



Dr. John D. Barge, State School Superintendent
"Making Education Work for All Georgians"

Georgia Department of Education
Grade 4 Career Development Activity
Architecture & Construction
Estimated Time: 45 minutes

Goal:

- Students will investigate careers in the **Architecture & Construction** career cluster

Objectives

- define a career cluster as a grouping of occupations with common skills and knowledge
- identify sample occupations aligned with the **Architecture & Construction** career

Aligned Indicators and Standards

National Career Development Guidelines Indicators

- CM3.K4 Identify several ways to classify occupations
- PS2.K2 Recognize the benefits of interacting with others in a way that is honest, fair, helpful, and respectful
- ED2.A7 Demonstrate participation in informal learning experiences

American School Counselor National Standards

- C:B1.4 Know the various ways in which occupations can be classified
- PS:A2.6 Use effective communication skills
- PS:A1.9 Demonstrate cooperative behavior in groups
- A:A3.5 Share knowledge

Related Georgia Performance Standard

- S4P3 Students will demonstrate the relationship between the application of a force and the resulting change in position and motion on an object
NOTE: The science teacher will need to prepare preliminary information to address the standard and emphasize scientific principles

Materials

- Georgia's Career Cluster chart
- occupational frame
- handout, "Architecture or Construction?"
- teacher answer sheet for "Architecture or Construction?"
- materials for the "Building Straw Towers" (see activity for details)
 - picture of the Eiffel Tower
 - straws
 - scissors
 - tape
 - large marshmallows



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Activity

- Say: "Today we're going to learn about occupations in the **Architecture & Construction** career cluster." Write: **Architecture & Construction** on the board. Ask: "Does anyone know what a career cluster is?" Allow students time to answer. Say: "Career clusters organize occupations into groups that are similar. The **Architecture & Construction** career cluster has two areas. Let's look at the first area, **Architecture**." Write on the board: *Architecture involves designing and planning the built environment.*
- Say: "Architecture is the design of buildings and other physical structures. Let's think about that for a moment." Ask: "What does that mean?" Allow students time to discuss the question. Ensure students recognize that architecture is the planning and design of a structure.
- Ask: "What other structures can you think of that would require designing and planning?" Possible answers: bridges, roads, houses, office buildings, banks and, landscapes. Ask: "Can you think of some jobs where a person would plan and design a structure?" Possible answers might be: Drafter; Engineer; Surveyor; Landscape Designer. Write these occupations on the board. If students are struggling to answer, use the occupational frame for **Architecture & Construction** to show the multiple occupations aligned with this cluster. Most of the occupations for Architecture are located in the first column.
- Say: "Now let's look at construction. Construction is the way or manner something is put together or built." Ask: "What type of work would be involved in building a structure?" Allow students time to answer. Possible answers might be: electricians; plumbers; welders; heavy equipment operators; brick mason. Write these occupations on the board.
- Ask: "Would these type jobs in the **Architecture & Construction** cluster require reading, math and science?" Allow students time to think and respond. Help students see the link between reading, math skills and science and construction work (ex. using reading skills to read building plans or to use tools; using math skills to determine the amount of materials needed or using science skills when designing a landscape).
- Divide the class into pairs. Distribute the handout, "Architecture or Construction?" to each group. Based on their current knowledge, have the students determine if the occupations represent jobs in Architecture or jobs in Construction. To check their answers, do a quick review by calling the occupation then asking each group to raise their hands if they think it should be in Architecture or Construction column. Call on one group to explain why they selected their answer.
- After the discussion and identifying the occupations related to Architecture or Construction, divide the class into groups of 4-5 students. TIP: Form groups by using a variety of grouping strategies (playing cards, puzzle pieces painted different colors, chips of different colors, counting off). Say: "Have you ever seen the Eiffel Tower in France?" Show a picture of the Eiffel Tower. Say: "Today we are going to make our very own tower so you can better understand occupations in the cluster **Architecture and Construction**."



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- *Students will participate in their assigned groups. Materials: straws (enough for 40 per group), tape, scissors (enough for each group to have a pair), paper and pencils and large marshmallows. The instruction:*
 - ✓ *Draw a design for your tower to support one large marshmallow. Assign a time limit for the planning. Think about these questions while planning:*
 - *How are you going to hold your straws together?*
 - *How are you going to spread (or distribute) the weight of a large marshmallow.*
 - *Do all of your straws have to be the same size?*
 - *How will you make your straws stand or balance to support the marshmallow?*
 - ✓ *After you do your planning, start your building. Assign a time limit for the building.*
 - ✓ *Come up with a name for your tower.*
 - ✓ *In a quick go around, ask each group to test their tower for strength by placing the marshmallow somewhere at the top. Clap for each team's effort.*
 - ✓ *Debrief: Ask: "What was the most difficult part of the assignment, the building or the planning?" Allows students to collaborate in their teams to determine the answer. Then allow one student from the team to respond in a quick go around. Ask: "I hope this experience helped you to better understand what an architect's job might be like." Allow students to give you "thumbs up" if they agree.*
- *Say: "Just think about all the people it took to design, plan and build this school building. Hundreds of people who were specially trained to do a specific job. There are many more occupations in this cluster. I hope if you are interested in learning more about these type jobs, you will continue to explore and investigate either on the internet or in the media center. I had a great time today learning about these occupations and observing how well you worked together. You have a great day and I will see you the next time we meet."*



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Evaluation

- Students will be evaluated on their participation and understanding of the identified job descriptions

Enhancement

- Discuss how math and reading are important in these careers—ask students to work in groups to come up with examples of how these subjects might be used in architecture and construction. Students will report their lists to the rest of the class.
- Divide the students into “pair and share” groups. Allow each pair to select and occupation from the list generated on the board. As a team, they should write a brief description of what they think a typical day on that job would be or they can draw a picture depicting the typical day.
- Gather building tools. Allow students to identify the tools.
- Facilitator should consult the media specialist at the local school to help select books related to the career cluster being taught. This will ensure books are appropriate for the grade level and for the learner.

DISCLAIMER

The sources and web links listed in the activities may be of help to you as you consider the career awareness activities. While these sources are provided to assist you in your search, it is your responsibility to investigate them to determine their value and appropriateness for your situation and needs. These sources are provided as a sample of available resources and are for informational purposes only. THE GEORGIA DEPARTMENT OF EDUCATION DOES NOT MONITOR, EVALUATE, OR ENDORSE THE CONTENT OR INFORMATION OF THESE RESOURCES. NONE OF THESE RESOURCES SHOULD BE CONSIDERED THE ADVICE OR GUIDANCE OF THE GEORGIA DEPARTMENT OF EDUCATION.

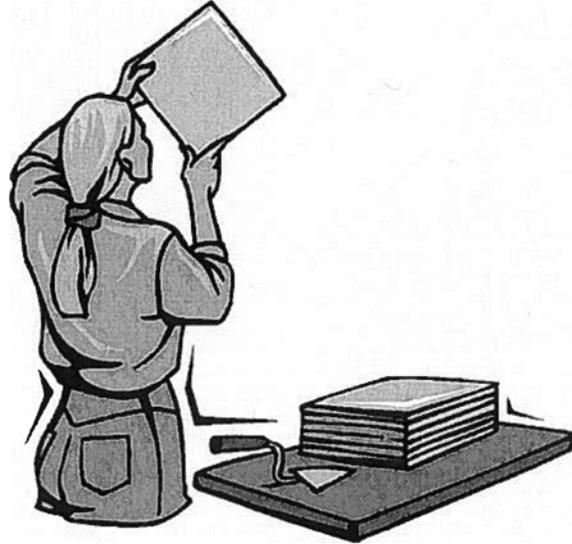


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Architecture or Construction?

Directions: Match the occupations to the correct group. Put the number in the column that matches the occupation.



Architecture/planning & design	Construction/building structures

1. Drafter
2. Electrician
3. Painter
4. Surveyor
5. Landscape Designer
6. Roofer

7. Cost Estimator
8. Concrete Finisher
9. Urban Planner
10. Carpenter
11. Plumber



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**Architecture and Construction Careers: Architecture and Construction
Teacher Answer Sheet**

Architecture	Construction
1	2
4	3
5	6
7	8
9	10
	11



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<u>Georgia's Career Clusters:</u> Groupings of occupations with common knowledge and skills	
Cluster	Cluster Description
Agriculture, Food & Natural Resources	Careers with common knowledge and skills related to production, processing, marketing, financing, distribution, and development of agricultural commodities and resources. These commodities include food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.
Architecture & Construction	Careers with common knowledge and skills related to the designing, planning, managing, and building of structures.
Arts, A/V Technology & Communications	Careers with common knowledge and skills related to designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.
Business, Management & Administration	Careers with common knowledge and skills related to the preparation of students with computer skills for future college and career plans. Cluster skills mastered include planning, organizing, directing, and evaluating as well as owning and operating a successful business.
Education & Training	Careers with common knowledge and skills related to planning, managing, and providing education and training services as well as related learning support services.
Energy	Careers with common knowledge and skills related to preparing individuals for careers in the design, planning, maintaining, generating, transmission and distribution of traditional and alternative energy.
Finance	Careers with common knowledge and skills related money management, including planning, investing, and spending. Students gain career development skills for the finance world with opportunities that expand beyond basic business skills into financial literacy, banking, investing, insurance, and risk management.
Government & Public Administration	Careers with common knowledge and skills related to the planning and performing of government management and administrative functions at local, state, and federal levels. Careers are available in national security, foreign service, revenue, and regulations.



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Health Science	Careers with common knowledge and skills related to planning, managing, and providing services in therapeutics, diagnostics, health informatics, support areas, and biotechnology research and development
Hospitality & Tourism	Careers with common knowledge and skills related to the management, marketing, and operations of restaurants, and other food services, lodging, attractions, recreation events, and travel related services.
Human Services	Careers with common knowledge and skills related to family and human needs such as nutrition and food science, counseling and mental health services, family and community services, personal care, and consumer services.
Information Technology	Careers with common knowledge and skills related to the preparation for careers that create, use, modify, and engage technology skills. Graphics, multimedia animation, web design, game and application development, networking, and computer repair are all possibilities.
Law, Public Safety, Corrections & Security	Careers with common knowledge and skills related to employment in emergency and fire services, legal services, protective services, and homeland security.
Manufacturing	Careers with common knowledge and skills related to the processing of materials into intermediate or final products and related professional and technical support activities, such as production control, maintenance, and process engineering.
Marketing	Careers with common knowledge and skills related to the process of anticipating, managing, and satisfying consumers' demand for products, services, and ideas. The Marketing career cluster generates the strategy that underlies advertising and promotional techniques, business communication, and business development.
Science, Technology, Engineering & Mathematics	Careers with common knowledge and skills related to planning, managing, and providing scientific research and professional and technical services.
Transportation, Distribution & Logistics	Careers with common knowledge and skills related to planning, managing, and moving people, materials, and goods by road, pipeline, air, rail, and water, and also includes other related professional and technical support services.