

### Staying Power

#### Working with At-risk Youth

*"If they won't bring a completed project, sit quietly and cooperate with the others, I just can't work with them!"*

*"But aren't those the kids that need our help the most?"*

The foregoing dialogue captures the challenge of work with children and youth: both the kids and adults who work with them are "works in progress," with three basic needs:

- Affection/affirmation: to know one is valued unconditionally
- Belongingness: to share in community
- Control: to master life challenges in a context of freedom and safety

When needs are unmet, youth or adults experience risks for healthy growth. To reduce risks and foster positive development, four ingredients are needed:

- Good space: physical environment which is safe, supportive (not too boring or overstimulating), flexible
- Good timing: scheduled & spontaneous activity matching attention span, energy level, engagement

- Good relationships: responsible and caring interactions with peers and consistent, caring adults
- Good challenges: activities which stimulate personal growth, teamwork, and self-confidence.

Sometimes kids don't get enough "goods" need adults who model what they most need:

- Self-control: patience under pressure (vs. explosion, subversion, immediate gratification)
- Creativity: fearless experimentation and flexibility (rather than predictable giving up or acting-out)
- Mastery: persistence in improving on and using skills (vs. never discovering or developing talents)

Adult leaders who better understand youth risks can be ready to adjust their own actions and reactions to foster growth. While youth at high risk for violence or substance abuse may require personal supervision, even most "challenging" youth will learn self-control (even leadership), mastery (even competence), & creativity (safe risk-taking) in a climate of security and support.

This newsletter describes strategies for interaction to reduce risk and foster healthy youth development

#### Inside this issue:

Intro to at-risk youth  
Working with at-risk youth 1

Research & Theory 2

Stats & Facts 3

Educational Materials  
Best Practices for Learning  
in Middle School 5  
Emotional Intelligence 7  
Survival Kit for School  
and After-School 8

Resources 9

Paradoxes 10

---

#### For additional resources, visit

#### *Dreamcatcher*

Family  
Life  
website

www.  
uwyo.edu/ag/ces/dream.htm  
-previous editions of *Chinook*  
review risk, resiliency, &  
programming best practices-

# Research Update: Working with at-risk Youth

## Success in Traditional and Alternative Schools

Cox, Stephen M., (1999). An Assessment of an Alternative Education Program For At-Risk Delinquent Youth. *Journal of Research in Crime and Delinquency*. Vol. 36, No. 3 323. A study of at-risk 6<sup>th</sup> to 8<sup>th</sup> graders found *no differences* in alternative and regular middle school students in self reported delinquency, attitudes towards school, or standardized test scores but significantly better results for alternative school students in self esteem, grade point averages, and attendance. Alternative school students transitioned into traditional schools successfully, but after one year declined in achievement and were frustrated by lack of flexibility.

## Effective Recreation Programs for Youth

Baldwin, Cheryl K. 2000. Theory, Program, and Outcomes: Assessing the Challenges of Evaluating At-Risk Youth Recreation Programs. *Journal of Park and Recreation Administration*. Vol. 18 No. 1 P 19.

Categories of risk (for targeting programs)

Type I: Academic failure (gateway to bigger risks)

Type II: Unstable family environments

Type III: Susceptibility to peer persuasion (wants to be accepted by peers)

Type IV: Fearless of risk (love danger)

Type V: Urban-youth (tolerance of stealing, drugs, etc. sets norm)

Macro-oriented (building parks or programs) work if participants set goals and help building; Micro-oriented activities work if matched to individuals and not overly competitive.

## Theories of Motivation: What Makes Kids Tick?

Motivation is a key factor in three theories of young adolescents' learning performance:

*Attribution theory* views motivation as triggered by *perceptions* of individual experiences, (vs. actual happenings). Thus effective teaching requires understanding beliefs about a subject and about learning success.

- Good students tend to see high performance as a confirmation of ability, poor performance as a fluke or especially difficult task
- Failing students view bad results as out of their control, having little hope for improvement
- Teachers, parents, and mentors must display sustained patience, creativity, and confidence to help students become self-motivated

*Goal theory* focuses on the reasons students see for their achievements.

Students with *task goal orientation* accept challenges, positive roles in school, and more effective thinking strategies when teachers move away from

- ability grouping to grouping by topic, interest, and student choice
- competitive activities to cooperative learning
- using test data for comparisons to using the data for diagnosis
- public displays of grading or recognition to grading for progress or improvement

*Self-Determination theory* categorizes students into having three different types of needs that teachers can tap to enhance esteem and efficacy:

- Sense of competence: measuring one's ability to achieve various outcomes, achieved by being able to do small things well, slowly; then repeating, adapting, building on success
- Relatedness to others: forming comfortable bonds to others in one's social group, achieved by positive ground rules that encourage caring, cooperation, and positive communication
- Autonomy: controlling one's actions, achieved by being given responsibility, with accountability and encouragement, appropriate to the needs and capacities of the individual

Source: Anderman, Lynley Hicks & Midgley, Carol. (1998). Motivation and Middle School Students. *ERIC Digests*.

[www.ed.gov/databases/ERIC\\_Digests/ed421281.html](http://www.ed.gov/databases/ERIC_Digests/ed421281.html)

# Stats and Facts: Working with at-risk Youth

## Suicide Incidence (High School-age, USA):

- 28.3% of students felt sad, hopeless two weeks daily in past 12 months
- 19.3% of students thought of attempting suicide in past 12 months
- 18.3% of females made a suicide plan
- 10.9% of males made a suicide plan
- 8.3% of students attempted suicide more than once during past 12 mo.
- 2.6% of suicidal students treated for injury, poisoning, or overdose

## Violence (High School-age, USA):

- 17.3% of students carried a weapon more than once out of 30 days
- 35.7% of students involved in a physical fight more than once in the past 12 mo.
- 4.0% treated for injuries from fighting
- 5.2% of students missed more than one day of school out of 30 days
- 14.2% of students involved in a physical fight at school more than once during past 12 months

- ➔ Be aware of moodiness and mood swings, esp. to depression and anger
- ➔ Slow pace of activity, promote cooperation, give individual attention, refer for help as appropriate

## Tobacco (High School-age, USA):

- 70.4% of students tried smoking
- 25.3% of students smoked more than one cigarette daily for 30 days
- 32.8% reported current tobacco use
- 24.7% of students smoked a cigarette before age 13

- ➔ Discuss effects and consequences of drug abuse, use; safe and unsafe risks

## Alcohol

- 81.0% of students had more than one drink during the past month
- 50% of all students had more than one drink more than one day in 30 days
- 31.5% of students had more than five drinks more than once within 30 days
- 32.2% of students drunk before age 13

## Marijuana use

- 47.2% of students used marijuana
- 26.7% of students used marijuana more than one time in 30 days
- 11.3% of students tried marijuana before age 13

- ➔ Be aware of extremes of behavior: sluggishness or hyperactivity
- ➔ Look for signs of use (smells, paraphernalia, stains or burns) and reach out in care and concern

## Other substance use

- 2.4% of students used inhalants more than one time in 30 days
- 2.4% of students used heroin
- 9.1% of students used methamphetamines
- 3.7% of students used illegal steroids
- 1.8% of students injected illegal drugs

Source: National Center for Chronic Disease Prevention and Health Promotion. (1999). *Youth Risk Behavior Surveillance*. YRBSS. [www.cdc.gov/nccdphp/dash/urbs/index.htm](http://www.cdc.gov/nccdphp/dash/urbs/index.htm)

## Trends in the nineties:

During the nineties, these risk behavior trends in youth improved.

- Physical fights: 1991-42.5%; 1995-38.7%; 1999-35.7%
- Carried weapon on school property: 1995-9.8%; 1999-6.9%
- Seriously considered suicide: 1991-29.0%; 1995-24.1%; 1999-19.3%

These risk factors did not improve.

- Cigarette use: 1991-12.7%; 1995-16.1%; 1999-16.8%
- Heavy drinking: 1991-31.3%; 1995-32.6%; 1999-31.5%
- Lifetime marijuana use: 1991-31.3%; 1995-42.4%; 1999-47.2%
- Current cocaine use: 1991-1.7%; 1995-3.1%; 1999-4.0%

Source: National Center for Chronic Disease Prevention and Health Promotion. (1999). Fact Sheet: Youth Risk Behavior Trends. YRBSS. [www.cdc.gov/nccdphp/dash/yrbs/trend.htm](http://www.cdc.gov/nccdphp/dash/yrbs/trend.htm)

Facts, continued

## Modeling Protective Factors

Teachers and schools promote resilience by modeling protective factors through:

### Caring relationships

- Showing compassion, respect
- Being non-judgmental
- Understanding youth are doing the best they can with respect to how they perceive the world.

### Positive and high expectations

- Accept adversity in their lives
- Know adversity is not permanent
- Understand setbacks are not pervasive

### Opportunities to participate, contribute

- Provide free expression of thoughts
- Let students make own decisions
- Share process of problem solving
- Encourage working with others
- Teach to give back to community

Source: Benard, Bonnie (1997) Turning it Around for Youth: From Risk to Resilience *Clearinghouse on Urban Education Digest* [eric-web.tc.columbia.edu/digests/dig126.html](http://eric-web.tc.columbia.edu/digests/dig126.html)

## Barriers to Excellence

School and community organized rules and rewards can contribute to risk through:

### Discrimination and differential treatment

- Low expectations
- Poor resources
- Differential treatment

### Structural and programmatic barriers

- Inflexible school structures based on history, not on youth's needs
- Grouping of students on differences, not promoting educational improvement
- Overuse of tests rewards
- Constricted teaching practices
- Lack of support that makes educators more aware about students' life
- Absence of early childhood programs

Barriers to Excellence (cont'd)

## Societal context

Schools problems that deprive students of support they need:

- Low amount of resources available
- Insufficient funding

Source: Hixson, J. and Tinzmann, M.B. (1990). Who are the "At-Risk" Students of the 1990s?: What are the Systematic Barriers for At-Risk Students? *North Central Regional Educational Laboratory*. [www.ncrel.org/sdrs/areas/rpl\\_esys/equity.htm](http://www.ncrel.org/sdrs/areas/rpl_esys/equity.htm).

## The Path to a Safe Environment

**Rules and routines:** Develop short list of rules; select rules that promote successful learning; make rules ambiguous; enforcement by all adults

**Management and Instruction:** Verbalize thoughts when demonstrating process; provide available written instructions; and have youth create flow chart of instructions

**Assess behavior:** Offer constructive compliments and criticism; introduce youth to individual strategy for learning (visual, active, etc)

Source: Mayeski, Fran. The Metamorphosis of Classroom Management. *McRel Web site*. [Wysiwyg://117http://www.ncrel.org/products/noteworthy/noteworthy/framm.asp](http://www.ncrel.org/products/noteworthy/noteworthy/framm.asp).

## Effective Learning

To promote effective learning,

- include parents
- organize professional development
- communicate that all youth can succeed
- hold all students to high standards
- build on strengths, not deficits
- promote cooperation, not competition
- use problem-based learning: relevant, developmentally appropriate, experiential, focused on mastery.

Critical Issue: Providing Effective Schooling for Students at Risk: *NCREL*. [www.ncrel.org/sdrs/areas/issues/students/atrisk/at600.htm](http://www.ncrel.org/sdrs/areas/issues/students/atrisk/at600.htm)

# Best Practices for Learning in the Middle School Years

“Best Practice” describes a prevention strategy or activity shown to be effective in reducing risk or promoting positive behavior via program evaluation research. Understanding why best practices work enables youth leaders to match such strategies to the needs of each audience, task, and setting. Good instruction ideas that build cooperation and understanding in classrooms often translate to non-formal learning include:

## Homework

- ✓ Preparation for or application of classroom or after-school learning outside that setting expands what can be learned and the likelihood of remembering structured activities

## Abstract concepts

- ✓ Encouraging students to develop abilities to generalize, classify, compare, sequence, or organize is likely to produce better results than lecturing at an abstract level

## Praise and rewards

- ✓ Linking intrinsic rewards including pride of accomplishment, satisfaction of curiosity, and enjoyment of activities with friends, promotes motivation and self-disciplined learning
- ✓ Self-motivated students see the connection between effort and accomplishments

## Student accountability

- ✓ Environments where learning and responsibility are tested and systematically improved encourage students to be ready to show mastery and understanding

## Organizing and segmenting presentations

- ✓ Organize tasks into small, sequenced units (kids need structure as well as flexibility)
- ✓ Clearly communicate directions for each part, step-by-step

## Goals and Purposes

- ✓ Workable, meaningful goals such as promoting learning and personal development guide students toward specific actions and outcomes and explain the reasoning behind tasks

## Regular and frequent monitoring of student success

- ✓ Personalized review and reteaching as well as standardized tests helps build competence (by emphasizing mastery) as well as confidence (by limiting failure and frustration time)
- ✓ Group strengths and weaknesses inform decisions about teaching materials and practices

## Meaningful participation in school and community

- ✓ Responsibility and meaningful action reinforces confidence in decisions and impact
- ✓ Cooperation with peers and adults enhances interpersonal skills and sense of belonging

## Rules and routines

- ✓ Thoughtfully-developed, carefully taught, and consistently used rules minimize disruptions, increasing teaching and relationship-building time, order and productivity
- ✓ Rules establish practical guidelines on bringing materials to class, being on time, movement around the room, talk among students, getting attention, and finishing work before other children
- ✓ Predictable and fair consequences help promote group goals and individual self-discipline

## Student team learning

- ✓ Small group activities involving cooperative activities and team competition
- ✓ Teams with gender, age, ethnic, and ability diversity expand social networks and encourage sharing across interests, skills, and backgrounds
- ✓ Teacher/mentor directions on what to do, alternative strategies, and criteria for evaluating outcomes (products) and teamwork (process) are important to team learning effectiveness

## Best Practices for Learning

### **Learning skills**

- ✓ Cultivating reasoning skills such as abstract definitions, comparisons and distinctions, generalizations, alternatives and consequences through critical thinking assignments and reflection with individuals or a group
- ✓ Memory, reading comprehension, writing, categorizing, and outlining skills contribute to academic performance and can be taught in a greater variety of ways in non-formal settings

### **Direct instruction**

- ✓ Key to helping students learn more from review or practice are: clear communication of goals for learning, structuring learning tasks, demonstrating each step, monitoring progress toward mastery, offering feedback during student practice, over-learning skills, increasing accountability via frequent teacher review

### **Setting high expectations**

- ✓ Students view high expectations as teacher/mentor confidence in their abilities and usually experience high-achievement activities as challenging and new
- ✓ Teachers and mentors tend to work harder on instruction and support and engage students more in exploring and reflecting on their learning

### **Peer and cross-age tutoring**

- ✓ Both tutors and students tutored improve in attitude and achievement
- ✓ New relationships expand academically at-risk students' support and friendship networks and improve school attendance
- ✓ Sharing of learning skills as well as subject matter increases tutored students abilities to learn-to-learn, which is closely related to academic performance

### **Caring and respectful relationships**

- ✓ Communication of hope and respect within subject matter teaching encourages academically at-risk students to believe in themselves and seek help from teachers or mentors
- ✓ Participation in a classroom environment of mutual respect in which students encourage each other's learning builds cohesion and commitment in all learners

### **Multiple approaches to success**

- ✓ Students, especially the academically at-risk, exercise different learning capacities and styles and find success in learning through a variety of pathways
- ✓ Use of a variety of learning methods including reading and writing, drawing and design, math and logic, movement and manipulation of objects, music, interaction, reflection, and engagement with the natural world, individualizes learning while expanding learning skills and experiences

### **Action learning**

- ✓ Non-formal learning experiences such as individual projects, field trips, science fairs, community service, and internships offer valuable hands-on learning for all students, especially those academically at-risk

Adapted from: Maryland Department of Education. (1999). School Improvement in Maryland: Best practices. For more information, search online at [www.mdk12.org/practices/](http://www.mdk12.org/practices/)

=====

**University of Wyoming Cooperative Extension Service** Youth and Family Development 1/01.  
Materials may be reproduced with permission of editor (307) 766-5689. For more information, contact your local Extension office.

# Good Guidance: Helping Groups Stay on Task

Effective group leadership requires many of the same skills for high and low-risk youth. With middle school-age youth, the firm-but-warm structure that matches their energy and autonomy can be a difficult balance even for experienced leaders. The following are some general suggestions for facilitating effective groups:

- **Focusing:** Gain the attention of the whole group before explaining or demonstrating  
Helpful techniques: *Non-verbal signals* such as holding up one finger, Silence or calm and quiet voice (waiting for the group to quiet down), *Attention-getters* such as a bell, *Audio-visuals* such as outlines/instructions on transparencies or newsprint, Start-up or Start-again *rituals* such as “Get ready (we’re ready), Get set (we’re set), Let ‘s go (Go-go-go, pointing index finger and eyes to the leader on the last “go”)
- **Rehearsing:** Review session goals or step-by-step procedures at the start  
Helpful techniques: Use *diagrams* or partially-completed models; *Coach* youth to conduct the demonstration to peers; for difficult tasks, repeat reviews often
- **Monitoring:** Informal circulation through groups, offering personal checking, encouraging, correcting, answering questions, and keeping participants on task  
Helpful techniques: *Observing* without comment, *Asking participants to describe* their work, *Asking questions* (rather than giving advice), *modeling* respect and enthusiasm
- **Engagement:** “Share the floor” to improve both learning and cooperation  
Helpful techniques: *Asking questions* (requiring either imagination and expertise), tapping expertise (*sharing facts* or skills), pair or small *group problem solving*, active grouping (by preference, experience, traits to assess readiness or open discussion)
- **Incentives:** Provide periodic rewards for staying on task  
Helpful techniques: *Affirmation*, recognition of *positive role models*, and *free play* at the end if tasks are done on time and to standard
- **Positively-worded Language:** Expressing views, needs, or rules in ways that focus on desired behavior (vs. misbehavior)  
Helpful techniques: *Assertive messages* (“I need you to...I expect that you will...”)’ *Action messages* (“When you do X, and Y occurs, I feel Z”); *Positive discipline* (focus on what’s desired, “walk in the halls”) rather than what’s not (“don’t run)
- **Time Out:** Break-out sessions to clarify an issue or resolve a conflict  
Helpful techniques: Use FAQ (*Frequently Asked Questions*) and *Suggestion-box* questions to identify points for needed review or exploration; *Signal for a pause* in student conflict, followed by *turn-taking* and *conflict resolution* mediated by trained adult or youth leader

**University of Wyoming Cooperative Extension Service** Youth and Family Development 5/01.  
Materials may be reproduced with permission of editor (307) 766-5689. For more information, contact your local Extension office.

# Good Guidance: Helping Challenged Kids Succeed

Some factors which place youth at risk, notably attention deficit, low impulse control, or angry temperament require leaders to have additional knowledge, make additional efforts, or recruit additional leaders to provide one-on-one assistance to youth. In addition to steps suggested above, youth leaders may want to use these with high-energy/high-intensity youth:

- **Create an emotionally safe environment:** Create a physical space and emotionally supportive presence which enables children to demonstrate capabilities
  - Establish predictable rules and expectations which are clear, stated positively (what to do rather than what not to do), visible at eye level, repeated often, consistently practiced, with lots of time and patience to transition to new routines
  
- **Flexible, adjustable expectations:** Adjust style and level of expectations to the child's current level of functioning, since attention, cooperation, and performance vary over time
  - Begin by practicing previously-practiced skills, keep basic skills activities handy, use computer as an attention-enhancing tool when student is distractible, accept the repetitive rituals of obsessive behavior (checking, lining up, arranging, counting, erasing, rewriting, and other perfectionistic behaviors)
  
- **Promote respect:** Model positive regard for the person and patience with limitations without overstressing or condescending
  - Support self-worth beyond immediate performance, empathize with internal stimuli affecting the child, evaluate based on abilities rather than disabilities
  
- **Understand the purpose of the student's behavior:** Appreciate unique challenges of challenged or overstressed children as well as developmental needs, personality and learning style differences of all children
  - Get to know the child (not just a chart or someone else's labels) and reflect on reasons what, how, and why events may be affecting his or her behavior (including medication side-effects, distractions in the environment or your own interactive style)
  
- **Enhance sense of mastery and control over events:** Look for ways to maximize self-control, constructive involvement, achievement to avoid 'learned helplessness'
  - Structure choices which promote involvement and success, use early exercises as feedback rather than "tests," teach "how-to" strategies and reward mastery and control (have students compose their favorites in a book and refer to it often)

Adapted from: M.P. Dornbush & S.K. Pruitt. (1995). *Teaching the tiger: A handbook for individuals involved in the education of students with attention deficit disorders, tourette syndrome, or obsessive-compulsive disorder*. Duarte, CA: Hope Press.

**University of Wyoming Cooperative Extension Service** Youth and Family Development 5/01. Materials may be reproduced with permission of editor (307) 766-5689. For more information, contact your local Extension office.



# Resources and Policy: Working with at-risk Kids

## Organizations

### MD Dept of Education:

Resources for best teaching practices with all youth.  
[www.mdk12.org/practices/good\\_instruction/projectbetter/middlely/index.html](http://www.mdk12.org/practices/good_instruction/projectbetter/middlely/index.html)

### American Education's Online Newspaper of Record:

Approaches to classroom management.  
[www.edweek.org/ew/vol-16/41rich.h16](http://www.edweek.org/ew/vol-16/41rich.h16)

### Middle Web: Exploring Middle School Reform-Experience Leadership

Motivating success, curiosity, originality, and relationships.  
[www.middleweb.com/stdntmoty.html](http://www.middleweb.com/stdntmoty.html)

### Center for Research on the Education of Students Placed at Risk (CESPAR):

Information and research.  
[www.csos.jhu.edu/crespar/crespar.html](http://www.csos.jhu.edu/crespar/crespar.html)

**Education Commission of the States:** Issues, news and media, projects, and centers.  
[www.ecs.org](http://www.ecs.org)

### Univ. of CA Teaching Alive:

CD-ROM for teaching at-risk K-8th graders.  
[www.ucsc.edu/oncampus/courses/97-98/02-23/crede.htm](http://www.ucsc.edu/oncampus/courses/97-98/02-23/crede.htm)

## Books

B.M. Power & S. Hubbard. (1996). *Oops: What We Learn When Our Teaching Fails*. Stenhouse.

R.L.Friend & D. Meier. (1996). *The Passionate Teacher: A Practical Guide*. Beacon.

## Policy in Practice: Arts Programs for at-risk Youth

Art-related prevention programs produce:

- Reduced delinquency
- Increased academic success
- Improved confidence

U.S. Department of Justice studies show arts program participants improve:

- Abilities of expressing anger, communicating and cooperating with peers and adults
- Task completion aiding academic and vocational achievement
- Decreased frequency of delinquent behavior vs nonparticipants
- Improved attitudes toward school, self

At-risk youth are drawn to art programs through:

- Excitement of creative and artistic expressiveness
- Community recognition for work
- New job skills
- Learning self-expression through art

Arts stimulate self-discipline by promoting:

- Task-completion
- Practice and work
- Focus and perseverance

Source: Arts programs for at-risk youth. *Americans for the Arts*. How U.S. Communities are Using the Arts to Rescue Their Youth and Deter Crime.  
[www.artsusa.org/education/youth.html](http://www.artsusa.org/education/youth.html)

## Influencing the Uncooperative

in the workplace offers insights for youth mentors:

- Be predictable: avoid surprises; announce intentions; be consistent
- Refer mainly to your own behavior: avoid implications about others' actions or feelings
- Let bygones be bygones: focus on what you'd like (not negative examples) or good things (vs. poor examples)
- Don't demand instant appreciation: positive persistence is needed to overcome a history of suspicion or conflict
- Reinforce tiny changes for the better: rewarding incremental improvement makes it easier for folks to change

Source: "Influencing the Uncooperative" topic at: [www.hardatwork.com](http://www.hardatwork.com)

## EQ: Emotional Intelligence

keys to growing in relationships:

- ❖ **Know yourself**
  - What makes you think, act, and feel?
- ❖ **Choose yourself**
  - How would awareness, skills, or support affect your behavior?
- ❖ **Give yourself**
  - How would good choices result in self-respect, friendship, or greater civility and kindness by others?

Source: Six Seconds Model of Applied Emotional Intelligence  
[www.6seconds.org](http://www.6seconds.org)

# Paradoxes: A Parting Thought

## Earth, Wind, Fire, Water: Lessons for Work with Youth

**Earth:** A source of stains; dust particles can choke, large quantities may smother; extremely undependable: some surface areas too hard to penetrate, while others unstable; incidentally, can be cultivated to produce valuable food products, but tools involved constitute serious safety hazard; notably, some locations where poisons were applied to destroy plant pests are now too toxic to be of any value

**Wind:** rapid, unpredictable air movements disrupt normal outdoor activity and may do damage to property; especially dangerous when combined with earth, fire, or water; may effectively purge air of fire residue, but resulting precipitation in water damages life forms; unfortunately, lack of wind often makes natural structures or buildings stifling

**Fire:** often begins as a single band of light and heat, but rapidly spreads out of control; common and precious materials such as paper, cloth, and dry plant matter most vulnerable to destructive potential; by-products such as smoke and ash a significant threat to health, especially when petrochemicals burn; must be controlled under all circumstances, even then often results in destruction of its container and surrounding materials

**Water:** A major risk for drowning, flooding, staining books and reports; long known to carry germs, parasites, toxic residue, and particulates; corrosive to durables such as metals and wood; although necessary for effective body function, consumers are advised to take at their own risk; of special concern is that 2/3 of available sources are contaminated with saline