



Johns Hopkins University

Interactive Homework

TIPS Activities for the Middle Grades

Over 350 prototype TIPS activities

Math

Grades 6-8

Language Arts

Grades 6-8

Science

Grades 6-8

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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 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
- #### 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

TIPS-LANGUAGE ARTS (Cont'd)

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

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

TIPS-SCIENCE

Grade 7 (con'td)

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
 - 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 6-8 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"ibration!
- 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

NOTE:

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

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