Architecture and Environmental Design

Technology

1. Because of scientific advances in construction materials, some homes and buildings now have features that are technological marvels. Windows, for example, can turn from crystal clear to frosted with the flick of a switch. Explore three innovations that are currently being tested in the construction of buildings. Next, make a list of the benefits (lower cost, superior strength, etc.) and the drawbacks (higher cost, negative environmental impact, etc.) of each item.

2. In architecture, there is a growing concern about how construction practices affect the indoor air quality of buildings and impact upon the environment. Many products used in the construction of homes and office buildings may emit toxic gases for years, or may be obtained by means that are destructive to the land or produce toxic waste. Go to the library or call your local association of architects to find out how architects are using materials and designing buildings "environmentally friendly." What materials would you use to design your own home if you were an architect?

3. Find out about computer drafting or drawing programs. Design something using one of these programs.

4. Take a group of younger girls on an exploration of some public spaces, such as parks and playgrounds, in their neighborhood. Help them translate their ideas for redesigning one of these sites with a crayon or pencil sketch.

5. Landscape architects design outdoor areas—from plantings around office buildings and homes, to ski areas and golf courses. Investigate the technology that has become available in the last 10 years to facilitate the work of landscape architects.

Service Projects

1. The purpose of an environmental impact statement is to determine the effect a construction project will have on the environment before anything is built. You can determine the real impact a recent local construction project had on your community by analyzing changes it has caused in three of the following:
   - Pedestrian or car traffic
   - Noise or pollution levels
   - Public transportation usage
   - Available affordable housing
   - Number or diversity of plants and animals
   - Frequency of flooding
   - Energy demands

2. Make sure you record your observations over a period of two to four weeks. How would you improve the design of the project? Share your findings with your troop, group, friends, or family.

3. Identify a home repair or renovation that your family or a nearby neighbor needs. Draw the existing conditions, then design a solution in a series of architectural drawings or sketches.

4. Architects take many things into consideration when they plan their designs, including accessibility for people with disabilities. Since the passage of the Americans with Disabilities Act (ADA) in 1990, all new construction must meet certain accessibility requirements. Find out if you can do an accessibility study for a campsite or program area in your council. Or study the accessibility of your school or a public place. Chapter 2 of the Girl Scout publication Focus on Ability: Serving Girls with Special Needs will give you guidelines on how to conduct an accessibility study. Share your results and recommendations for better accessibility with site directors.

5. Take a group of younger girls on an exploration of some public spaces, such as parks and playgrounds, in their neighborhood. Help them translate their ideas for redesigning one of these sites with a crayon or pencil sketch.

Career Exploration

1. Often, a portfolio is a requirement for admission to a school, for getting a job, or for entering a competition. Assemble a portfolio of your creative work that shows your progress over time. Make sure to include items such as a clay pot, a song, a drawing, a model, or a piece of clothing that you made. Both the final result and the process of designing and creating are essential. The portfolio should also show your thinking and ideas. Share your portfolio with your completed interest project coordinator.

2. What is a typical day in the life of an architect, urban planner, or environmental designer? Arrange to visit the office of such a professional, or job shadow her.