

WHAT IS AN ARCHITECT?

An architect is a professional who creates solutions for our human need for shelter. These needs include homes we live in; place we work in—offices, stores, factories; spaces we store things in—warehouses, museums, libraries; places for education—schools and university buildings; areas for entertainment and recreation—theatres, gyms, and playgrounds; facilities for social functions—government buildings, banks, airport terminals; and places of worship. ①

The architect envisions the design for a building in response to the functions it must serve with the limitations of the chosen materials, the surrounding environment, local building codes, and the budget for construction.

As an architect, you fill many roles. You must be an artist, sensitive to the relationship of forms and spaces and the

effects of colors and textures, to the overall aesthetic quality of a building. You must be an engineer, knowing what will work in construction: materials, stresses, dimensions, and how to transcribe these into blueprints. You must be a social scientist aware of the psychological needs of individuals and of the community as a whole, and sensitive to the economic conditions, interests, and life styles of the people for whom you are building. You must be an environmentalist, too, concerned for the positive role of the building in the whole urban area, and sensitive to space, light, traffic, energy efficiency, landscape, and air quality, and how the building affects these and is affected by them. You must be a humanitarian, concerned that your building be a healthy, safe, aesthetically enjoyable place for people. ② ③



WHY BECOME AN ARCHITECT?

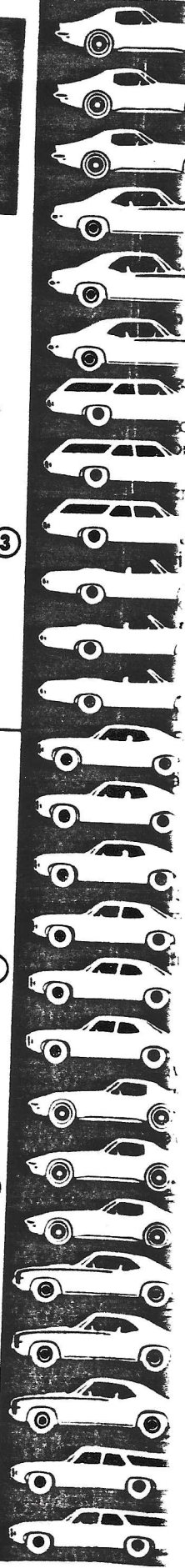
There is a very special satisfaction in participating in the design and construction of a building, and then one day being able to walk through the results of your labors. ④

The architect's career is one of challenge: to develop creative solutions to problems of function, structure, form, economy, and aesthetic effect and to make all elements work together. The career offers opportunities for individual initiative, creative thought, and skill, as well as for cooperation as part of the team of people who together contribute to the realization of a new building. ⑤

The architect's career demands both concentration upon the smallest detail—for every part of a building must "work"—and the wider vision of seeing things as a whole: each aspect of the building in relation to the complete structure, and in turn the building in relation to surrounding buildings, to the natural environment, to the larger community, and to its purpose and meaning in relation to society as a whole.

Above all, the reward of the architect is the knowledge that you are serving your fellow human beings and society, as you do your part in the creation of a shelter which satisfies the needs of people for a functional and aesthetically pleasing place for home, work, recreation, education, or worship. ⑥

The numbers refer both to the appropriate slide and to the place in the text where it should be shown.



WHAT DOES AN ARCHITECT DO?

Every building from an urban skyscraper to a single family home is made up of countless parts which must work together to satisfy visual, functional, and economic requirements. The architect balances these requirements through a step-by-step procedure which is the "design process." Although there are many variations, the design process consists of four basic phases of progressively finer detail. **7**

The schematic design phase. The design process begins with the client and his needs. A family needs a shelter for a home; a business needs an office building; or a community needs a playground. The client seeks an architect, you, for professional help. You and the client together establish what the general appearance of the building will be. You must discuss the function of the building and what purpose it will serve, the people who will use it, what their various needs will be. You must consider both the obvious and the subtle needs; for example, if the building is to be a home, you must consider not only a room as a place to sleep, but making a bedroom seem warm and secure.

The architect must consider the image the client wishes the home, bank, or factory to project. The quality of a room, museum, or school results from the interplay of size, materials, light source, color, spaces, textures, energy utilization, and countless other elements interrelated. All of these architectural choices fuse to give the building its final character. **8**

The next step is consideration of the site—the property on which the project will be constructed. Ideas now move into an actual physical environment, and you must consider the proposed structure's relationship to the land, solar orientation, neighboring buildings, trees, and streets; and you must envision the building in relation to the community as a whole. **9**

The next consideration is resources, such as stone, brick, concrete, and wood, in relation to the client's "image" and budget. Provision must also be made for mechanical systems such as plumbing, heating, cooling, light, ventilation, all of which have an effect on the general appearance of the building. Throughout the schematic design



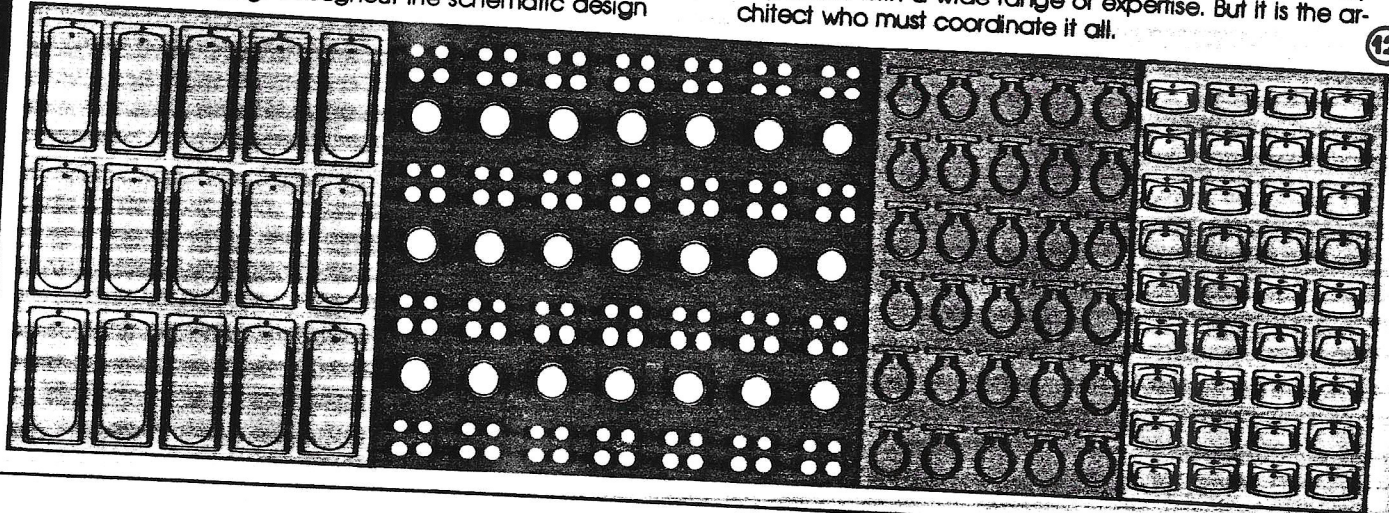
phase, you must prepare drawings and models to help the client visualize the final product until a final design is agreed upon.

The design development phase. The architect now draws the building in finer detail, to include the precise width of doors and windows, stairs, and elevators, the colors and textures of materials, and heating and cooling equipment. At this point, you consult with structural and mechanical engineers, who will perform technical calculations. A final set of design development presentation drawings must be made and costs estimated for client approval. **10**

The working drawing phase. The design drawings must now be refined into technical drawings the contractor will use to construct the building. The most involved part of this phase is drawing floor plans, elevation sections, and drawings with precise dimensions and notes, to be used as blueprints at the construction site. **11**

The construction phase. The contractor is selected, and construction of the building begins. During the process, you visit the construction site continually, meeting with the contractor and skilled workmen, to insure quality workmanship and compliance with the production schedule and budget.

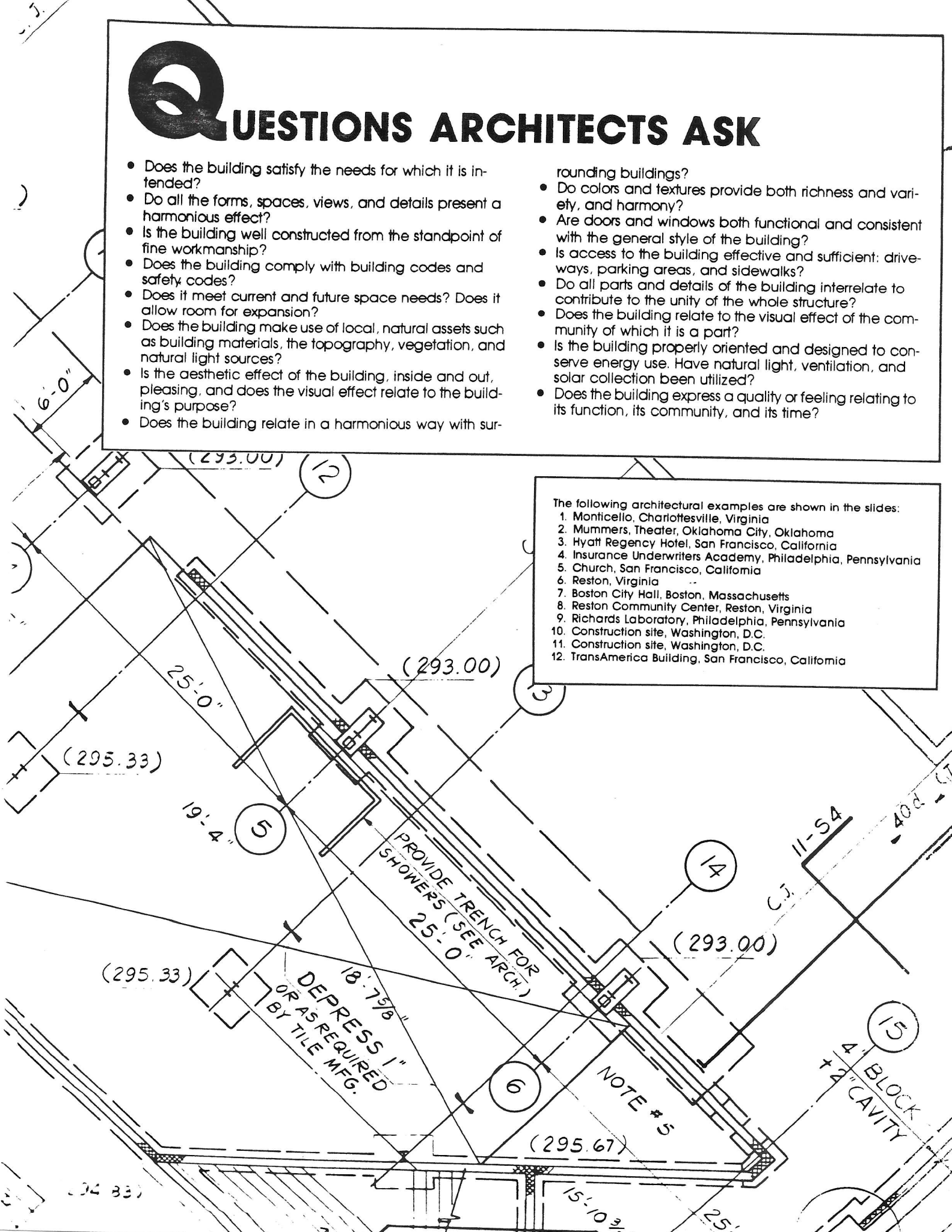
Each stage of this design process requires unique problem solving skills and cooperation between you and a variety of persons with a wide range of expertise. But it is the architect who must coordinate it all. **12**



QUESTIONS ARCHITECTS ASK

- Does the building satisfy the needs for which it is intended?
- Do all the forms, spaces, views, and details present a harmonious effect?
- Is the building well constructed from the standpoint of fine workmanship?
- Does the building comply with building codes and safety codes?
- Does it meet current and future space needs? Does it allow room for expansion?
- Does the building make use of local, natural assets such as building materials, the topography, vegetation, and natural light sources?
- Is the aesthetic effect of the building, inside and out, pleasing, and does the visual effect relate to the building's purpose?
- Does the building relate in a harmonious way with surrounding buildings?
- Do colors and textures provide both richness and variety, and harmony?
- Are doors and windows both functional and consistent with the general style of the building?
- Is access to the building effective and sufficient: driveways, parking areas, and sidewalks?
- Do all parts and details of the building interrelate to contribute to the unity of the whole structure?
- Does the building relate to the visual effect of the community of which it is a part?
- Is the building properly oriented and designed to conserve energy use. Have natural light, ventilation, and solar collection been utilized?
- Does the building express a quality or feeling relating to its function, its community, and its time?

- The following architectural examples are shown in the slides:
1. Monticello, Charlottesville, Virginia
 2. Mummers, Theater, Oklahoma City, Oklahoma
 3. Hyatt Regency Hotel, San Francisco, California
 4. Insurance Underwriters Academy, Philadelphia, Pennsylvania
 5. Church, San Francisco, California
 6. Reston, Virginia
 7. Boston City Hall, Boston, Massachusetts
 8. Reston Community Center, Reston, Virginia
 9. Richards Laboratory, Philadelphia, Pennsylvania
 10. Construction site, Washington, D.C.
 11. Construction site, Washington, D.C.
 12. TransAmerica Building, San Francisco, California



HOW CAN I BECOME AN ARCHITECT?

The preparation to be an architect involves two phases: 1) earning a degree from an accredited school of architecture, and 2) performing three years of internship under the supervision of a licensed architect. Upon completion of these requirements, you will be eligible to take a professional licensing examination to practice architecture

PREPARATION

In order to prepare to become a professional licensed architect, in high school you should take a college preparatory program. Math and science are prerequisites for the college courses you will have to take.

SELECTING A SCHOOL

You will need to attend a college or university which offers a Bachelor of Architecture degree, in five years, or a Master's of Architecture degree, an additional year or two. Schools reflect different approaches and philosophies toward architecture. You should visit several schools, talk with students and faculty, and obtain as much information as possible before selecting your school. You can find catalogs of these schools in your local library or high school guidance office. For a list of accredited schools of architecture, write to: National Architectural Accrediting Board, 1735 New York Avenue, N.W., Washington, D.C. 20006.

To gain admittance to a professional school, write the schools for literature on their programs, and their entrance requirements — usually this involves entrance exams, transcripts, and an application for admission, with an admission fee.

YOUR STUDY PROGRAM

Typically, the first two years of your education will be spent in basic college studies. In your third year you will begin to specialize in architecture. During your college program you will take courses which contribute to your development as a professional architect: courses in architectural and art history, design, structural design, mechanical systems, materials planning, and surveying. As time permits, you should select for electives such courses as art, basic design, drafting, math, drawing, photography, graphic arts, sociology, urban design, and economics.

The college education of an architect is a specialized one. Much of your education will take place in a studio or drafting room, where you will spend long hours with your classmates, preparing the visual presentation of your ideas, and finding solutions to problems. You will be introduced to creative problem solving. You will make drawings of your ideas, build models of these designs, and learn to defend your solutions in an on-going process of criticism, modification, and resolution.

As part of your training you may be assigned to work with community groups on a real or projected need for a facility. You may be asked, for example, to design a student dormitory or a neighborhood health-care center. You will have to work with the people who will use the building; you will learn how they want the building to work and why, and you in turn will help them understand the alternatives they might take. Finally, you will have your design reviewed and evaluated by potential users.

Your studies may also include mastery of skills such as freehand drawing and clay modeling, so that you will learn how to give visual shape to ideas. You will learn about construction costs, building codes, mechanical systems, and studies of composition. Most important, you will learn to see the physical environment in a new way, and

sensitive to the function and meaning of the building in relation to the needs of society as a whole.

ALTERNATIVE CAREERS IN ARCHITECTURE

There are many career opportunities in the field of architecture in addition to that of the architect, who is essentially a designer. Architectural firms need project managers, programmers, specification writers, job captains, estimators, marketing representatives, construction contract administrators, graphic designers, interior designers, and engineers, as well as clerical and personnel specialists.

In addition to these careers within an architectural firm, there are other career opportunities in architectural activity, requiring specialized training and expertise:

Architectural coordinator. Many large corporations and public institutions employ a full-time professional to determine facility needs and to work with the architectural firm engaged in planning and construction.

Project designer. Public agencies may employ a full-time design professional to carry out major educational, health care, recreational, or other building projects for public service.

Teacher. Architectural schools need qualified professionals as teachers.

Researcher. With changing needs and rapid technological development, architectural research is a growing field needing research specialists.

Writer and editor. Public awareness of architecture, community planning, and urban design is an important field. Qualified writers and editors who are professionals in architecture, are needed in the field of architectural journalism.

Thus architecture offers a wide range of career opportunities, each of them calling for specialized knowledge and training and each significant in the over-all task of providing shelters in response to human needs.

INTERNSHIP

Schools can provide the theoretical base for the profession, but to practice architecture requires real world experience. Three years of internship under the supervision of a licensed architect is usually required before you qualify for the licensing examination. All states require these exams, called state boards, just as they do for the medical and legal professions. Once licensed, with your seal "Licensed Architect," you are eligible to practice independently.

YOUR COMPENSATION

Salaries of course vary according to your experience and qualifications, and the particular project involved. The average salary for architects, by 1979 figures, is about \$23,800.

YOUR RESPONSIBILITY

The preparation of an architect is a demanding one, for there is much involved in the creation of a building, and the architect must be concerned with it all. Every new building is both a unique structure, with its own forms, functions, and qualities to satisfy those who are to use it, and an element in the larger environment we all live in. As a professional architect, you will be responsible for the quality of both.

about construction costs, building codes, mechanical systems, and studies of composition. Most important, you will learn to see the physical environment in a new way, questioning what is positive and how the environment functions as a cohesive fabric.

You will consider problems of urban design, mass transportation, and environmental design, so that you become

professional architect, you will be responsible for the quality of both.

WHERE CAN I OBTAIN INFORMATION ABOUT THE ARCHITECT'S CAREER?

- Ask your drafting teacher, high school guidance counselor, or placement counselor.
- Seek information from college representatives as they visit your area.
- Talk with alumni of your school who are attending or have attended schools of architecture.
- A visit to a school of architecture is one of the best ways of obtaining information and an understanding of the field of architecture. Students, faculty, and administrators are eager to help you with your information gathering. For a list of these schools, you can write to:
Association of Collegiate Schools of Architecture
1735 New York Avenue, N.W.
Washington, D.C. 20006
- Ask professional architects for information. Look up architects in the yellow pages of your local telephone book. You can find architects employed on the staffs of

planning agencies, industries, corporations, development firms, and so on.

- Look for career information in your local library. Magazines such as **Progressive Architecture**, **Architectural Record**, and **AIA Journal** are excellent sources of information.
- Professional organizations can be helpful, for example the American Institute of Architects (AIA). In most cities architects belong to the local AIA chapter. These sponsor exhibits of work by members and others, and hold seminars and educational programs. Getting to know these people and their work is an excellent way to become familiar with the field. For further information, contact:
The American Institute of Architects
1735 New York Avenue, N.W.
Washington, D.C. 20006
(202) 626-7300

A PROBLEM-SOLVING ACTIVITY

The following is the kind of design problem you would face as an architecture student in a professional program. If you enjoy this type of challenge, architecture may be a career choice for you.

ACTIVITY

This activity presents a problem to be solved, similar to an actual design problem that an architect would face. Use your imagination to create a solution.

PROBLEM

Using only straws, cardboard, and paper, create a platform that is capable of supporting a can of soda.

OBJECTIVE:

To experience the design process

MATERIALS

Straws, straight pins, corrugated cardboard, mat knives, paper, wire, and full soda cans

TIME

Allow one hour for construction; then make presentations.

POINTS TO CONSIDER

Remember that the most efficient structures use the least amount of materials and effort to complete the task.

One sign of a good design is the use of one solution to solve more than one problem, e.g., a floor slab that projects beyond the wall for structural reasons (cantilever) becomes a sunshade for the floor below.

Our intent in building the platform is to create a space on top of it, but in building it, we create a space below it. How can we use this to our advantage? What effects do different types of structures have on this space? Could the supports for the platforms also be spaces in themselves?

What kind of structure tells you the most about how it works just by your looking at it?

As you build, notice how the structure operates. What are its weak points? Does it want to bend, twist, sprawl? Although the materials and structures used to support a can of soda on cardboard are very different from those used to support a real platform, the structure operates under the same basic forces.

The platform must be able to support a can of soda!