



# DINOSAUR GULCH

EDGE

Exhibit Designs for Girls' (and everyone else's!) Engagement



# Exhibit Designs for Girls' Engagement

## A Guide to the EDGE Design Attributes



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- EDGE project members identified 100 exhibit design attributes that had potential to better engage girls
  - These were identified by studying more than 300 physics, engineering, math and perception exhibits at the Exploratorium, Science Museum of Minnesota, and Arizona Science Center
  - They were able to narrow those 100 down to 9 design attributes that strongly and positively related to girls' engagement at the three institutions



## The EDGE Design Attributes

### EXHIBIT LABELS



Use drawing



Image of a person

### EXHIBIT LOOK-AND-FEEL



Familiar object



Homey, personal,  
homemade, or delicate



Playful, whimsical,  
or humorous

### EXHIBIT INTERACTIONS



Multiple stations  
or sides



Space to accommodate  
three or more people



Visitors can watch  
others to preview



Open-ended



*I wouldn't really want to read [the label], but I could see someone in the picture doing it.*

—Bianca, EDGE Girl Advisory Committee

*Some people are visual learners . . . . Pictures can help them know how to do the exhibit.*

—Mariel, EDGE Girl Advisory Committee



## EXHIBIT LABELS

**The exhibit label includes a use drawing, giving visitors an idea of how to use the exhibit.**



A use drawing should be designed to help visitors understand what actions to take at the exhibit. These drawings often show a person doing an action, or how to use an interactive element (e.g., a crank with an arrow). Ideally, the use drawing should be visible and understandable even from 5–10 feet away.



## How to Read a Label

artist's name, if known  
 title or description of the artwork  
 media or materials used to make the artwork  
 means or method of acquisition (entering the collection), such as gift or bequest or by purchase from the previous owner  
 year of acquisition and number in the sequence of a year's acquisitions  
 A label typically provides explanatory information about the artwork: its subject matter, the circumstances of its creation, or facts of interest about the artist who made it.

**Hysterice Rankin (1929–2010)**  
 Memory Quilt, ca. 1994  
 quilted fabric, with appliqué and embroidery  
 Collection of Mississippi Museum of Art  
 Purchase, with funds from Searcy Fund  
 2006.101



*"The only thing that matters is quilting... I feel free when I'm quilting." —Hysterice Rankin, 1991*

Quilting was an important family tradition for Hysterice Rankin, who began to learn at age twelve from her maternal grandmother. Memory Quilt is based on memories from her childhood, carefully arranged within intricate geometric patterns. In this piece Rankin's memories are linked strongly to shirerepping and home life, though many of her quilts also contain religious themes. Scenes including her father, Charles Gray, are especially important, as he was lynched in 1939 when Hysterice was only ten years old. Sometimes repeated from quilt to quilt, these "snapshots" freeze each moment in time and reveal the importance of family and home in her upbringing in rural Mississippi.

artist's life dates  
 year the artwork was created, if known  
 Museums sometimes use the abbreviation "ca." for *circa*, the Latin word for "around" meaning the date cited is approximate.  
 the artist  
 indicates that an artist was born, active, or now works in the state

## Kangaroo Feeding Tips

1. Put the food in front of the kangaroo. If it's hungry, it'll eat.  
*If not, try a different kangaroo.*



2. Try feeding a kangaroo that is facing you. It works better that way.



3. Try not standing on your head. It's a lot more comfortable.  
*Besides you'll get funny looks from everyone else.*

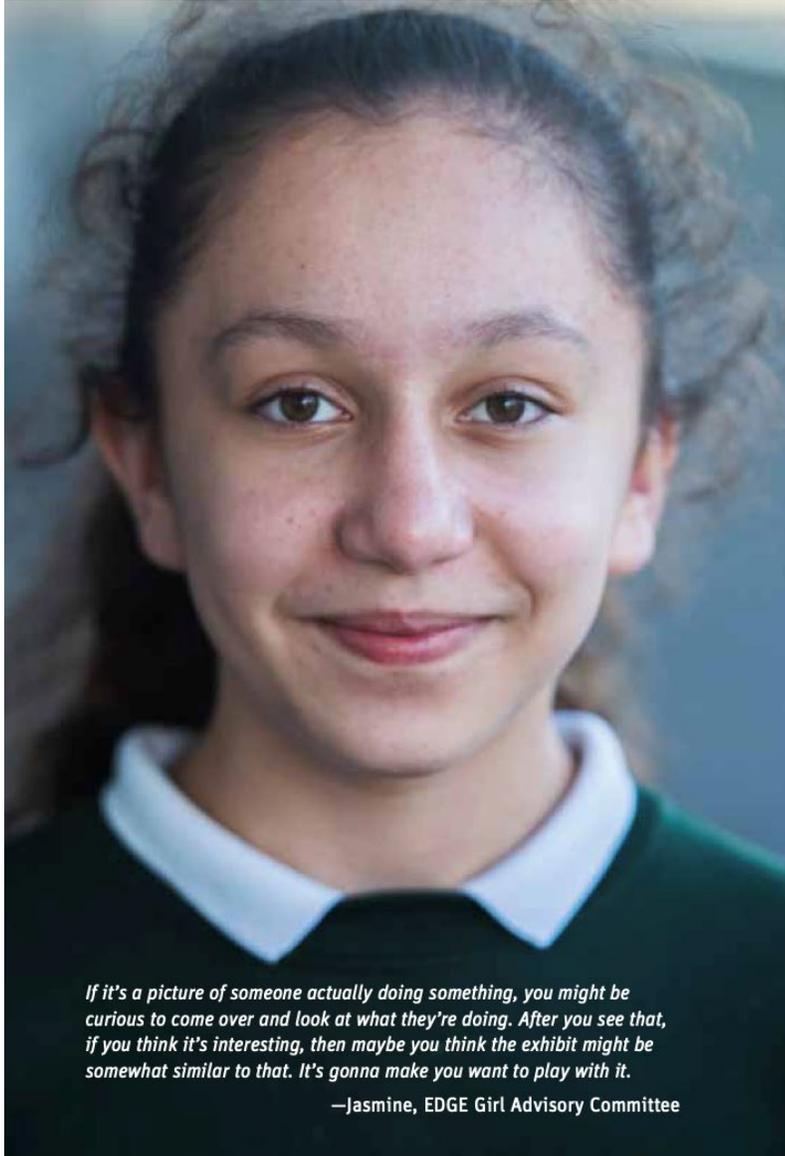


4. Try finding something that looks more like a kangaroo.  
*That's an emu...*



## Wallaby Feeding Tips

Follow the same steps, just bend down some more, wallabies aren't as tall.



*If it's a picture of someone actually doing something, you might be curious to come over and look at what they're doing. After you see that, if you think it's interesting, then maybe you think the exhibit might be somewhat similar to that. It's gonna make you want to play with it.*

—Jasmine, EDGE Girl Advisory Committee

#### EXHIBIT LABELS

**The exhibit label includes at least one image of a person.**



An exhibit label might include an image of a person to add real-world context, show prior visitors' reactions, or help visitors use it. The label might show an entire person, a face, a hand, or even just an eyeball. And the image could be a photo, illustration, use drawing, 3-D model, video, or something else.

## Encouraging Women to Become Engineers

Jennifer Hill can't help analyzing details. Good thing, because as the Manager of Engineer Process Control at Nissan's Trim and Chassis

department she oversees lots of details. Whether refining new car parts or developing a database, Jennifer says her focus on improvement and efficiency makes her a good engineer.

Jennifer is more than a talented engineer; she's a former Tennessee Titans NFL cheerleader. Jennifer uses cheerleading to encourage young women to enter engineering and science fields through the group Science Cheerleaders. She's the only female manager in her department - she'd like to see more!



## NASA wants people like you. Yes, YOU!

### NASA is more than just astronauts

President Kennedy, while launching NASA in 1952, spoke to a pastor pushing a broom. He said, "Hi, I'm Jack Kennedy. What are you doing?" The man replied, "Well, Mr. President, I'm helping put a man on the moon." And he was.

### Think of a job, any job...

...and chances are there is someone at NASA who does it. Lockheed Engineer? Oriskany Specialist? Check. Fuel System? Check. You don't have to be a rocket scientist to work at NASA! NASA employs over 38,000 people, each and every one of them supporting the NASA mission in some way - and very few of them are astronauts.

### Working for NASA

"NASA is looking for people with a wide variety of backgrounds: they are looking for medical lab techs, microbiologists, geologists, physicists, electrical engineers... find something that you really like and then pursue it as far as you can, and NASA is apt to be interested in that profession." - Sally Kile



### NASA Employee Profile: Tawana Hood

Tawana started with NASA as part of a cooperative education program with the geology department when she was 16 and a single mother. She stayed with NASA, working her way up, and is now an IT specialist.

### NASA Employee Profile: Njeil Lindgren

Njeil Lindgren dreamed of being an astronaut for as long as he could remember. As he pursued that dream, the way was being paved for him by the U.S. Air Force Academy where he was a member of the "Wings of Blue" position. In his tests, he has many degrees including an MD from the University of Colorado's School of Medicine. He is a flight engineer and mission specialist on Expedition 16/15.



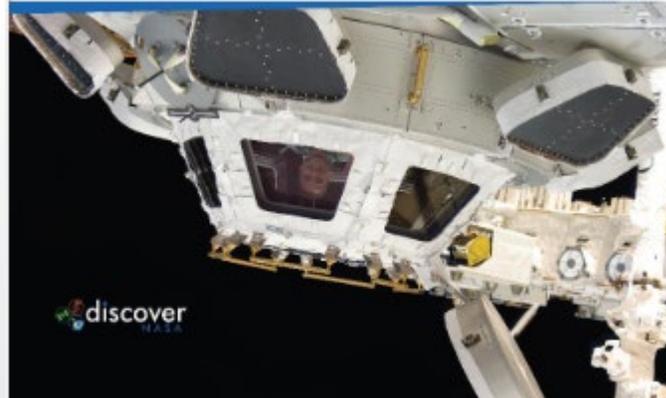
## The ISS Cupola: A Room with a View

The Cupola is an observatory module on ISS built by the European Space Agency. Its seven solid domes are used to conduct experiments, observations and spectacular observations of Earth. The above experience simulates what astronauts see looking down at our planet from inside the Cupola.



This image of the interior view from the ISS Cupola module was taken on Oct. 4, 2015. The large windows allow the crew to see outside. The Cupola's two rows of the space station's two rows of work stations used by astronauts to monitor the large vehicles are seen through the right window.

In the image below, against the blackness of space, a NASA astronaut is pictured in a window of the ISS Cupola.



discover  
NASA



*It's like you're playing with something like a regular toy . . . but just at a museum.*

—Anahi, EDGE Girl Advisory Committee

#### EXHIBIT LOOK-AND-FEEL

**The exhibit includes at least one familiar object that most people have seen before.**



Including everyday things such as kitchen items, basic household tools, musical instruments, or stuffed animals may offer visitors a familiar entry point or help show how an exhibit idea is applied in the real world. When there's a choice of objects, designers should select things that can be easily found at home, school, or a department store, and should emphasize the objects' commonplace shape and form. A regular flashlight would be more recognizable than a custom tube with an LED in it; a round hand mirror or compact would be more familiar than a custom-cut piece of mirrored plexiglass.







*It feels like you're at home, like you can just relax.*

—Anahi, EDGE Girl Advisory Committee

*The pans: I actually want to go to them since I like to cook, I wanted to check it out.*

—Kayla, EDGE Girl Advisory Committee

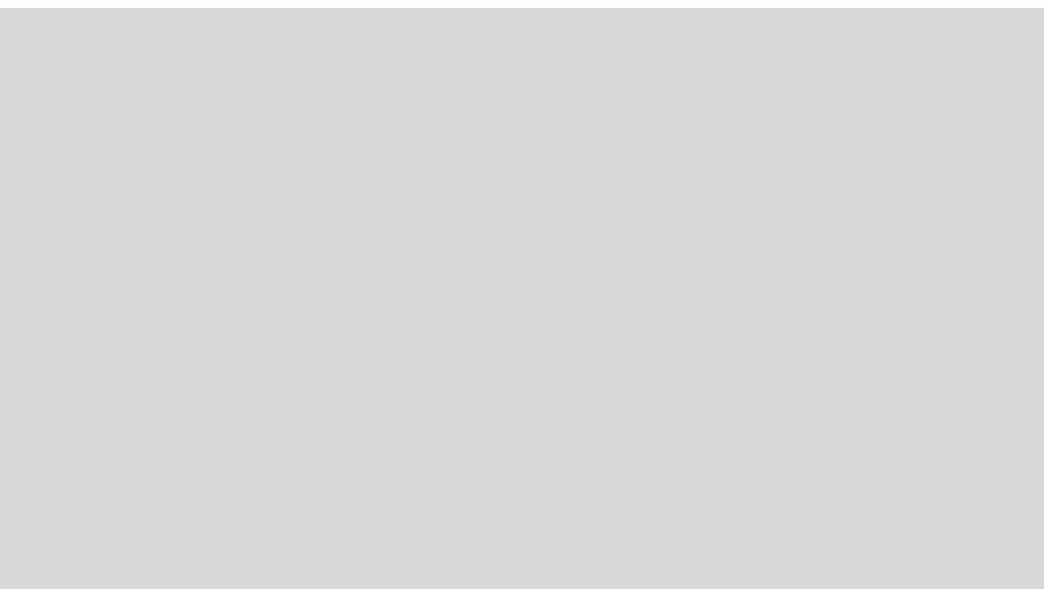


#### EXHIBIT LOOK-AND-FEEL

**The exhibit's look-and-feel is homey, personal, homemade, or delicate.**



This attribute applies to the overall “vibe” of the exhibit. When thinking about homey design aesthetics, consider elements such as materials and scale. Soft fabrics, wood cabinetry, pliable cardboard, or similar materials may contribute to a homemade impression or delicate texture; a small, intimate scale may give a more personal feeling. Another way of creating a homey experience might be to incorporate a common home activity—cooking, playing with toys, or sitting on a cozy couch.





*In silly things, there's not very many rules, so you don't have to worry about much. You can have fun without worrying about anything.*

—Jasmine, EDGE Girl Advisory Committee

*There's a lot of moments in my life that are serious, where you have to take things seriously, like school and stuff. It's fun to just relax, play a little, so life's not so serious. Being goofy, expressing yourself, being silly . . . it's a relief.*

—Mariel, EDGE Girl Advisory Committee



#### EXHIBIT LOOK-AND-FEEL

**The exhibit's look-and-feel is playful, whimsical, or humorous.**



This attribute applies to the overall “vibe” of the exhibit. The central experience or overall aesthetic should foster a feeling of playfulness rather than a need to “be serious” or “get it right.” Ideally, the whimsy and humor should be integrated with the phenomenon in a meaningful way, rather than added as an afterthought.



If you have a cellphone, take a picture of your selfie, or tap "Retake" to go again:

Retake



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Retake





#### EXHIBIT INTERACTIONS

**The exhibit has been designed with space to accommodate three or more people.**



A large room, spacious floor, or large table surface create physical space, or "elbow room" at the exhibit, making it easier for a group to interact or work together. For this design attribute to be present, everyone in a group should be able to fit, but not everyone has to be having an active, hands-on experience. The design could support some group members in watching, listening, or commenting, while one person is in the "drivers' seat."



*With someone else, they have the same problems as you. You figure it out with them. You don't feel alone; you have help.*

—Eliseana, EDGE Girl Advisory Committee



*Some people get mad when someone interferes! If you can both play, it's a huge difference.*

—Kayla, EDGE Girl Advisory Committee

#### EXHIBIT INTERACTIONS

**The exhibit has multiple stations or sides, allowing more than one person to experience the phenomenon.**



Exhibits with multiple stations give each visitor ownership of a personal space to experience the phenomenon or do the activity. Each station or side may offer the same activity or different but related activities.

Exhibits with multiple sides allow visitors to experience the phenomenon or do the activity from more than one side, making it easier to work together.





*You see the demo of how people play [with it]. It's exciting.*

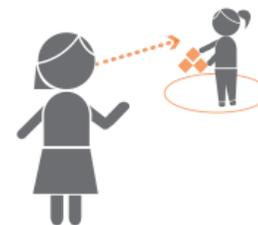
*—Anahi, EDGE Girl Advisory Committee*

*If you don't know what you're gonna do, you might feel like you're making a fool of yourself if you do it wrong.*

*—Eliseana, EDGE Girl Advisory Committee*



**The exhibit is designed so visitors can watch others to preview what to do.**



When visitors can see the actions or reactions of another using an exhibit, it may orient them to the activity. The presence of this attribute requires seeing a visitor's actions but does not require seeing or understanding the phenomenon. Exhibits with this design attribute may have open tabletops, large screens, or other ways to view what others are doing. Exhibits would likely not have this attribute if they feature things such as enclosed kiosks or small controls.



*Some people are embarrassed to get the answer wrong. If there's no way to get it wrong, you can just have fun with it.*

—Kayla, EDGE Girl Advisory Committee

#### EXHIBIT INTERACTIONS

**The exhibit is open-ended, providing multiple outcomes, activities, or ways to interact.**



There are many ways an exhibit might be open-ended. We consider an exhibit open-ended if it meets one or more of these criteria:

- visitors do not follow a series of predetermined steps
- it provides three or more distinct activities
- many interactions are “right”
- the outcome of using it is different every time
- it is designed for a multitude of iterations with an assortment of variables, encouraging visitors to keep using it for extended play

# Examples of Exhibits Using EDGE Principles



EXHIBIT DESIGNS FOR GIRLS' ENGAGEMENT

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Image of a person

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or sides



Space to accommodate  
three or more people



Visitors can watch  
others to preview



Open-ended



- The label includes a use drawing that can be understood from a distance.



- The label has images of people showing the effect of the illusion.



- It includes a familiar object—the window looking into the room is styled just like windows in a real house.



- Distorted Room offers a homey feeling; it looks much like a typical room, including the linoleum tile floor.



- Small children can transform into giants, while adults look tiny. The experience of Distorted Room is whimsical and humorous.



- There are multiple stations and sides—visitors can play inside the room, or stand outside and look in the windows to see the distortion effect.



- The large room, with additional activities outside, creates space to easily fit three or more people.



- Although Distorted Room has narrow windows and a door to look into, it's not easy for visitors to watch others to preview what to do before they approach.



- It's open-ended—many interactions are “right.” Visitors might move to different areas in the room, look in the windows, or even slide down the sloping floor, and all of these activities are part of exploring the phenomenon.

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Open-ended





☞ No use drawing is visible from a distance.



☞ There is no image of a person.



● The materials include familiar objects such as pipe cleaners and paper cups.



● The materials—simple paper cups and soft pipe cleaners—give a delicate, homey feeling, and the experience of crafting with these supplies may be a comfortable, familiar home activity.



● The bobbing, spinning objects floating in air offer a humorous, whimsical experience.



● Multiple stations and sides—the cylindrical tubes can be used from any side, and there are several tubes to try out. There's also a separate table full of materials for building.



● There are enough stations, and therefore space, for three or more people.



● The clear tubes and open table allow observers to preview what to do before approaching.



● It's open ended—the variety of materials and tubes encourage multiple iterations and extended play.



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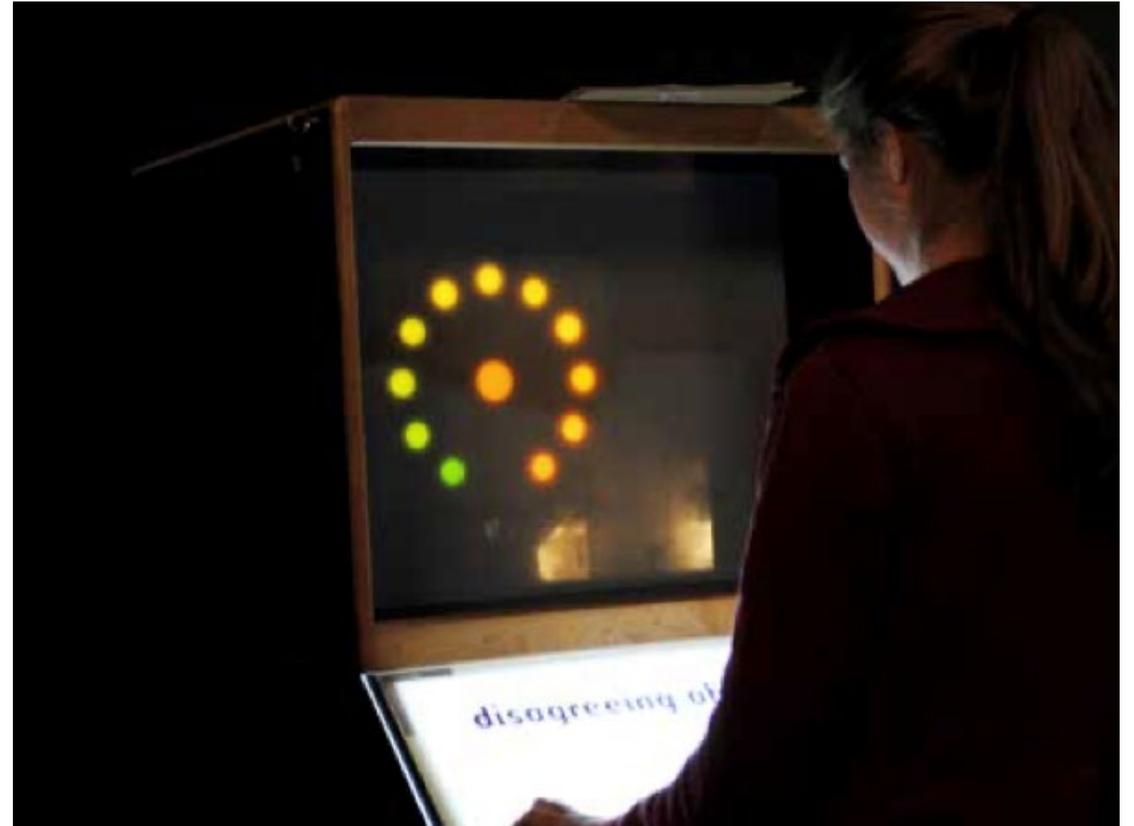
Space to accommodate  
three or more people



Visitors can watch  
others to preview



Open-ended





It has no use drawing.



There is no image of a person.



The colorful glowing lights in this exhibit are not familiar objects, since they are arrayed in an unusual format and hidden behind a panel.



The texture of the wood cabinet adds a small amount of hominess, but it's offset by the dark, flat panel and metal stand. There's not enough to call it especially homey.



There's nothing particularly whimsical about this exhibit. The title, Disagreeing About Color, might even suggest conflict rather than playfulness.



It has only one station, and can only be used from one side.



It is too small to be easily used by three or more people.



Using this exhibit requires looking at the lights; visitors can easily observe others to preview what to do before approaching.



Although visitors may disagree about what dot matches, the overall exhibit outcomes are more or less the same every time, and there are few activities to try. It's not open-ended.

What's are our additions to EDGE?

1 ) "you just can't not"



# SENSORY GUIDES

Discovery Cove is a Certified Autism Center



Safety Guidelines and Autism Sensory Guide  
Please refer to attraction signage for further requirements

Explorer's Aviary



Freshwater Oasis



Grand Reef



Wind Away River



Dolphin Lagoon



Swim with Sharks



SeaVenture

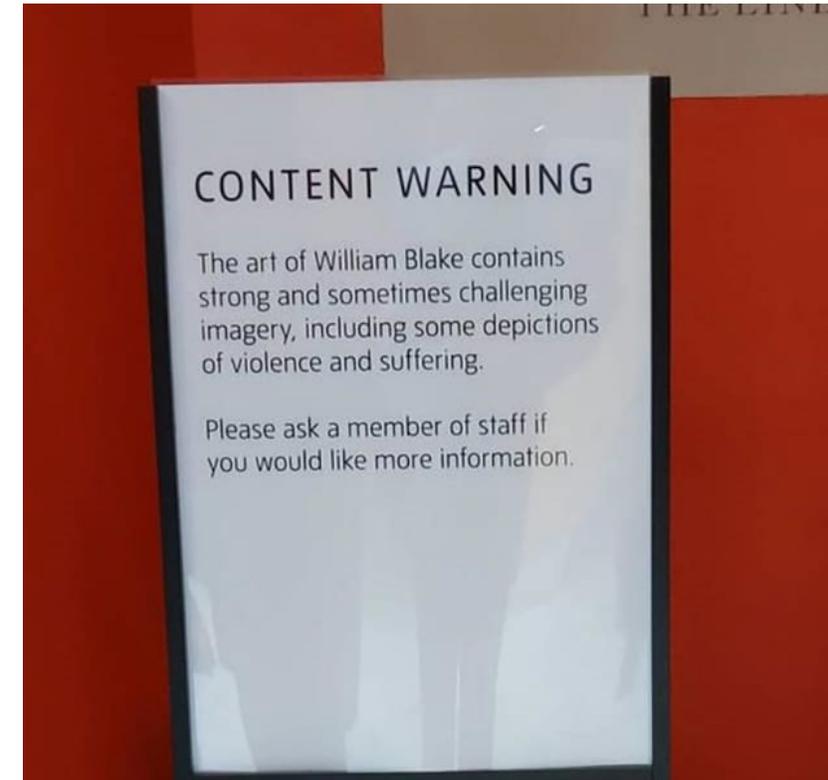


## SPECIAL REMINDERS

• Lost and Found is located at Guest Services Counter

What's are our additions to EDGE?

2) (literal) signposting





# Learn More

- [Exhibit Design for Girls' Engagement: A Guide to the EDGE Design Attributes](#) (PDF)
- [EDGE ASTC Webinar](#) (Video)
- [Creating a Female-Responsive Design Framework for STEM Exhibits Abstract](#) (PDF)
- [Exhibit Designs for Girls' Engagement \(EDGE\) Abstract](#) (PDF)
- [Straight from the Girls: The Importance of Incorporating the EDGE Design Attributes at Exhibits Abstract](#) (PDF)
- [Exhibit Designs for Girls' Engagement \(EDGE\) Exhibit Coding Scheme and Protocol](#) (PDF)