COOPER HEWITT
DESIGN K-12

DESIGNING IDENTITY
TEACHER RESOURCE PACKET

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Smithsonian Design Museum

COOPER HEWITT DESIGN K-12

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COOPER HEWITT
DESIGN
K-12

January 5, 2016

Dear Educator,

Thank you for registering for Design Field Trips! This exciting program is designed to present Cooper Hewitt, Smithsonian Design Museum's compelling content to your class(es) through an interactive tour and workshop.

Designers use visual language in order to make statements about beauty and identity. On this 45-minute inquiry tour of our temporary exhibition, *Beauty: Cooper Hewitt Design Triennial,* students will discover what influences their identity; including aesthetic preferences, culture, environment and values. Also included in the program is a 45-minute workshop where students will collaborate to create a wearable piece that represents their unique style.

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
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School Programs Manager

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PREPARING FOR YOUR 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 (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

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DESIGN THINKING CONNECTION

The following pages include pre- and post-Design Field Trip activities. The pre-visit activities are suggestions for how to help 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 how to extend your students' thinking beyond the program and reinforce your classroom curriculum. For teachers who would like additional ideas, 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 "Digest the Language" 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

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SHOWING OFF | K-5

SUBJECTS: English, Social Studies | DESIGN PROCESS: Getting Ideas

ACTIVITY TYPE: Drawing, Discussion & Presentation |45 mins.

Designers sometimes draw inspiration from their own identity and experiences, or from the identity of a community. A designer's identity and culture can particularly influence the aesthetics of their design, while addressing a need shapes the function of a design.

THE DESIGN CHALLENEGE

How might we design a t-shirt so that it expresses our identity?
People everywhere need clothes to protect them in their environment, but what people choose to wear is not the same. People sometimes wear things that show off their identity—who they are. How can you show off who you are to other people with a common type of clothing, a t-shirt?

Using the guiding questions, students will brainstorm what could go on their t-shirt to show who they are and what is important to them. If students need help getting started with ideas, use the "Showing Off" presentation. Then, using the template on pg. 12, students will design a t-shirt that incorporates their identity, and what they want people to know about them.

GUIDING QUESTIONS

- What is the function of a t-shirt?
- What symbols and images can people use to express who they are?
- How could you use color to express identity?
- What are ways that you have seen that people express who they are?
- How can you show off who you are to other people?
- How can identity shape a design?
- How do needs shape a design?
- What similarities do we share in our identity?
- How is your identity unique?

VARIATIONS AND EXTENSIONS

- Look at the designs in the "Showing Off" presentation.
    - Slide 2:
        - What are people in the two photos wearing that is the same? What is different?
        - What are people saying about themselves through their clothes in these photos?
    - Slide 3:
        - What might these images say about someone wearing t-shirts with them?
    - Slide 4:
        - Would you wear these clothes in the place?
        - How are environmental needs addressed by the clothes?
- Class can discuss together what the "classroom identity" is and design a banner together that reflects this identity.

COOPER HEWITT DESIGN K-12

MATERIALS AND RESOURCES NEEDED

T-shirt template (see page 12 of this Teacher Resource Packet)
Pencils
Markers, colored pencils, or crayons
If available, a projector and internet connection
Our "Showing Off" 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: CCSS.ELA-LITERACY.CCRA.R.7; CCSS.ELA-LITERACY.CCRA.SL.1
Learning Standards of New York State: The Arts Standard 4

EMBRACING THE ELEMENTS | 6-12

SUBJECTS: English, Science, Social Studies | DESIGN PROCESS: Getting Ideas, Prototyping

ACTIVITY TYPE: Drawing, Discussion & Presentation |45 mins.

Environmental challenges can have a large influence on what a designer creates. A good design meets the needs of the user, while being aesthetically pleasing. When it comes to wearable design, designers are faced with an additional challenge: creating pieces that are stylish and that appeal to a user's identity.

THE DESIGN CHALLENEGE

How might we design an outfit that includes both function and aesthetics for someone with a different identity than ours?

Students work in teams of three or four to create a design based on the following challenges, and give feedback in regard to their work.

- Students in a very cold climate need something to wear when they walk to school so that they can stay warm. They need to be able to remove this layer when they get to school and put it back on when they go outside. Students want to look stylish while wearing this outfit.
- Children in a very hot climate need something to wear when they play outside on the weekends so that they can stay cool. They want to be able to wear the outfit inside too and still be comfortable. Children want to look stylish while wearing this outfit.
- Parents with babies in a very rainy climate need something to wear when they walk outside so that they and their babies can stay dry. They need to be able to remove this layer when they get to their destination and put it back on when they go outside. Parents want to look stylish while wearing this outfit.

GUIDING QUESTIONS

- What are suitable materials for the prototype and for the finished product?
- How can we ensure the comfort of the user while wearing this outfit?

- How might we create an outfit that is easy to get on and off?
- How might we create an outfit that is easy to store while at school and not in use?
- How do different environmental needs change the design?
- How might we give feedback in a constructive way so that the creative process can continue?

VARIATIONS AND EXTENSIONS

- Students could use other environmental challenges and design outfits
- Students could create designs for future environmental challenges
- Using the "Embracing the Elements" presentation, discuss the following:
    - For what environment are these clothes designed?
    - How has the designer solved the challenges of that environment in this design?
    - How has the identity of the user shaped this design?
    - How has the designer incorporated aesthetics into the design?

MATERIALS AND RESOURCES NEEED

Paper

Pencils

Colored pencils

If available, a projector and internet connection

Our "Embracing the Elements" slideshow at www.cooperhewitt.org/education/education/school-programs

VOCABULARY

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

STANDARDS

Common Core: CCSS. ELA-LITERACY.CCRA.R.1; CCSS.ELA-LITERACY.CCRA.SL1-6; CCSS.ELA-LITERACY.RST.6-8.3; CCSS.ELA-LITERACY.RST.9-10.3; CCSS.ELA-LITERACY.RST.11-12.3

Learning Standards for New York State: Mathematics, Science, and Technology Standards 4, 5, 6, 7

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POST-VISIT ACTIVITIES

CONTAINING THE CLASSROOM | K-5

SUBJECTS: SCIENCE AND MATHEMATICS | DESIGN PROCESS: PROTOTYPING AND TESTING

ACTIVITY TYPE: Hands on building and testing | 45 mins.

THE DESIGN CHALLENEGE

How might we use recyclable materials from our school to build a storage container that is both strong and aesthetically pleasing?

There are a lot of re-usable materials that get thrown out. If we reuse these materials to become storage containers in our classroom, we could save money and reduce the amount of trash the school produces. Because these containers will be used by the classroom community, we want them to be strong enough to hold our supplies, and also look nice in the room.

Students work in teams of three or four to develop prototypes that meet the design challenge. Students can test their prototypes using supplies in the classroom, and make changes if needed. Students present their ideas and share their feedback with other groups. The idea must function as a way to store classroom supplies, and students need to try to transform the materials with an aesthetic design.

GUIDING QUESTIONS

- What type of supplies could our containers hold?
- What are suitable materials for the prototype and for the finished product to hold the desired supplies?
- If your container is made from thin material, do you think it will hold heavy supplies, like blocks or books? What type of material would you need to hold heavier items?
- How can we communicate with others towards a common outcome?
- How might we give feedback in a constructive way so that the creative process can continue?
- How can we include aesthetics in a design using recyclable material?
- How can we design the containers so that people can tell who created each container?
- What can we do differently in the future to ensure a successful outcome?

VARIATIONS AND EXTENSIONS

- Students design different types of containers—one for holding pencils, another for holding books.
- Students' designs need to hold a certain amount of weight: what challenges are there now?
- Students' designs need to hold objects of a certain size: what size should their containers be?
- Students design classroom furniture using recyclable materials.
- Students organize a school store to sell their creations.

MATERIALS AND RESOURCES NEEED

Reusable materials gathered from around the school—this might include water bottles and caps, empty soda cans, cardboard, tissue boxes, empty paper towel tubes, scrap paper, empty yogurt cups, other plastic containers

Other materials such as glue, hot glue, tape, paper clips, other repurposed items.

Markers, crayons or paint

VOCABULARY

Prototype, feedback, testing and evaluation

STANDARDS

Common Core: CCSS. ELA-LITERACY.CCRA.R.7; CCSS.ELA-LITERACY.CCRA.SL1-6; CCSS.ELA-LITERACY.CCRA.L.6; CCSS.MATH.PRACTICE.MP2; CCSS.MATH.PRACTICE.MP4; CCSS.MATH.PRACTICE.MP5
Learning Standards for New York State: Mathematics, Science, and Technology Standards 1, 4, 5, 6, 7

SEA INSPIRED! | 6-12

SUBJECTS: SCIENCE, AND MATHEMATICS | DESIGN PROCESS: GETTING IDEAS AND PROTOTYPING

ACTIVITY TYPE: research and hands on building | 2 sessions of 45 mins.

THE DESIGN CHALLENEGE

How might we create a flotation device that is inspired by the sea?

Flotation devices are important for the safety of swimmers. Many sea creatures also have a way of floating or moving in the water. Working with a partner, students will research sea creatures then incorporate an element of the sea creature into a design for a flotation device that is both functional and aesthetically appealing. The class can brainstorm sea animals that float or have a special feature for moving through water prior to research to provide a starting point. Use the "Sea Inspired" presentation to discuss how animals move through water, if needed. After research, pairs can draw and prototype their designs and present their work to the class for feedback.

GUIDING QUESTIONS

- Who are the users of a flotation device?
- What are the challenges of designing a flotation device so that it is easy to use?
- How might we ensure the safety of users of the flotation device?
- What are suitable materials for the finished product? How can you ensure it floats?
- Aesthetically speaking, what benefits are there in looking at nature for inspiration?
- Functionally speaking, what benefits are there in looking at nature for inspiration?
- Looking to nature is one way that designers get ideas. What else can designers use as inspiration?

- How might we give feedback in a constructive way so that the creative process can continue?
- What can we do differently in the future to ensure a successful outcome?

VARIATIONS AND EXTENSIONS

- Students can pick another object to redesign using the influence of animals. Examples include a model airplane, an armored vehicle, a hat.
- Students can build functioning models of their designs. What materials would work best? Did the design float? How can the design be modified to improve function?

MATERIALS AND RESOURCES NEEED

Paper
Pencils
Materials for research, including books and/or internet access
Materials for prototyping: scissors, tape, glue, hot glue, cardboard, foam, plastic bags, balloons
If available, a projector and internet connection

Our "Sea Inspired" slideshow at www.cooperhewitt.org/education/education/school-programs

VOCABULARY

Prototype, feedback, testing and evaluation

STANDARDS

Common Core: CCSS.ELA-LITERACY.CCRA.R.1; CCSS.ELA-LITERACY.CCRA.R.7; CCSS.ELA-LITERACY.CCRA.W.8; CCSS.ELA-LITERACY.CCRA.SL.1; CCSS.ELA-LITERACY.CCRA.SL.6

Learning Standards for New York State: Mathematics, Science, and Technology Standards 4, 5, 6, 7

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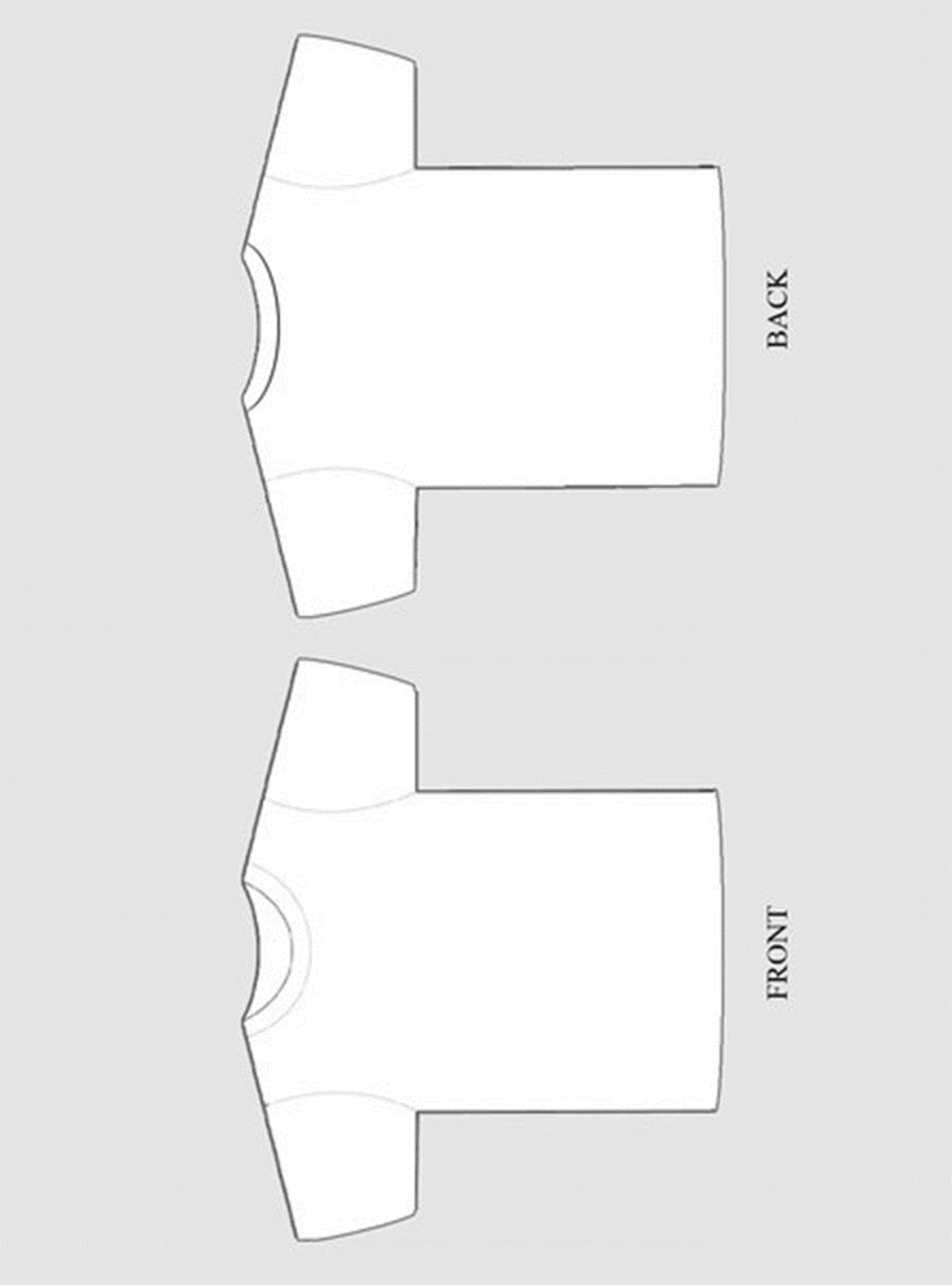
T-SHIRT TEMPLATE



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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 problem 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
Form	The shape and structure of any three dimensional object that can be defined by light and dark.
Function	The way something works, or a purpose of an object *e.g., the function of a paper clip is to fasten things together*
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
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

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User	A person who operates or experiences the design
Fidelity (Low/Medium/High)	The level of detail and/or functionality within a prototype

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