

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 Climatographs
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?

GEOLOGY

- 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?

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

HUMAN SYSTEMS

- S-36 "Cell"ebration!
S-37 Levels of Life
S-38 Down the Hatch
S-29 You've Got Some Nerve!
S-40 We Got the Beat!
S-41 Muscle Bound
S-42 Making Connections
S-43 What's in a Name?
S-44 Putting the Pieces Together

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!

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



Interactive Homework

Teachers Involve Parents in Schoolwork

TIPS Activities for the Middle Grades

Over 350 prototype TIPS activities

Math
Grades 6-8**Language Arts**
Grades 6-8**Science**
Grades 6-8Joyce L. Epstein, Frances L. Van Voorhis,
and Karen Clark SalinasNOTE: See *TIPS Research—Summary of Results* and list of references in the *Manual for Teachers: Interactive Homework for the Middle Grades (2017)*.Center on School, Family, and Community Partnerships
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JOHNS HOPKINS UNIVERSITY
Working Together for Student Success

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

Many thanks to the teachers and curriculum leaders in districts and schools, and colleagues and students at Johns Hopkins University who assisted in the development of prototype TIPS activities for the middle grades.

See all acknowledgements in the *Manual for Teachers: Interactive Homework in the Middle Grades, 2017*.

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
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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

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

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?
S9-9	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

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 Daips
 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 Disappearing Act
 S6-8 Why are Some Bodies of Water so Salty?
 S6-9 Living in Water—Fresh and Salt Water Mixtures
 S6-10 Living in Water—You're in Hot Water Now
 S6-11 Living in Water—The Slimy Problem
 S6-12 Living in Water—Reading a Thermometer
 S6-13 Living in Water—Seasonal Changes
 S6-14 Living in Water—Dissolved Oxygen in Water
 S6-15 Living in Water—How Does a Body of Water Freeze?
 S6-16 Living in Water—Who, What, and Where in Water?
 S6-17 Living in Water—Breaker! Breaker!
 S6-18 The Universe—The Final Frontier

HEALTH AND EARLY
ADOLESCENT DEVELOPMENT

- H6-1 Changes in Adolescence
 H6-2 Physical and Emotional Changes in Adolescence
 H6-3 My Family
 H6-4 Who Am I? Who Do I Want to Be?
 H6-5 The Emotional You
 H6-6 I See Me, You See Me
 H6-7 All About Me
 H6-8 Feeling Good About Me

- H6-9 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

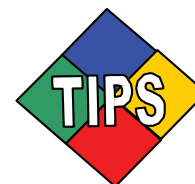
- M8-8 Express Yourself
 M8-9 Are you Square?
 M8-10 Write Algebraically—Right
 M8-11 What's the Point?
 M8-12 What's the Relationship?

GEOMETRY

- M8-13 Under Cover
 M8-14 Turn up 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?

STATISTICS AND PROBABILITY

- 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



TIPS-LANGUAGE ARTS**Grade 6****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

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 – Art Project
- L6-34 Essay: The Best Short Story I've Read

Grade 7**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

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

TIPS-LANGUAGE ARTS**WORDS AND MEANINGS**

- L7-24 Categories – What's What?
- L7-25 Order in the Kitchen – Can You Cook?
- L7-26 Fact or Opinion – Which is Which?
- L7-27 Context Clues: Being Late is a Big Mistake!
- L7-28 A Word to the Wise – Vary Very
- L7-29 Expanding Similes
- L7-30 The Homonyms Jeopardy Game
- L7-31 Predicting Outcomes – Solving Riddles

LINKING READING AND WRITING

- L7-32 Character Computer: Input and Output
- L7-33 Animals in Print – It's in the Cards
- L7-34 Be a Literary Critic--Tell It Like It Is
- L7-35 My, How Times Have Changed
- L7-36 Tell a Tall Tale
- L7-37 Don't Miss This Myth
- L7-38 "AD" it Up
- L7-39 Story Problems – What was that Story Again?
- L7-40 Story Plans – Retell Me a Story
- L7-41 Brainstorm a Story Plan
- L7-42 The Big Three – Characters, Setting, Plot
- L7-43 The Whole Story

Grade 8**WRITING**

- L8-1 Getting Off to a Good Start
- L8-2 Photo Opportunities
- L8-3 One Really L– o–n–g Sentence
- L8-4 Does it Make Any Sense?
- L8-5 Build a Better Paragraph
- L8-6 A Helping Hand
- L8-7 Think It Through
- L8-8 Looking Wa-a-ay Ahead
- L8-9 Jobs and Success
- L8-10 Coping: I Can Handle It!

- L8-11 Apples and Oranges, or Peas in a Pod
- L8-12 Writing to Persuade
- L8-13 Living on a Budget
- L8-14 Personification: Come Alive!
- L8-15 Moving in the Right Direction
- L8-16 Do You Know the Way to...?
- L8-17 Just Tell Me How
- L8-18 To Whom It May Concern
- L8-19 Radio Rap
- L8-20 Now, a Word from Our Sponsor
- L8-21 Help Wanted!
- L8-22 Hopes and Dreams
- L8-23 Enjoying Haiku

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