

OVERVIEW

CLASSIFICATION OF PUZZLE TYPES DESIGNERS AND MATERIALS

Slocum/Boterman's Book
Puzzles Old and New

Interlocking Solid

Dexterity

Take-Apart

Cup and Saucer
Akio Kamai - Japan
Japanese Puzzle Box
Puzzle Box with Medal
Sword in Stone
Gary Foshee - U.S.

Jigsaw Snake
Jigsaw Puzzle in Box
Two Burrs
Stewart Coffin
Japanese Wood Joint Burr
Chinese Burr
Together and Separated

Crossings - Japan
Coasters

Puzzle Vessels

Bird Jug
Jerry's Puzzle Mug

Disentanglement

Put-Together

Pool Puzzle - Packing
Hordern - England
Packing
Nob Yoshigahara - Japan
Derrick's Devious Checkerboard
Uses Light to Solve
Grandfather Tang Book
Tangrams - China

Unicorn
Rick Irby
The Great One
Lambert Bright
Twin Coils
Double Treble Clef
Golden Gate Bridge Wire

Impossible Object

Wing, But No Prayer
Drilled Holes

Sequential Movement

Adam and Eve - Sliding Block
Tower of Pisa
Cable Car - Continuous Line

Vanishing

Leprechaun
Prisoners

Mazes
Oskar van Deventer - Netherlands
Adrian Fisher - England

Folding

Brain Binders - Internet

Books / CD
Niagara Falls

Wood (2) / Metal (2)
Plastic / Foam / Paper
ElectroMaze / Mercury

EDUCATIONAL PUZZLE EXCHANGE

Give a man a fish and he will eat for a day.

Teach a man to fish and he will eat for a lifetime.

Students present and share.

A copy of each presentation is given to each participant.

International Puzzle Exchange
Four books

Personal Puzzle Design
Puzzles made by Keith Winegar
Stories to touch the heart
Puzzles to challenge the mind

Rainbow Tree

Interlocking Solid

Tokyo

Little Misfit

Put Together

San Francisco

Little Deer's Lesson

Sequential Movement

London

The Quest

Take Apart

Los Angeles

CLASSROOM APPLICATION

Classroom Management

Beginning of class
Anticipatory Set

End of class
Behavior Award

Challenge Bingo

Club Challenge
Discovery Center
Extended Learning

Classroom Anecdotes

Reading

Self-Esteem

Social Skills

Motivation

Hobby

Anticipatory Set

Magic

Discrepant Events

Process Skills

Cooperative Learning

Interactive Bulletin Boards

SESSION 1

OVERVIEW

- CLASSIFICATION OF PUZZLE TYPES
- DESIGNERS AND MATERIALS
- EDUCATIONAL PUZZLE EXCHANGE
- CLASSROOM APPLICATION

- Process Skill
- Content
- Bulletin Board
- Extended Learning

INTRODUCTION

PARTNERS - 2 pc puzzles

BENT NAILS

Puzzles make us think in new ways.
Name / School / Teach / Personal
Relate nail puzzle to yourself and to science content.

PROCESS SKILL

PARTNERS - line up by birthday

MOUSE AND CHEESE

Hypothesis / Experiment
Individual vs Group
Three scientific principles
①Gravity ②Acceleration
③Centrifugal Force
Hints - Definitions / Clues

BULLETIN BOARD

Club Challenge
Challenge Bingo

EXTENDED LEARNING

METAL PUZZLES

Tavern - Uncles - Irby - Puzzletts

SESSION 2

PROCESS SKILL

COMPARE / CONTRAST

PARTNERS - Question/Answer
Rainbow Tree Story
Learning Differences
Simple / Impossible
WedgeKey / DoubleVee

PROBLEM-SOLVING

TECHNIQUES

STICKS 'N STORIES - THE QUEST

THE QUEST and WANDS

Trial and Error
Level of Difficulty - Do remove first
Analysis
Thinking Differently
Visual / Verbal / Symbolic
Visualization - Aha
Put aside / Patience
Forming New Problems
Creative Extensions - Goldfish / Dog

CONTENT

Thematic Unit - Variation
Collection/Identification
Leaves / Twigs
Rocks / Minerals
Elements

BULLETIN BOARD

Halloween

EXTENDED LEARNING

STICK PUZZLES

PACKING PUZZLES

SESSION 3

PROBLEM-SOLVING

TECHNIQUES

PYRAMIDS

Application - Transference

Simple to Complex

Make and solve *2 piece pyramid*

Solve *4 piece pyramid*

PROCESS SKILL

INFERRING

Obsertainer

Inference Boards

CONTENT

Magnetism and Electricity

BULLETIN BOARD

PARTNERS - visual vocabulary

Electroboards

Create and Share

EXTENDED LEARNING

PYRAMID PUZZLES

MAGNETIC PUZZLES

SESSION 4

PROCESS SKILL

MEASUREMENT

PARTNERS - Wildlife Jigsaws

x/y axes

CONTENT

Biomes

Endangered Species / Solutions

Jigsaws / Computer /

Magic - Flip Book

Beanie Babies

BULLETIN BOARD

Constellations - Magic Eye

EXTENDED LEARNING

JIGSAWS

Location - Matching - Talking

Mystery - 3D - Maps

POSTERS

BOOKS

SESSION 5

PROCESS SKILL

OBSERVATION

Corks - 2 colors
Bottle / Ring / Nut

Rope
Glasses

CLASSIFYING

PARTNERS - ?

Dexterity Square/Round
Ball Puzzles

CONTROLLING VARIABLES

PARTNERS - ?

Centrifugal Force

SEQUENCING

PARTNERS - ?

Wind Speed
Mazes

BULLETIN BOARD

Photomicrographs
Science Jokes

EXTENDED LEARNING

COOPERATIVE CHALLENGES

Dexterity Puzzles
Mazes - Balance Maze
Positions Puzzle
Computer Puzzles - Brix / Dweeb
Multiple Challenges

SEMINAR COURSE

Sign-up sheet
PUZZLING PLAYING STORYTELLING
YOUR WAY THROUGH SCIENCE

SKILLS / PROBLEM-SOLVING

Overview

Process Skills - Lightbulbs

Classifying

Dexterity Ball Puzzles

Comparing / Contrasting

Simple / Impossible
Wedge/Key / DoubleVee

Communicating

Giving Directions Blindfolded
Build Structure

Controlling Variables

Manipulated vs Responding

Centrifugal Force

Following Directions

Burr Puzzle

Hypothesizing / Experimenting

Mouse and Cheese

Inferring

Obscainer / Inference Boards

Measuring

X/Y axes on posters and jigsaws

Observing

Bottle/Ring/Nut Rope

Sequencing

Wind Speed APPLY/TRANSFER
Mazes Pyramids
 ANALYZE
 Stick Puzzles

Patience

Accuracy / Increased Time on Task

Thinking

Visual/Verbal/Symbolic / Visual-Spatial
Lateral Thinking / Logic
3D Topological Thinking
2D to 3D applications

Calculating	Making Models
Collecting Data	Predicting/TEST TOPS
Defining Operationally	Tables/Charts/Graphs
Estimating	-Making/Interpreting
Investigating	