Think Model #1: Background to Question

Curriculum Topic and Objectives

Explore
- Read
- View
- Listen
- Survey
- More is better
- Skim
- Scan

Connect New and Old Learning
- Brainstorm
- Reflect
- Question
- Sort
- Infer

Build a Question
- Narrow and focus a topic
- Build a quest

Plan a Project
- Goals
- Timeline
- Resources
- Strategies

Build Background, Explore

Make Connections

Build a Question

The Big Think

Why This Model?
- Capture the learner's interest
- Build a basic vocabulary of the topic
- Compensate for uneven prior knowledge
- Use when prior knowledge is skimp
- Help learners build engaging questions when they seem to lack interest
- Provide an opportunity for a "topic to select a learner"
- Use when the textbook is insufficient
- Help learners narrow a topic when struggling with generalities
- Turn a library orientation into an exploration

Possible Topics:
- Environmental issues
- Genetics
- Health and safety issues
- Political ideologies
- Types of music
- Science fair projects
- Pet care and needs
- Media influence on behavior
- Marine biology
- Rain forests
- Middle Ages
- Middle East
- Early settlers
- Ecosystems

Life Skill: The more you know, the better questions you ask.
Think Model #2: Sensemaking
Visualizing / Re-Conceptualizing

Why This Model?
• Helps ESL and language limited Learners demonstrate understanding
• Take advantage of the addage that a picture is worth a thousand words
• Take advantage of learners who have high visualization abilities
• Add one more dimension to text and explanations
• Use when data cannot be understood in their raw form
• Try several visualizations of the same ideas
• Clarify concepts where misconceptions abound

Possible Topics:
• Popular misconceptions
• Data in any discipline
• Large amounts of data
• Population patterns
• All types of maps
• Ideas and their connections
• Cause / Effect
• Environmental / Social issues
• Difficult concepts

Life Skill: Visualizing information and data builds new perspectives.
Think Model #3: Read, View, Listen

Why This Model?
• Experience many literary/written works rather than a single text
• Allow all skill levels or backgrounds to concentrate on the theme rather than the difficulty of the text
• Concept map the big ideas across texts
• See big picture across cultures, authors, governments, time periods, ideas
• To compensate when you can’t afford a textbook but have a library

Possible Topics:
• Literary themes across books
• Similar literary themes across cultures
• Causes of wars across combatants
• News reporting across international newspapers & TV
• Teen angst across teen novels
• Comparison of cultures around the world at the same time period
• Lives of rich and poor—same time, same locale

Life Skill: The more you "read" and think, the more you know. ★
Think Model #4: Advice to Action

An Engaging Problem or Issue Needing Expert Advice

Predict / Guestimate Possible Advice from Experts

Build Background of the Issue

Gather, Sort, and Analyze Expert Witnesses and Advice

Test Ideas with Others; Compare to Value System

Decide on a Course of Action

Possible Topics:

• Healthy lifestyles
• Selecting a college or career
• Succeeding in school
• Preventing, controlling forest fires
• Urban sprawl
• Safe drinking water
• Vending machines in schools
• School fundraising initiatives
• School safety issues
• Helping the homeless

Why This Model?

• To solve real problems
• Judge between good and poor advice
• Affect behavior—judging the difference between personal wishes and prudence
• Understand the consequences of taking advice
• To understand how historical events were shaped by advice both good and poor
• Make important life decisions

Life Skill: Advice is plentiful. Good advice is rare.

Knowing how to identify the best advice is priceless. ♠
Think Model #5: Compare and Contrast

Why This Model?
- Teach a much-researched and powerful teaching technique
- Stress quality information to achieve an accurate comparison
- Teach reason over subjectivity
- Ensures tough critical thinking
- Is the basis for sound decision making
- Provides the foundation for many other teaching techniques with large or small data sets, facts, or ideas

Possible Topics:
- Ideas
- Events
- Persons
- Cultures
- Governments
- Life skills
- Seasons
- Animals
- Plants
- Music
- Literature

Life Skill: Comparing and contrasting is the basis for sound judgement.
Think Model #6: Concept Jigsaw Puzzle

Background Knowledge is Developed

A Question That Requires Research

Individuals or Groups Research Different Aspects of the Question

Present a Second Question Requiring Combined Expertise to Solve

Groups with Combined Expertise Build an Answer

Big Picture; Deep Understanding

Introduction; Background

Engaging Question

Higher-Level Question

The Big Think

Critical Information Points

Why This Model?

- Develop deep understanding rather than surface knowledge
- Develop group skills including interdependence and accountability
- Two heads are better than one
- Replicate a prototype of the real world of business and industry
- Stimulate each learner into making a contribution
- Use to introduce lots of material quickly
- Encourage divergent thinking

Possible Topics:

- Persons
- Places
- Things
- Events
- Ideas
- Movements

Life Skill: Questions are the key to understanding.
Think Model #7: Problems/Possibilities Jigsaw Puzzle

Why This Model?
- Learn real world problem-solving skills
- Build group problem-solving skills
- Replicate a prototype of the real world of business and industry
- Stimulate each learner into making a contribution
- Encourage investigation, determination, and perseverance

Possible Topics:
- Problems encountered at home, school, community, nation
- Society problems such as poverty or health care
- Real problems created from learning experiences or projects

Life Skill: The more great ideas you have, the better the problem solving.
Think Model #8: Decision Matrix

Introduce an Engaging Problem Requiring Data Across Subjects
Each Group Studies a Subject to Supply Data on Each Trait
Data are Placed on a Large Matrix or Spreadsheet for Comparison
Data is Analyzed, Contrasted, Computed
The Answer/Decision/Conclusions

Why This Model?
- Promote accurate data gathering
- Organize data for better decision making or understanding
- See the dangers of bad data in any cell
- Teach complex issues; solve complex problems

Possible Topics:
- Pick a pet for the classroom
- Are there weapons of mass destruction?
- Comparison of possible new highways
- Comparison of candidates for office

Life Skill: Informed decision making is a key to success.
Think Model #9: Patterns & Trends Matrix

Introduce an Engaging Problem Requiring Data Across Topics

Each Group Studies a Subject to Supply Data on Each Trait

Data are Placed on a Large Matrix or Spreadsheet for Comparison

Data is Analyzed, Contrasted, Computed

The Understanding of Pattern/Trend

Why This Model?

- Promote accurate data gathering
- Organize data for better understanding
- See the dangers of bad data in any cell
- Teach complex issues; solve complex problems
- Facilitate a look at patterns and trends
- Enable predictions

Possible Topics:

- Preparing for any major disaster
- Impact of eating habits
- Comparison of candidates for office
- What's happening in fashion
- Cultural trends
- Weather pattern changes
- Population patterns
- Organizational or governmental patterns

Life Skill: Discerning patterns helps you see both the forest and the trees and determining how to manage them.
**Think Model #10: Timeline**

- **Identify an Event, Movement, or Mystery**
- **Gather of Facts and Dates**
- **Place on Timeline**
- **Analyze Meaning/Solution**
- **Big Picture**

### Why This Model?
- Show changes over time
- Determine why something developed the way it did
- Understand how inaccurate information will distort the analysis of sequencing
- Make comparisons of the past and the present
- Put some events in a larger perspective
- Trace the background to explore cause and effect
- Understand sequence
- Visualize sequential patterns
- Identify trends
- Make connections between events and developments

### Possible Topics:
- Chart a political election
- Study a catastrophic event
- Compare various disciplines during a time period
- Reconstruct the events of a crime or event
- Chart the Middle East conflict
- Study the rise of terrorism as warfare
- Chart the plot of a novel or story
- Study the structure of a symphony
- Put a period of art into its environment
- Study what made landing on the moon possible
- Chart the immigration of a family to the U.S.

**Life Skill: Sequencing is often the key to understanding.**
Think Model #11: History & Mystery

To Determine:
- When, where, and what appears to have happened?
- What really happened?
- Why did it happen?
- What could have prevented it from happening?
- What can we learn based on what happened and why?

Possible Topics
- Causes of war
- Change in government
- Natural catastrophies
- Advances in technology
- Influence of artists/authors
- Development of art forms and genres

Life Skill: Mistakes of the past need not be repeated.
Think Model #12: Take a Position

**Identify Issue(s)**

- Investigate Possible Positions

**Analyze Feasible Positions**

- Form an Opinion; Take a Position; Prepare an Argument

**Present the Position**

- So What?

**Problem**

- Investigate

- Analyze

- Prepare

- Present

- The Big Think

**Critical Information Points**

**Why This Model?**

- Learn to take positions on sound ideas rather than on snap judgments
- Learn how to understand ideas much different than your own
- Develop critical analysis skills in the face of propaganda
- Build empathy for all positions, even as you take a stand
- Learn to articulate and defend a position taken
- Build skills for living and participating in a democratic society
- Build strategies for successful relationships with family and friends

**Sample Products:**

- Position paper
- Persuasive speech
- Video presentation
- PowerPoint presentation
- Debate
- Panel discussion
- Switch positions, then present
- Action plan

**Sample Topics**

- Political issues
- Controversial science problems
- Historical issues
- Moral issues
- Community problems
- School problems
- Literary critical issues

**Life Skill:** We build a stronger position with integrity when we know all the facts.
Think Model #13: Re-Create

**Why This Model?**

- Why things, seemingly strange, make sense in context
- Discover what kinds of persons contribute or distract while a major event is unfolding
- Learn from the unfolding of major events
- Demonstrate how excellence in the reconstruction of an event helps to understand that event
- Develop empathy for people in their time and place
- Walk in someone else’s shoes
- Judge the difference between fiction and realistic fiction
- Enable self to text connections

**Possible Topics:**

- Life in a place/time
- Historical event
- Perform a play that requires authenticity
- Pioneer life
- Slavery
- Interview historical personality

**Life Skill:** It helps to walk a mile in someone else's moccasins.
### Planning for the Reinventing a Better Way Model

**Topic or Issue:**

<table>
<thead>
<tr>
<th>Learning Goals</th>
<th>Essential Questions</th>
</tr>
</thead>
</table>

**Consider the Possibilities**

- Critical Thinking and Information Skills
  - use primary sources
  - compare data
  - brainstorm
  - define problems and test ideas
  - reflect, transfer and apply

- Reading for Meaning
  - read view and listen to stories of invention
  - sort, order ideas
  - make connections
  - comprehend and analyze data

- Technologies that Feature:
  - ability to organize, rearrange and classify
  - 3D modeling and animation
  - manipulatives for tests and retests
  - simulation of change and its affect
  - real-time conferencing capabilities

- Differentiation
  - include prior experience with inventing
  - consult with experts
  - provide techniques, strategies and experiences to nurture creativity
  - present problems at varying levels of complexity
  - allow adequate time

**Assessment Criteria**

- complete, careful, detailed investigation
- insightful comparison
- logical analysis
- creative solutions

**Action Plan**

- Select a System; Clarify; Investigate Current Methods

- Compare and Contrast

- Reinvent

- Test and Evaluate

**So What?**

- **Content**
  - Create action plans to launch ideas into action.

- **Process**
  - Ask: What is invention, out-of-the-box thinking, trial and error versus serendipity?
  - Is invention and creativity a skill or a gift you were born with?

- **What Next?**
  - Apply the reinvention.
  - Ask: Who is this important to? How might this affect me, my friends, my family, my community, the world?
  - Is there a commercial application of our ideas?

---

**THE BIG THINK**

**Content**

- Ask: What is invention, out-of-the-box thinking, trial and error versus serendipity?
- Is invention and creativity a skill or a gift you were born with?

**Process**

- Ask: Who is this important to? How might this affect me, my friends, my family, my community, the world?
- Is there a commercial application of our ideas?
Think Model #14: Reinventing a Better Way (Systems Analysis)

Possible Topics:
• New ways to handle school problems
• Living within a family's means
• Ways to save money, time, effort
• Create a labor-saving device
• Solving a pesky real-life problem

Why This Model?
• Improve the efficiency of our economy
• Prepare for competitions (best ideas)
• Re-create products, marketing plans and patents
• Stimulate creativity
• Simulate authentic problems
• Build group work skills
• Save time, money, natural resources, energy

Life Skill: Creativity and invention stimulate progress.
Think Model #15: Learn By Doing

Why This Model?
- Experience is often the best teacher
- Simulation and vicarious experience can substitute when real experiences are dangerous or unethical
- Expertise, local resources are available
- When learners need a dose of reality to spur understanding

Possible Topics:
- Scientific Experiments
- Field trips to local museums, industries, art galleries, or any other local organization where hands-on experiences are possible
- Service projects for school, community, state, nation, or world

Life Skill: Experience is often the best teacher.
Think Model #16: Teacher-Directed Quest
(The Well-Designed Research, Experiment, or Project)

- Decide on an Engaging Problem, Scenario, or Mission to Accomplish
- Plan Division of Labor or Tasks; Assign Roles
- Research to Stimulate Work; Advance Toward Goal
- Answer the Question; Attain the Mission or Goal
- Reflect; Debrief

Mission; Goal
Plan and Mobilize
Work, Work, Work
Conclude and Share
The Big Think

Why This Model?
- Capture realism; Build expertise
- Build responsibility and independence
- Prepare for college or a profession
- Build a sense of achievement
- Capitalize on natural curiosities
- Make the curriculum relevant
- Develop deep understanding

Possible Projects:
- Formal research paper
- Web Quest
- I-Search paper
- Simulation game
- Scientific challenge/competition
- Senior paper
- Independent study
- Recital

Life Skill: Research is the foundation of knowing and progress.
Think Model #17: Learner-Directed Quest

- Why This Model?
  - Extends content learning
  - Student ownership
  - Build learning to learn skills
  - Take action on a cause
  - Solve a problem
  - Make a decision
  - Answer student-generated questions
  - Pursue burning issues
  - Follow inspiration
  - Application of learned skills and models
  - Utilize student strengths
  - Plagiarism not an issue

- Possible Projects:
  - Local concerns
  - Global issues
  - Environmental stewardship
  - Design and technology
  - Political action
  - Health issues
  - Support for a cause
  - Initiating change
  - Citizenship
  - Media creation

- Life Skill: With a spark you can light a fire.
Think Model #18: Mix It Up!
(Be Creative in Combining/Modifying All the Models)

Appetizers:

Background to Question Model
Sensemaking Model
Read, View, Listen Model
Advice to Action Model
Compare and Contrast Model

The Main Course:

The Concept Jigsaw Puzzle Model
The Problems/Possibilities Jigsaw Puzzle Model
The Make a Decision Matrix Model
The Patterns & Trends Matrix Model
The Timeline Model
The History & Mystery Model
Take a Position Model
The Re-Create Model
The Reinventing a Better Way Model
Learning by Doing Model
The Teacher-Directed Quest Model
The Learner-Directed Quest Model

Examples:

• Do a major Background to Question study before a Quest
• Do a Matrix before having to Take a Position
• Sensemake a problem before trying to Reinvent it
• Compare and Contrast as a History/Mystery Model unfolds
• Begin with a Jigsaw and then culminate with a Matrix
• Do a Background study before Learning by Doing

☆ Life Skill: I can learn anything I need to know, do, or understand. ☆