

**COOPER
HEWITT**

MAKING DESIGN

**TEACHER
RESOURCE
PACKET**



Smithsonian Design Museum

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COOPER HEWITT DESIGN K-12

September 17, 2015

Dear Educator,

Thank you for registering for Design Field Trip! This exciting program is designed to present Cooper Hewitt, Smithsonian Design Museum's compelling content to your class through an interactive tour and gallery activity.

Students are invited to discover our unique Permanent Collection exhibition of some 360 historic and contemporary objects. On this 90 minute inquiry tour and workshop students will actively engage with the various ways designers use the elements of design (line, form, texture, pattern, and color) in products, graphic designs and textiles.

This packet provides several resource activities to help your students prepare for the program and ideas to continue integrating design thinking connections into your classroom.

We enjoy receiving feedback from teachers about their experience with the program. Within a month of your museum visit you will be e-mailed a brief survey. Thank you in advance for taking time to provide your feedback so that we can continue to offer a high-quality program for all K-12 schools.

Sincerely,

Kimberly Cisneros-Gill

Kimberly Cisneros-Gill

School Programs Manager

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PREPARING FOR DESIGN FIELD TRIP

During your Design Field Trip, the Design Educator assigned to your group will need your support in helping students stay on task. You must remain with the group at all times with the Design Educator. Please review the following museum guidelines and share them with your chaperones and students.

ARRIVAL & DEPARTURE

- Please arrive 10 minutes before your scheduled start time to check in; you will be greeted at the main entrance (91st Street between Fifth and Madison Avenues)
- Non-NYC teachers with a cash payment, please remit to the Visitor Experience Desk
- Coat check will provide large bins to quickly store and retrieve coats and backpacks
- Please call your bus in advance to meet you in front of the main entrance, and exit through the main entrance).

MUSEUM RULES AND POLICIES

- Please do not touch the objects or lean on the walls; view the objects at a safe distance
- Use only pencils for taking notes or sketching; pens are not permitted
- Food, drinks, and chewing gum are NOT permitted in the museum
- All items entering and leaving the museum are subject to inspection
- Please remain with your assigned group at all times
- Please leave all backpacks and large purses on the bus or at the coat check
- Photography without flash is welcomed; no tripods or selfie-sticks, please

TAKE AN ACTIVE ROLE

TEACHER & CHAPERONES

The classroom teacher and chaperones are essential to the success of a group's visit; they can enhance the success of the tour and the amount of learning that can take place by showing active interest in the objects while supervising student behavior.

- Please ensure that you and your group of students (10 students or fewer per chaperone) stay together during your time in the museum (this includes the Shop)
- You and the group chaperones are responsible for keeping track of each student in your group, and for students' proper behavior of their groups (including their respect of museum rules and policies)
- If you have questions, ask a museum staff member for help

STUDENTS

- Students will be encouraged to share their ideas and work in teams
- Students must stay with their chaperones at all times while in the museum and Shop
- Please do not allow students to touch anything unless signs, museum staff members, or designated volunteers let you know it's okay



FOR MORE INFORMATION

Please visit our website at www.cooperhewitt.org/education/school-programs

DESIGN THINKING CONNECTIONS

The following pages include pre- and post-Design Field Trip activities. The pre-visit activities are suggestions for helping your students prepare for their trip; they are designed to introduce students to concepts that will be discussed during the program. The post-visit activities are suggestions for extending your students' thinking beyond the program and reinforce your classroom curriculum. For teachers who would like additional ideas on making cross-curricular connections to design thinking, we recommend our free Educator Resource Center (ERC), which offers 400 design-focused lesson plans (available at: <http://dx.cooperhewitt.org/lesson-plans/>).

PRE-VISIT ACTIVITIES

DIGEST THE LANGUAGE | ALL GRADES

SUBJECTS: English, Art, Science | DESIGN PROCESS: Getting Ideas

ACTIVITY TYPE: Slideshow and discussion | 30 mins.

Prior to visiting the museum, it would be helpful to familiarize students with design vocabulary. Using our slideshow as a guide, introduce students to the idea that everything we see and touch was made by a designer for specific functions and users. Each slide presents vocabulary and questions to help you lead a discussion around the selected examples. After discussing objects in the classroom; examine what their purposes are, and interpret how they are intended to be used.

GUIDING QUESTIONS

- What do you think of when you hear the word “design?”
- Who are the users for each of these objects? What are their needs?
- What were the designers' solutions to those needs?

VARIATIONS AND EXTENSIONS

Take an informal or formal assessment and compare to final assessments after the post-visit activities.

MATERIALS AND RESOURCES NEEDED

If available, a projector and internet connection

Our “Digest the Language” slideshow at www.cooperhewitt.org/education/school-programs

VOCABULARY

See Cooper Hewitt's design vocabulary on Page 13 of the Teacher Resource Packet

STANDARDS

Common Core

English Language Arts R.1, 7, 9; SL.1, 2, 4; L.4, 6

JUDGE A BOOK BY ITS COVER | K-5

SUBJECTS: English, Art, Science | DESIGN PROCESS: Getting Ideas

ACTIVITY TYPE: Discussion and research | 45 mins.

Let your classroom bookshelf be the site of investigation. Graphic designers shape the meaning and impact of what we see and read each day through size, word choice, images, and colors. Graphic design is the visual communication of messages through images and words. Have your students explore creative thinking skills through this design challenge. Begin with a whole group discussion about a book cover in your classroom. Have students investigate the book cover through the elements of design including: line, form, texture color, and pattern in preparation for designing their own book cover.

YOUR DESIGN CHALLENGE is to invite your students design their own version of a book cover for a familiar story based on the cover's design elements and the designer's choices.

GUIDING QUESTIONS

- What role does size of text/image play in gathering meaning?
- What is the book about? Adventure, family, friendship? Why?
- Who is the main character? What do you see that makes you think that?
- Who would buy and read this book? A child, a friend, a parent, a teacher?

VARIATIONS AND EXTENSIONS

- Invite each student to design a new book cover for a book you all know. When students are finished, ask them to share their book cover designs with each other.

MATERIALS AND RESOURCES NEEDED

<https://collection.cooperhewitt.org/objects/18309985/>

<https://collection.cooperhewitt.org/objects/18656301/>

VOCABULARY

Color, composition, design, designer, drawing, function, graphic design, line, pattern, user, typography

STANDARDS

Common Core

English Language Arts R. 1-2,6-7;W.1-3,9;SL. 1,2,4-5

Learning Standards for New York State

The Arts Standards 1-3

English Language Arts Standards 1-2, 4

IDENTIFY DESIGN CHOICES | 6-12

SUBJECTS: English, Art, Science, Math | DESIGN PROCESS: Getting Ideas

ACTIVITY TYPE: Discussion | 45 mins.

Presenting a clear message is one of the important tasks of a graphic designer when creating posters/advertisements. Posters often use one or more of the fourteen visual strategies.* Ask students to look at several posters/advertisements and identify which of the following five categories each one falls into. Some might fit into several categories. This activity will help familiarize students with graphic design principles and understand an important role of design in our world.* **All fourteen categories can be found in the Vocabulary section.**

- **FOCUS THE EYE** – There is a clear and obvious point of focus where the designer uses line, color, contrast, and placement to emphasize the dominant object.
- **OVERWHELM THE EYE**– Some designers seek to lead the eye on a restless journey, employing swirling lines, repeating forms, and competing colors, where the eye doesn't know where to stop and rest but rather is pulled into optical overload.
- **TELL A STORY**– Through just one image, designers chose a single point in a narrative to suggest the larger story and they choose details that illuminate the situation and setting.
- **DOUBLE THE MEANING** – Designers use metaphors, puns, irony, and other devices to create double meanings, generating humor and surprise by transforming abstract ideas into vivid mental images.
- **MANIPULATE SCALE** – Designers play with scale to exaggerate meaning and depth. Posters also use scale for narrative purposes rather than abstract effects.

YOUR DESIGN CHALLENGE is to think like graphic designers by analyzing designs found on book covers, posters, magazines, or even subway maps.

GUIDING QUESTIONS

- How do the designers use line, color, contrast, and/or placement to emphasize the objects? Discuss the choices that the designer made in small groups.
- If you were to change something about this poster/advertisement to improve it, what would you change? Describe the changes you would make.
- Think about your emotional response –are they shouting at you or quietly triggering a visceral response? Explain your answer.

MATERIALS AND RESOURCES NEEDED

Magazine advertisements or flyers brought in by students or found in the classroom; paper; pencil

<http://www.designthinkingforeducators.com/>

<http://www.cooperhewitt.org/2013/01/10/the-power-underground/>

<https://collection.cooperhewitt.org/objects/18734849/>

VOCABULARY

Color, design, designer, font, form, graphic design, user, typography

STANDARDS

Common Core

English Language Arts R.1, 7-9;SL.1-6; L.3-4

Learning Standards for New York State

Mathematics, Science, and Technology Standards 1, 6, 7



POST-VISIT ACTIVITIES

DESIGN AN ID | ALL GRADES

SUBJECTS: English, Art, Science | DESIGN PROCESS: Prototyping and Making

ACTIVITY TYPE: Discussion & Making | 45 mins

Students will design an ID card that conveys information about themselves in a clear and engaging way. Before they begin designing their cards, students should think of three adjectives that best describe themselves, which they will try to convey through their ID card design. Provide students with 3x5 index cards. Ask students to consider layout, lettering, color, and materials in designing their ID card. Working with the materials given, students will design at least five quick prototypes of their ID card in a 5-10 minute span. Then choose one prototype to expand using the following guiding questions.

YOUR DESIGN CHALLENGE is to make an ID card that says something about you using the design elements and visual strategies from the 14 Ways Posters Work vocabulary.

GUIDING QUESTIONS

- What are the advantages and disadvantages of having a card that is the same size / color / font as someone else's card?
- How does your intended audience affect what information you might include?
 - Friend, future job, new school
- What types of information are important to include? What would you leave out? Explain.
- How will you present the information? Will it have a handmade or digital look?
- Is an ID card still relevant in our technology driven world? How can you make connections from the physical piece of paper back to web based platforms?
- Which is more important to you – legibility or visual interest? Can you have both?

VARIATIONS AND EXTENSIONS

- Students can make quick prototypes of their ID card, and then choose their favorite to expand using the following prompts: integration of text and image; vivid use of color, line, and shape; clarity of message; a variety of fonts as a design element; application of the principles of design (balance, contrast, emphasis, unity, rhythm, pattern and movement); awareness of intended audience.

MATERIALS AND RESOURCES NEEDED

index cards, pencils.

<https://collection.cooperhewitt.org/objects/51497457/>

VOCABULARY

Color, design, graphic design, typography

STANDARDS

Common Core

English Language Arts: R.6-7; W.5; SL.2-5; L.3, 5

Learning Standards for New York State

The Arts Standards 1-4

Mathematics, Science, and Technology Standards: 1-2



OBJECT OF THE DAY | K-5

SUBJECTS: English, Art, Social Studies | DESIGN PROCESS: Testing and Evaluating

ACTIVITY TYPE: Discussion & Making | 45 mins

We all have objects that mean something special to us. Maybe you received a present for a birthday, holiday, or from a person that means a lot to you. On our website we have an Object of the Day blog dedicated to sharing a more personal, narrative approach to the objects in our collection. Descriptive narratives use sensory details as a way for the reader to experience the feelings along with you. The Object of the Day has four sections: picture, description, tombstone, and tags.

Picture: draw a picture of your object

Description: write a description of the object or why it is special to you.

Tombstone: provides background information

- What it is, date, place of origin, material(s)

Tags: quick descriptions of the object, such as the color or shape.

YOUR DESIGN CHALLENGE is to create your own Object of the Day blog including picture, description, tombstone and tags.

GUIDING QUESTIONS

- Why did you choose to this object?
- What is important about your object? What do you want to say about your object?

VARIATIONS AND EXTENSIONS

- K-1 modification: have students write 1-2 sentences about why the object was chosen. Combine each child's work to create a book that can be kept in the classroom. Or make photocopies for each child to take home.
- Provide images from the object of the day site without information, have students come up with their own information based on the visual evidence. Then compare their observations with the given historical/cultural evidence as a way to generate reflection, and conversation about context and observation through object engagement.
- Create your own class online newsletter featuring students' blogs.

MATERIALS AND RESOURCES NEEDED

Objects, pencils, worksheet

<http://www.cooperhewitt.org/category/object-of-the-day/>

VOCABULARY

Color, design, design challenge, form, function, materials, needs, user

STANDARDS

Common Core

English Language Arts R.1-4, 6; W.1-3,6,9; SL1-2,4-5; L.1-2

Learning Standards for New York State

The Arts Standards 1-4

English Language Arts Standards 1-2, 4

Mathematics, Science, and Technology Standards: 1-2



SPOON AND FORK | 6-12

SUBJECTS: English, Art, Social Studies | DESIGN PROCESS: Testing and Evaluating

ACTIVITY TYPE: Discussion & Making | 45 mins

Sometimes designers make stylistic choices that fit a particular environment. Prior to the 17th century, eating utensils were personal traveling accessories. Luxurious materials reflected the owner's taste and wealth. *Fork and Spoon (Germany), 1600-30*, found in our permanent collection, features colors which not only reflected the times but also served a functional use as well. The natural red of the carved coral makes a colorful counterpoint to the gilded silver, while the gold also had a practical use: preventing tarnishing from acidic foods. Today, utensils are still designed based on the needs of its users. Disposable materials, for example, are popular choice in cafeterias, delis, and for travel.

YOUR DESIGN CHALLENGE is to design a utensil that reflects your school cafeteria and meets the needs of its students.

GUIDING QUESTIONS

- What colors will you select and why?
- What are the school's colors? Does your school have a mascot?
- The 17th century utensils were made using gold and silver. What material(s) would your present day utensil be made out of and why?
- What are some constraints that may affect the design?
- What are some of benefits of having something disposable? What are some challenges or limitations to disposable utensils?
- Today, the environment and going green is a concern: how might you factor this into your design?

VARIATIONS AND EXTENSIONS

- Look at the utensil's color and shape and create a personal narrative/write a letter home that describes who you are and where you are going.
 - Turn the personal narrative into a poster
- Stories happen everywhere, not just in movies and books – tell a story in a single image frame. What just happened? What will happen next?
- Working in teams, interview members of your school community to begin brainstorming design ideas for your object.

MATERIALS AND RESOURCES NEEDED

<https://collection.cooperhewitt.org/objects/18705867/>

VOCABULARY

Color, design, form, materials, needs, team, user

STANDARDS

Common Core

English Language Arts R. 3,6; W.1-8; SL.1-5; L.1-2

Learning Standards for New York State

The Arts Standards 1-4

English Language Arts Standards 1-2, 4

Mathematics, Science, and Technology Standards: 1-2



VOCABULARY

Color	Color can convey a message. Designers must understand their audiences' perception of color as part of effective design plans.
Design	To make an object that solves a problem.
Design challenge	A difficulty or challenge that can be solved through design.
Design process	The steps that you take to solve your challenge:



1. Defining problems
2. Getting ideas
3. Prototyping and making
4. Testing and evaluating

Design solution	The way, idea, or answer to a design challenge or problem.
Designer	A person who creates a new object, idea, or plan.
Empathy	The ability to understand what another person is feeling without adopting that emotion as your own.
Form	The shape and structure of any three dimensional object and can be defined by light and dark.
Function	The way something works, or a purpose of an object. <i>e.g., the function of a paper clip is to fasten things together</i>
Graphic design	The visual communication of messages through images and words.
Line	An element of art used to define shape, contours, and outlines. Also to suggest mass and volume. It may be a continuous mark made on a surface with a pointed tool or implied by the edges of shapes and forms.
Materials	The items you are using to represent your ideas.
Needs	What the user must have in order to use the design successfully.
Pattern	Uses the art elements in planned or random repetitions to enhance surfaces. Patterns often occur in nature.
Prototype	An original model on which something is patterned.
Solution	The way, idea, or answer to a problem. There can be more than one.
System	A group of related parts that work together.

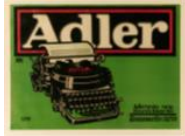
COOPER HEWITT DESIGN K-12

Texture	The surface quality of an object; roughness or smoothness.
Typography	The design or process of working with type; the general character or appearance of type.
Team	A group working together on a common goal or activity.
User	A person who operates or experiences the design.
User-centered design	An approach to design that considers the needs of the user throughout the design process.

14 WAYS GRAPHIC POSTERS WORK VOCABULARY

Focus the eye

Clear and obvious point of focus where the designer uses line, color, contrast, and placement to emphasize the dominant object.



Overwhelm the eye

Some designers seek to lead the eye on a restless journey, employing swirling lines, repeating forms, and competing colors, where the eye doesn't know where to stop and rest but rather is pulled into optical overload.



Use text as image

In poster design, typography can often move to the front of the stage, enhancing a message through the size, style, and arrangement of letters.



Overlap

One thing on top of another is a simple way to create an illusion of depth.



Cut and paste

To combine fragments (cutting out and putting together) into a new whole is a basic technique of graphic design. Now digital software has turned this production method into simple key commands.



Assault the surface

To create mental friction through burning, bending, or ripping an image. Such works that often call attention to edges, borders, and background in order to reveal how design actively frames our attention.



Simplify

To take something complex and make it simple. Designers often simplify an image in order to focus attention on a message or product.



COOPER HEWITT DESIGN K-12

Tell a story



Through just one image, designers chose a single point in a narrative to suggest the larger story and they choose details that illuminate the situation and setting.

Amplify



Designers amplify messages by scrawling, stenciling, enlarging, underlining, slanting, angling, or framing texts. Listen to the posters in the room, many of them are shouting at you.

Double the meaning



Designers use metaphors, puns, irony, and other devices to create double meanings, generating humor and surprise by transforming abstract ideas into vivid mental images.

Manipulate scale



Designers play with scale to exaggerate meaning and depth. Posters also use scale for narrative purposes rather than abstract effects.

Activate the diagonal



Designers use diagonals to interrupt the static regime of the vertical/horizontal grid and to create a sense of motion and depth.

Make eye contact



Eyes are powerful attractors whether eyes are looking out of a poster, challenging the viewer to look back or if they are blocked, implying physical and emotional eye contact

Make a system



Designers devise systems for organizing information and creating a recognizable series over time.

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