Get Physical
S8-12 Changes, Changes, All Around
S8-13 Kitchen Chemistry

TIPS SCIENCE

S7-22 The Most Widely Used Drug
S7-23 The Excretory System—Waste Away
S7-24 Nervous System—The Brain
S7-25 Nervous System—Brain Power
S7-26 Nervous System—Is It Magic?
S7-27 Right or Left Brain Dominance?
S7-28 You Have A Lot of Nerve(s)
S7-29 Nervous System -- Test Your Nerves
S7-30 Understanding Genetics—Just By Chance
S7-31 The Endocrine System
S7-32 What is AIDS?
S7-33 Update: Reported Cases of AIDS
S7-34 Review: What a System of Systems

PLANTS AND ECOLOGY
S7-35 The Green Leaf—Food Factory of the World
S7-36 Understanding Genetics—Tall or Short Pea Plants
S7-37 Something Wild and Living
S7-38 Biomes on a New Planet

Grade 8

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S8-11 Let's Get Physical
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S8-13 Kitchen Chemistry

PATTERNS IN MATTER
S8-14 Protons, Electrons, and Neutrons
S8-15 A is for Atom
S8-16 Bonding Power
S8-17 How Many Atoms?

INTERACTIONS OF MATTER
S8-18 Solutions!
S8-19 Solutions! Solutions!
S8-20 A New Use for Red Cabbage
S8-21 Half-Life
S8-22 Going the Distance

MOTION, FORCES, AND ENERGY
S8-23 Bowling Anyone?
S8-24 Let It Swing
S8-25 Who is Bernoulli? Why Is He Flying?
S8-26 Levers
S8-27 Simple Machines
S8-28 Kinetic Molecular Theory
S8-29 Measuring Up to Potential Energy

HEAT ENERGY
S8-30 Feelin’ Hot, Hot, Hot (Heat)
S8-31 Heat Up and Cool Down
S8-32 Hot Box

ELECTRICITY AND MAGNETISM
S8-33 An Electric Experience
S8-34 It's Electric
S8-35 How Much Electricity Do You Use?

WAVES: SOUND AND LIGHT
S8-36 Let’s Make Waves
S8-37 Pumping up the Volume
S8-38 Sounds Good to Me
S8-39 Am I Seeing Things?
S8-40 You’ll Need Energy to Choose a Career
TIPS-SCIENCE

Grade 6

AQUATIC LIFE AND SCIENCE SKILLS
S6-1 Graphing M&M's
S6-2 Line Graphs—Graphing Data
S6-3 Graphing Data—Heads or Tails?
S6-4 Living in Water—A Mean Decision
S6-5 Living in Water—Classifying Objects
S6-6 Living in Water—To Market We Go
S6-7 Living in Water—The Slimy Problem
S6-8 Living in Water—Reading a Thermometer
S6-9 Living in Water—Seasonal Changes
S6-10 Living in Water—Dissolved Oxygen in Water
S6-11 Living in Water—How Does a Body of Water Freeze?
S6-12 Living in Water—Who, What, and Where in Water?
S6-13 Living in Water—Breaker! Breaker!
S6-14 The Universe—The Final Frontier

HEALTH AND EARLY ADOLESCENT DEVELOPMENT
H6-1 Changes in Adolescence
H6-2 Changes in Emotional Changes in Adolescence
H6-3 Who Am I? Who Do I Want to Be?
H6-4 The Emotional You
H6-5 I See Me, You See Me
H6-6 All About Me
H6-7 Feeling Good About Me
H6-8 This is Valuable to Me
H6-10 What Should I Do?
H6-11 Decisions Made Easy
H6-12 Blinding Light
H6-13 Not Seeing is Believing
H6-14 Seeing the Blind Person's View
H6-15 Dizzy Ears
H6-16 Sounds of Music
H6-17 Food for Health
H6-18 Deciding About Drugs
H6-19 AIDS Awareness
H6-20 The Human Reproductive Process

Grade 7

LIFE SKILLS AND TOPICS
S7-1 Alphabet Soup
S7-2 Metric Madness!
S7-3 Cylinder Change
S7-4 Out of Control!
S7-5 More Thinking with Data Displays
S7-6 What's the Word?

BASIC CONCEPTS AND PROCESSES
S7-7 Life Span
S7-8 Is This Alive?
S7-9 Being Alive
S7-10 You Be the Judge
S7-11 Osmosis
S7-12 And Then There Were One Million
S7-13 Big Business in Bacteria

ORGAN SYSTEMS AND HEALTH
S7-14 Putting the Pieces Together
S7-15 Circulatory System—Feel the Beat!
S7-16 Circulatory System—Let's Exercise
S7-17 Circulatory System—Pump It Up!
S7-18 Circulatory and Respiratory Systems: We Will Recover
S7-19 Respiratory Systems—Take a Deep Breath
S7-20 Digestive System: Digest This
S7-21 The Energy Detective—Finding Starch and Fat

TIPS-MATH

Grade 7

NUMBER SYSTEM
M7-1 Keep the Pattern Going
M7-2 Follow the SIGNS
M7-3 Modeling Integers—Keep Count
M7-4 Picture These Fractions
M7-5 More or Less
M7-6 The Price is Right
M7-7 Perfect Squares
M7-8 Root Root Root for Square Roots

EXPRESSIONS AND EQUATIONS
M7-9 Express Yourself
M7-10 Greater or Less Than
M7-11 Match the Inequalities
M7-12 No Mystery—Solve the Equation

GEOMETRY
M7-13 From this Area to That
M7-14 Round and Round
M7-15 Space in Circles
M7-16 What's the Angle?
M7-17 Complex Figures are Simple

RATIOS AND PROPORTIONS
M7-18 Useful Unit Rates
M7-19 Go Ratios
M7-20 Measure for Measure
M7-21 Size it Up

STATISTICS AND PROBABILITY
M7-22 What’s the Plot?
M7-23 Circle Graphs

Grade 8

NUMBER SYSTEM
M8-1 Part of the Whole
M8-2 What’s your Size?
M8-3 What’s Next?
M8-4 Weather or Not
M8-5 It’s All in the Cards
M8-6 Jump to It
M8-7 OOO-La-La Order of Operations

EXPRESSIONS AND EQUATIONS
M8-8 Express Yourself
M8-9 Are you Square?
M8-10 Write Algebraically—Right
M8-11 What’s the Point?
M8-12 What's the Relationship?

GEOMETRY
M8-13 Under Cover
M8-14 Turn the Volume
M8-15 Mirror Mirror
M8-16 Imagine That
M8-17 Round and Round We Go
M8-18 Figure It Out
M8-19 Same Shapes
M8-20 Pythagorean What?

RATIOS AND PROPORTIONS
M8-21 Count Me In
M8-22 Combine Forces
M8-23 Who Goes First?
M8-24 Box it In
M8-25 Scatter Plots Not Scatter Brained

STATISTICS AND PROBABILITY
M8-21 What’s the Plot?
### Grade 6

#### LINKING READING AND WRITING
- L6-26 Book Jacket – A Main Event
- L6-27 Paper Bag Puppet – Creating a Story Character
- L6-28 Biographies – Frame It!
- L6-29 Adventures in Eating--Menus of Today and Yesterday
- L6-30 Shopping Mall Designer – Story Stores
- L6-31 Animal Film – Sequential Order
- L6-32 Animal Tales – Comical Character
- L6-33 Animal Tales and Art Project
- L6-34 Essay: The Best Short Story I’ve Read

#### WRITING
- L6-1 Writing a Paragraph – A Favorite Activity
- L6-2 Parts of a Paragraph – Set it Straight
- L6-3 Creative Writing and Oral Speaking – It’s News to Me
- L6-4 Rhyming Poem – Who are you?
- L6-5 Combining Sentences – Make Short Ones Long
- L6-6 Explanatory Writing – Late Night Movie
- L6-7 Explanatory Writing – A Shopping Spree
- L6-8 Explanatory Writing – Where Would You Travel?
- L6-9 Explanatory Writing – On a Desert Island
- L6-10 Narrative Writing – A Typical Day
- L6-11 Narrative Writing – What’s So Funny?
- L6-12 Narrative Writing – Planning a Party
- L6-13 Narrative Poem – Keeping Time

#### GRAMMAR
- L6-14 Nouns and Adjectives – In the Kitchen
- L6-15 Naming Common and Proper Nouns – Are You Proper?
- L6-16 Eradicating Errors
- L6-17 Verbs – Put Them in Action
- L6-18 Verbs – Present and Past
- L6-19 Commas and Quotation Marks – Interviewing a Famous Person

#### WORDS AND MEANINGS
- L6-20 Multiple Meaning Words – Give It a Shot!
- L6-21 Fact or Opinion?
- L6-22 Sequential Order – Now, You’re Cooking
- L6-23 Order! Order!
- L6-24 Similarities and Differences
- L6-25 Chronological Order – Memories of Me

### Grade 7

#### LINKING READING AND WRITING
- L7-1 Descriptive Paragraph: First Impressions
- L7-2 What a Character!
- L7-3 Descriptive Words – Styles of the Famous
- L7-4 A Special Soul
- L7-5 T.V. Tale – Telling Time
- L7-6 Hairy Tales from the Past
- L7-7 Eyewitness
- L7-8 True Story!
- L7-9 You Are There – Writing a Monolog
- L7-10 Letter Writing: Advice to a Talk Show Host
- L7-11 Talk Show Guest
- L7-12 The Thinking-Writing Connection – Making Decisions
- L7-13 Combining Sentences – Make Us One
- L7-14 Sentence Completion – Can You Say More?
- L7-15 Set a Good Example
- L7-16 Can You Do Imitations?
- L7-17 Whose Portrait on a Dollar?
- L7-18 Stick to the Facts

#### WRITING
- L7-14 Nouns and Adjectives – In the Kitchen
- L7-15 Naming Common and Proper Nouns – Are You Proper?
- L7-16 Eradicating Errors
- L7-17 Verbs – Put Them in Action
- L7-18 Verbs – Present and Past
- L7-19 Commas and Quotation Marks – Interviewing a Famous Person

#### GRAMMAR
- L7-19 Do They Agree? Subjects and Verbs
- L7-20 Verbs – Where and When is the Action?
- L7-21 Adjectives and Adverbs – How Descriptive!
- L7-22 Parts-of-Speech Sweatshirt
- L7-23 Edit This, Editor

### Grade 8

#### LINKING READING AND WRITING
- L8-24 Man From Mars
- L8-25 Thumbs Up! Thumbs Down!
- L8-26 Oral Book Report: A Character Mask
- L8-27 Picture This Myth

#### GRAMMAR
- L8-28 Verbs that Work
- L8-29 Subjects and Verbs – the Match Game
- L8-30 Painting with Words
- L8-31 Brave Pronouns
- L8-32 Be Positive About Appositives
- L8-33 Don’t Quote Me

#### WORDS, MEANINGS, and OTHER THINGS
- L8-34 Analogies: Solve the Puzzles
- L8-35 Familiar Sayings or Old Hat?
- L8-36 Watch Out – Errors Count!
- L8-37 Decisions, Decisions, Decisions
- L8-38 Exploring Careers
- L8-39 Job Skills vs. Homework Skills