Craftsmanship

Unit: Design Process

Problem Area: Design Briefs

Lesson: Craftsmanship

Student Learning Objectives.

Instruction in this lesson should result in students achieving the following objectives:

1. **Summarize craftsmanship.**
2. **Detail the attributes of a craftsperson.**
3. **Evaluate modern craftsmanship and practice.**

Resources.

The following resources may be useful in teaching this lesson:

E-unit(s) corresponding to this lesson plan. CAERT, Inc. http://www.mycaert.com.

"Craftsmanship," *MiMi*. Accessed Sept. 12, 2013. http://en.mimi.hu/finearts/craftsmanship.html.

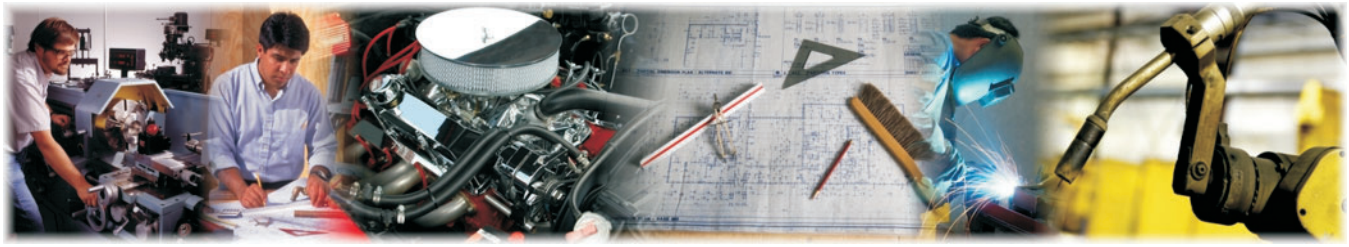
David, Steve. "We Need Metacraftsmanship," *SkyMark*. Accessed Sept. 12, 2013. http://www.skymark.com/resources/soapbox1.asp.

Gamache, Dave. "Craftsmanship," *DG.* Accessed Sept. 12, 2013. http://davegamache.com/craftsmanship.

Glover, Richard. "Principles of Great Design: Craftsmanship," *Smashing Magazine.* Accessed Sept. 12, 2013. http://www.smashingmagazine.com/2010/01/13/principles-of-great-design-craftsmanship/.

Sennett, Richard. *The Craftsman*. Yale, 2009.

Sennett, Richard. "Labours of Love," *theguardian.* Accessed Sept. 12, 2013. http://www.guardian.co.uk/books/2008/feb/02/featuresreviews.guardianreview14.



Equipment, Tools, Supplies, and Facilities

- ✓ Overhead or PowerPoint projector
- ✓ Visual(s) from accompanying master(s)
- ✓ Copies of sample test, lab sheet(s), and/or other items designed for duplication
- ✓ Materials listed on duplicated items
- ✓ Computers with printers and Internet access
- ✓ Classroom resource and reference materials

Key Terms.

The following terms are presented in this lesson (shown in bold italics):

- crafts
- craftspeople
- craftsmanship
- critiques
- methodology
- profit margin
- quality
- skill

Interest Approach.

Use an interest approach that will prepare the students for the lesson. Teachers often develop approaches for their unique class and student situations. A possible approach is included here.

> *Craftsmanship is the foundation of any great work. An excellent craftsperson's work displays and reflects their positive attitude about and their skill and attention to detail in the production of the good or service. Poor craftsmanship often displays a poor attitude about the craft, a lack of skill and attention to product details. Project VM–A. Ask students to appraise and then select the watch and the bracelet that are well crafted. Then, ask them to tell how and why they selected those products.*

CONTENT SUMMARY AND TEACHING STRATEGIES

Objective 1: Summarize craftsmanship.

Anticipated Problem: What is craftsmanship?

I. Craftsmanship and what it involves

A. ***Craftsmanship*** is the skill, artistry, and expertise to produce quality goods or services. According to Dave Gamache at http://davegamache.com/craftsmanship, craftsmanship is "doing what you love and doing it right." Terms associated with high-quality craftsmanship include artistry, creativity, dexterity, expertise, imagination, ingenuity, and skill. ***Craftspeople*** are highly skilled in a craft or an art in which the work exhibits quality and great attention to detail. ***Crafts*** are skills or trades that produce high-quality products often "by hand." Craftspeople include:

1. Architects, designers, and drafters
2. Artists, glass blowers, painters, and potters
3. Blacksmiths and whitesmiths
4. Cabinetmakers, carpenters, and wood workers
5. Jewelers, goldsmiths, and silversmiths
6. Metal workers and pipefitters
7. Musicians, vocalists, and arrangers
8. Programmers of software and digital media

B. ***Quality*** is the degree of excellence of a product as measured by predetermined standards. Quality standards—distinguishing features, attributes, and characteristics—measure one product against another using common benchmarks. Highly skilled workers develop their discipline knowledge—craftsmanship—through years of working and practicing with the materials and techniques associated with their craft. A well-crafted and quality product typically has no "errors or defects." The product performs according to its specifications and works according to expectations. Durable products that require minimal maintenance are considered high quality. Good craftsmanship creates high-quality products.

C. ***Skill*** is the ability, aptitude, expertise, and/or proficiency acquired and developed through training or experience to do something well. Skill is a required element in craftsmanship. Without skill, excellent craftsmanship is unattainable. The skill of the craftsperson must be evident in every step of the design and in all steps of product fabrication (e.g., making, creating, and assembling). Skill is evident and observable from the person who creates the specifications to the person who sets up the machine to the person who operates the machine.

D. Complex designs and products

1. Craftsmanship requires the continual development of skills and techniques. The term may be applied to the overall product or to individual parts in a complex design. Complex designs and products usually require a series of craftspeople from many disciplines, each with a specific expertise. For example, the design and fabrication of a ship or automobile may require a hundred thousand parts or components. An automobile's complex design may include metal that must be welded, fabric that must be sewn, computer programs that must be written, and mechanical parts including doors and engines. Each of these elements—metal, fabric, computer programs, and mechanical parts—require a specific craftsperson to create an overall quality product.
2. High-quality products can be created without a direct tie to craftsmanship. To do this requires a series of refined processes on a production line or with machines and computer milling. The precision machines that create products of high craftsmanship are designed, built, and programmed by craftspeople.

Teaching Strategy: *Many techniques can be used to help students master this objective. Take a field trip to a local millwork shop or to a local jewelry design or glass blowing studio. Lead a discussion of the level of craftsmanship each artisan exhibits. If this is not possible, Skype with a studio or use YouTube videos. Use VM–B.*

Objective 2: Detail the attributes of a craftsperson.

Anticipated Problem: What are the attributes of a craftsperson?

II. Attributes of a craftsperson

A. Knowledge and skills

1. All craftspeople are knowledgeable and skilled at their work. Their expertise enables them to give thorough instruction to others or teach their crafts.
2. Craftspeople realize that to remain knowledgeable in their craft requires them to participate in ongoing educational endeavors. Equipment, products, materials, and technologies evolve. Therefore, craftspeople must keep their certifications current, read trade publications, and participate in industry groups as well as in continuing education. The exchange of new ideas, problems, and solutions is often accomplished via networking and trade involvement. Engagement with colleagues and continuous learning help craftspeople excel in their fields.
3. ***Critiques*** are the analysis, appraisal, assessment, and/or evaluation of products and services. Critiques are crucial to craftspeople staying on top of their professions. Feedback can be formal and prescribed or informal and relaxed. Formal critiques are often in the form of a juried event or are based on predetermined sets of criteria. Informal critiques are often in the form of collegial feedback or in the form of self-determined criteria.

B. Detail-oriented

1. Craftspeople pay strict attention to detail from the start to the finish of a product or service. Details include the materials selection, the fabrication processes, the communication methods, and the service and delivery. Specifications are important to a craftsperson, not only the details of the specifications but how each specification supports a masterful product.
2. ***Methodology*** is a system of procedures, practices, and habits that help create a well-crafted product. Being aware of the methodology is part of being detail oriented. Having detailed knowledge of all aspects of a product or process means a person can estimate exactly how long a job will take and how much it will cost. Being detail-oriented means being up-to-date with the technology that allows new organization, inspection, and control methods. A detail-oriented methodology is an organizational system, and it requires patience.

C. Personal interest and passion for the craft

1. Craftspeople have a sincere personal interest in their work and in the quality of their work. They also have an innate desire and passion to satisfy their own and their clients' or customers' expectations. Producing the best product or service is the goal. This requires taking responsibility for all aspects of a job or product.
2. Craftspeople continue to develop and practice their skills to produce their best work. They may believe their products or services are extensions of themselves, as they are personal interests and passions. This personal relationship with the work ensures that the time is well used and productive.

Teaching Strategy: *Many techniques can be used to help students master this objective. Invite a local craftsperson to lecture and demonstrate his or her craft for your class. Use VM–C.*

Objective 3: Evaluate modern craftsmanship and practice.

Anticipated Problem: What are types of modern craftsmanship?

III. Modern craftsmanship

A. Historically, craftsmanship focused on objects make from wood, stone, metal, and other precious gems. Today, craftsmanship crosses into many modern disciplines and processes, including the creation of a design, a service, or a piece of hardware or software.

1. Craftsmanship is a core component in the product development and quality control in many modern design companies. Recently, corporations such as Apple and Toyota have made it their mission to design, create, and manufacture products of a high level of craftsmanship.
2. Functionality is an important element in modern craftsmanship. In short, functionality is as simple as, "Does the product do what it was designed and

intended to do?" Products and services evolve over time, usually to work more efficiently and effectively. The consumer has come to demand that products perform their designed task(s) exactly. Poor craft always leads to poor function.

3. Modern crafts, such as computer design and programming, hire skilled professionals—craftspeople. Computer software and hardware have millions of elements and parts to work together to allow the product to work smoothly. When a programmer's level of craft is lacking, computer hardware and software programs are likely to crash and/or to not work properly. Digital technology requires precision manufacturing, high levels of quality control, and extensive research to perfect designs. Modern design software and digital fabrication are able to produce high-quality, refined products and services when used by an expert—a craftsperson.

B. Craftsmanship and profits

1. Many corporations are focused to produce the highest profits, not necessarily the highest quality. It is important to understand why craftsmanship is necessary to offset industry concern for high profits. Some corporations determine that creating cheap, mass-produced objects designed to produce high-profit margins is preferable to producing fewer, more expensive and quality products. After all, a ***profit margin*** is a ratio of profitability calculated as net income divided by revenues or net profits divided by sales. In other words, how much does the company keep of every dollar after all the costs to produce the goods or services are deducted? Many companies want to make the most amount of money they can on every item. In this case, craftsmanship is not an important factor.
2. Disposable design
    a. An object that is used once and then thrown away is considered "disposable." Disposable design is a slightly different concept. For example, a disposable PC (not to be confused with a disposable computer: a small data processing device) is a rather inexpensive, full-featured computer designed to be thrown away rather than repaired if a serious problem occurs. Some call this type of design "planned obsolescence." In fact, some disposable PC cases cannot be opened (sealed box).
    b. Disposable design is not new, but it does seem the antithesis of craftsmanship, especially when a corporation makes the decision to produce many new products rather than a few well-crafted products. In this case, the desire for new and original products becomes more important than craftsmanship. The speed of today's marketing efforts and a client's demand that work be done quickly and cheaply has replaced much quality workmanship. Craftsmanship takes time.

C. Modern craftsmanship

1. Education—Education, mentorship, and internship are still critical to the success of future craftspeople. The level of technology available today and in the future remains a resource for future craftspeople. Knowledge is now exchanged and developed through blogs and Websites. The wealth of online

courses and certifications available to future craftspeople is a true way to develop skills.

2. Practice—Finding time and having the resources to practice a craft is especially important today and in the future. Learning about and practicing with new materials and tools is an ongoing task for craftspeople of the future. Technology and new materials are constantly evolving, as are new processes and programs. To maintain the knowledge and the skill of craftspeople requires "keeping up" with advances in the field and practice, practice, practice.
3. Criticism—More opportunities exist today to expose work to colleagues through the constant exchange of information and ideas via technology. Craftspeople thrive on feedback. They can receive constructive feedback and criticism through digital networks as well as through formal, juried events and through informal critiques with experts, mentors, and peers. Constructive critique is an important process for craftspeople. The option to expose work to colleagues and juried events allows many people with advanced skills and knowledge to provide feedback. Ideas and feedback from experts help people progress and improve.
4. Details—Products and designs are more and more detail oriented and precise today, in part, due to advanced technologies and the level of precision these new technologies afford designers. Products can now be fabricated with smaller and smaller elements. Dimensions now have enhanced precision, accuracy, and tolerance capability: a critical part of modern designs. Drafting and design requires more attention to smaller units and bits information.

Teaching Strategy: *Many techniques can be used to help students master this objective. Use VM–D and VM–E to review the modern and future of craftsmanship. Assign LS–A.*

- **Review/Summary.** Use the student learning objectives to summarize the lesson. Have students explain the content associated with each objective. Student responses can be used in determining which objectives need to be reviewed or taught from a different angle. Questions at the ends of chapters in the textbook may be used in the Review/Summary.

- **Application.** Use the included visual master(s) and lab sheet(s) to apply the information presented in the lesson.

- **Evaluation.** Evaluation should focus on student achievement of the objectives for the lesson. Various techniques can be used, such as student performance on the application activities. A sample written test is provided.

Answers to Sample Test:

Part One: Matching

1. g
2. d
3. e
4. f
5. c
6. a
7. b
8. h

Part Two: True/False

1. T
2. F
3. T
4. T
5. F
6. T

Part Three: Short Answer

1. Answers will vary but would be similar to the following definition of craftsmanship. Craftsmanship is the skill, artistry, and expertise to produce quality goods or services.
2. Answers will vary but would be similar to the following terms to describe craftsmanship: artistry, creativity, dexterity, expertise, imagination, ingenuity, and skill.

Sample Test

Name _____

Craftsmanship

Part One: Matching

Instructions: **Match the term with the correct definition.**

a. crafts
b. craftspeople
c. craftsmanship
d. methodology
e. skill
f. quality
g. profit margin
h. critiques

_____1. A ratio of profitability calculated as net income divided by revenues or net profits divided by sales

_____2. A system of procedures, practices, and habits that help create a well-crafted product

_____3. The ability, aptitude, expertise, and/or proficiency acquired and developed through training or experience to do something well

_____4. The degree of excellence of a product as measured by predetermined standards

_____5. The skill, artistry, and expertise to produce quality goods or services

_____6. Skills or trades that produce high-quality products often "by hand."

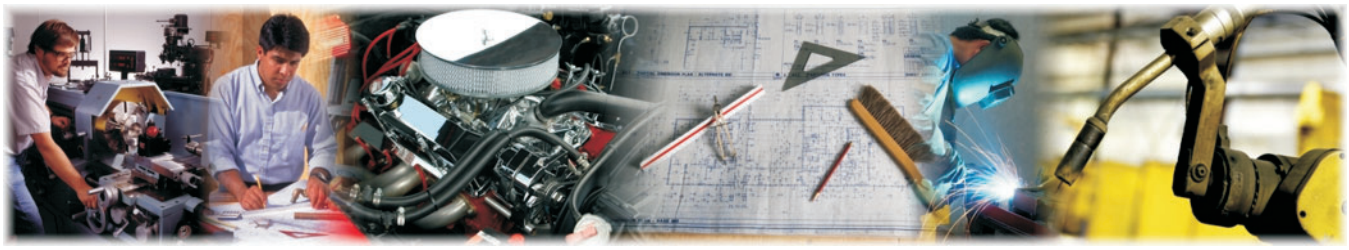
_____7. Individuals who are highly skilled in a craft or an art in which the work exhibits quality and great attention to detail

_____8. The analysis, appraisal, assessment, and/or evaluation of products or services

Part Two: True/False

Instructions: **Write *T* for true or *F* for false.**

_____1. Many corporations elect to produce high profits and not necessarily the highest quality products.



_____2. Modern craftsmanship has no need for functionality.

_____3. Modern crafts, such as computer design and programming, have skilled professionals who are considered craftspeople.

_____4. Craftspeople realize that knowledge acquisition requires ongoing education.

_____5. High-quality products cannot be created without a direct tie to craftsmanship.

_____6. Keeping up-to-date with new materials, tools, and practices is necessary for modern craftspeople.

Part Three: Short Answer

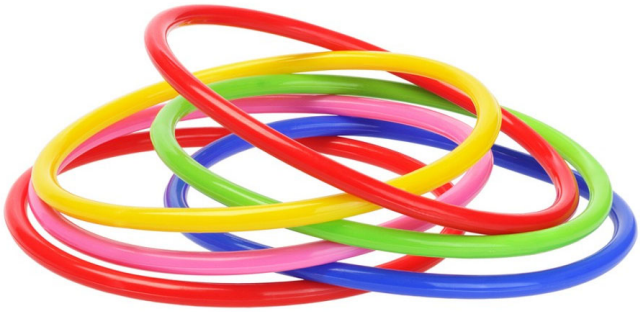
Instructions: **Answer the following.**

1. Dave Gamache is a craftsman. His definition of craftsmanship is "doing what you love and doing it right." What is your definition of craftsmanship?

2. List four terms associated with high-quality craftsmanship.

CRAFTSMANSHIP: BRACELETS AND WATCHES

Which bracelet and watch exhibit the best craftsmanship? What are three words that best describe craftsmanship to you?



CRAFTSMANSHIP: ARTISANS

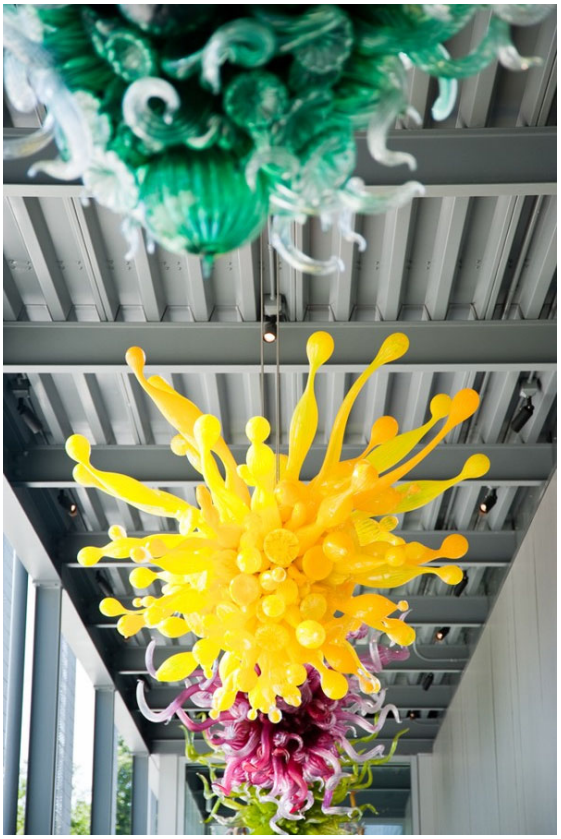
Artisans of all types produce well-crafted products. In these examples, the goldsmith, woodworker, potter, and cheese maker produce products that exhibit attention to detail and quality workmanship. The cheese maker pictured is producing the French Tomme de Savoie cheese. Tomme is a generic term for "wheel," and Savoie is the area in the French Alps where the cheese is produced. Artisans of all types are needed.

CRITIQUE: TWO PAIRS OF SHOES

Which pair of shoes is handcrafted? Which pair is the most expensive? Which pair would last longer? Describe what makes the handcrafted pair of shoes superior to the mass-produced shoes.

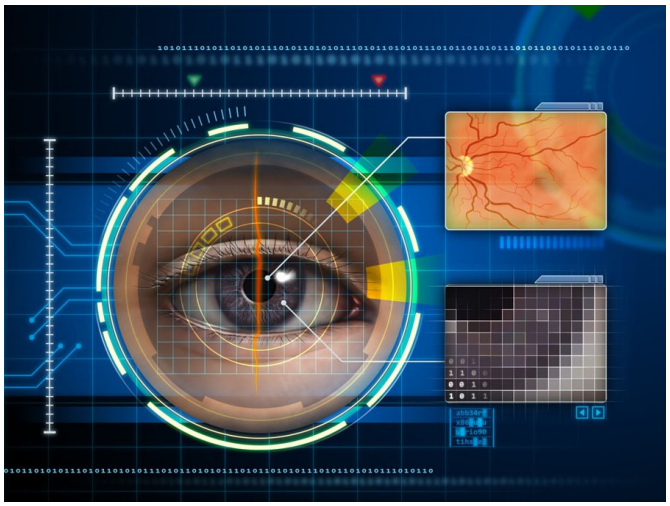
DALE CHIHULY: MASTER GLASS BLOWER AND CRAFTSMAN

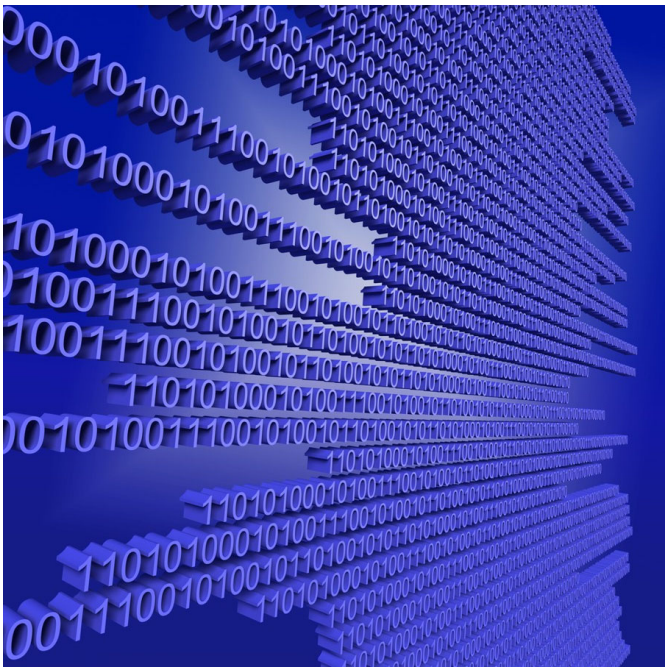
Dale Chihuly is a master of glass blowing as evidenced by these three examples. Most of these pieces are housed in the Chihuly Garden and Glass venue in Seattle, WA. Also, he has created a glass dome in the Bellagio Hotel in Las Vegas, NV. Mr. Chihuly has several apprentices working in this studio.



DIGITAL CRAFTSMANSHIP

Digital media is detailed, but is it artistic? Is it crafted? Is binary code pretty? Are some programmers and designers digital artists? Who are some of the best digital artists and designers?





LS–A

Name _____

Conduct Product Critiques

Purpose

The purpose of this activity is to produce a written critique.

Objectives

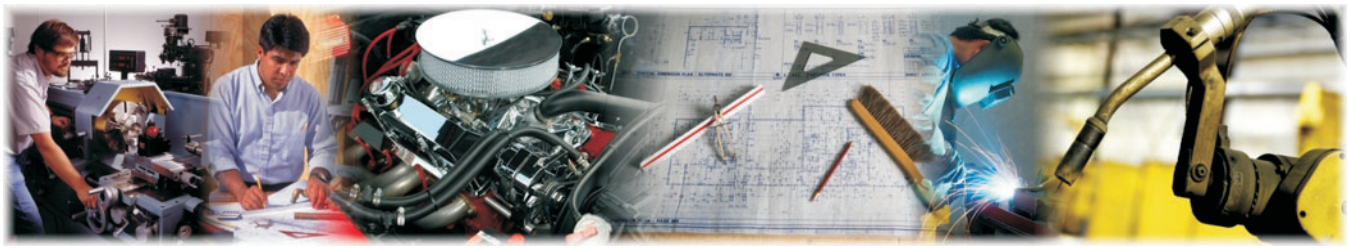
1. Demonstrate knowledge of craftsmanship.
2. Rate each product on eight craftsmanship characteristics.
3. Evaluate the overall craftsmanship of each product.
4. Write a recommendation for each product.

Materials

- two new products or designs
- writing utensil
- paper

Procedure

1. Work independently.
2. Select two new products or designs (e.g., a cell phone, an electronic tablet, a backpack, and a pair of shoes) that you use frequently. The products need to be relatively new designs and no more than two years old. As an alternative, your instructor may select two objects for the entire class to use for this lab.
3. Ask your instructor to review your product selections for appropriateness.



4. Record the name and manufacturer of each product. Then begin your evaluation of the craftsmanship of the two products by recording your judgment of each category in the areas designated below.

   a. Rate each category from 1 to 4: 1 = high and 4 = low.
   b. Then describe the reason for your rating. (For example, 3; the stitching is loose, but the fabric is sturdy.)

Product A. _____

Manufacturer: _____

Product B. _____

Manufacturer: _____

Category 1. Rate the construction. Describe. (sturdy, fragile, cheap, well made)

A. 1 2 3 4

B. 1 2 3 4

Category 2. Rate the appearance. Describe.

A. 1 2 3 4

B. 1 2 3 4

Category 3. Rate the design. Describe.

A. 1 2 3 4

B. 1 2 3 4

Category 4. Rate the attention to detail. Describe.

A. 1 2 3 4

B. 1 2 3 4

Category 5. Rate the performance. How well does the product perform? Describe.

A. 1 2 3 4

B. 1 2 3 4

Category 6. Rate the durability. Describe. (long-lasting, heavy-duty, flimsy, disposable)

A. 1 2 3 4

B. 1 2 3 4

Category 7. Rate the appropriateness of the material for the function. Describe.

A. 1 2 3 4

B. 1 2 3 4

Category 8. Rate the overall craftsmanship. Describe.

A. 1 2 3 4

B. 1 2 3 4

5. Write a two- to three-sentence analysis of each product in the space provided. Think of this analysis as a recommendation (thumbs up or thumbs down).

   a. Product A.

   b. Product B.

6. Share your rankings with another student.
7. Turn in your completed lab sheet to your instructor.