

2008 Koshland Green Hunt RULES

1. All photographs and items found must be located within the designated boundaries (see map).
2. The Hunt may be done in any order, as long as you are in line to get your card signed by 5PM.
3. For full rules, please see "How to play," available at the museum.

Exploring the Past



The man who signed the charter for the formation of the National Academy of Sciences died at this address - **take a picture of the location**.

Hint: *He served as the 16th President of the United States*



This French artist and chemist used light-sensitive polished silver plates to capture images. Find a statue dedicated to him near the National Portrait Gallery, **take a picture**, and **write**

▶ **down his name:** _____.

At the National Portrait Gallery, find the sculpture of Rachel Carson.

▶ **What portrait does Carson appear to be looking at?** _____.

▶ **Name one detail about the sculpture** _____ **and one**

▶ **detail about her life after looking at the piece:** _____.

Ocean Expedition

Go to the U.S. Navy Memorial, which honors the men and women of the sea services. The plaza of the Navy Memorial is a round ceremonial amphitheater paved in granite to form a 100-foot diameter map of the world. Surrounding the deck of the plaza are fountains, pools, flagpole masts, and sculptural panels depicting historic achievements of the sea services.

▶ First, find the sculptural panel, "Exploration, Oceanography, Research." **What location is depicted in the panel?** _____.

▶ Second, locate the map on the plaza. **If you set out on a scientific expedition on a ship from Washington DC, what is the smallest number of gridded blocks you must travel to get to the continent listed in your answer?** _____.

Hint: Washington DC is in the center of the map. You must travel square to square - no diagonal crossing of the blocks. *Visit* the Navy Heritage Center information desk to collect a small prize when you complete the *Ocean Expedition*.



Science Photo Safari

Take a picture and write down where you found the item

- Mammal _____
- Marble _____
- Evidence of moving air _____
- Fossil _____
- Something made from recycled material or being recycled (other than the clue pages and map) _____

Fact: Nearly all mammals give birth to live young, and all are warm-blooded, maintaining a near-constant body temperature regardless of environmental conditions. They are vertebrates, use lungs to breathe air and are the only animals that grow hair.

Fact: A type of metamorphic rock, marble is usually light colored and is composed of crystals of calcite locked together like pieces of a jigsaw puzzle. Do not get tricked by polished stone that is not marble!

Fact: The flow of air helps some plants pollinate, signals the presence of a weather front, and plays an important role in how air pollutants travel from region to region. Flowing air can bring pollution to otherwise unpolluted areas, or it can carry pollution away, making air cleaner.

Fact: Fossils are the preserved remains or traces of animals, plants, and other organisms.

Fact: Recycling turns materials that would otherwise become waste into valuable resources.

Carbon in the Air

The front lobby of the Keck Center is a visual encyclopedia of science as you might expect since the building is home to the National Academies Keck Center, which includes the National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council. Visit the Keck Center lobby at 500 Fifth Street, NW and find the diagram that shows the increasing amount of carbon dioxide in the atmosphere (also called the Keeling Curve). What is the rate of increase over the time shown on the graph?

Hint: To figure out rate of increase use the following equation: $(\text{highest measurement of CO}_2 - \text{lowest measurement of CO}_2) / (\text{most recent year} - \text{earliest year}) = \text{CO}_2 \text{ ppm/year}$

▶ Answer: _____.

Staying Green

Trees play an important part in reducing storm water runoff, adding to cooler temperatures in urban areas, releasing oxygen into the atmosphere and absorbing carbon dioxide. In addition, trees provide habitat for birds and animals and beautify neighborhoods. At the National Building Museum, the exhibit, *Life Without Leaves*, shows what parts of DC might look like if there were no trees.

Find the exhibit, and locate a photo showing a dust storm, a frequent occurrence in dry arid lands where there are is not enough vegetation to hold nutrients and top soil in place.

- ▶ Name the picture:

_____.

- ▶ Examining the photos name one of the locations in the exhibit that is not a memorial:

_____.

Learn more on October 23rd, when the exhibition *Green Community* opens at the National Building Museum. Visit the information desk to collect a small prize when you complete *Staying Green*.

Capturing Carbon

Trees remove carbon dioxide (CO₂) from the atmosphere and store it as they grow. Planting trees is one way that we can remove CO₂ from the atmosphere. An average tree can store about 21 pounds of carbon each year.

Go to the National Law Enforcement Officers Memorial. This memorial honors America's law enforcement officers that have died in the line of duty. Located in Judiciary Square the memorial is a park-like setting with many trees. How much carbon is removed by all of the little leaf linden trees at the memorial each year? **Hint:** the little leaf linden trees line the memorial walls and the stone bench area. They were chosen partly because of their uniform size and ability to be pruned to a specific shape.

- ▶ Answer: _____.



Carbon, Carbon, Everywhere

This exhibit in the Koshland Science Museum has both living and non-living items. It shows how carbon moves through living and nonliving parts of an ecosystem, much like carbon cycles through the ecosystems of the Earth. **Take a picture** of this exhibit and answer the following questions.

- ▶ Name one of the living items:

_____.

- ▶ Name one of the non-living items:

_____.

MARIAN KOSHLAND
SCIENCE MUSEUM
OF THE NATIONAL ACADEMY OF SCIENCES
at 6th & E Streets, NW, Washington, DC

Thanks for participating in the 2008 Koshland Green Hunt!

Compiled by the Koshland Science Museum from the following sources:

- Koshland Science Museum *Global Warming: Facts and our Future* exhibition
- National Law Enforcement Officers Memorial
- The National Academies
- United States Navy Memorial
- National Building Museum *Life Without Leaves* exhibition
- New Mexico Museum of Natural History & Science • Proyecto Futuro
- US EPA Air Pollution Training Institute
(<http://www.epa.gov/oar/oaqps/eog/scavhunt.html>)
- USGS Geologic glossary: <http://geomaps.wr.usgs.gov/parks/misc/glossarymn.html>

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American Geological Institute
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National Building Museum
National Law Enforcement Officers Memorial
National Portrait Gallery
United States Environmental Protection Agency
United States Geological Survey
United States Navy Memorial

And our Partners



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