A Unifying Curriculum for Museum-Schools

Kaleen E. Povis

A Masters' Project submitted in partial fulfillment of the requirements for the degree of Museology Master of Arts

University of Washington
2011

University of Washington
Graduate School

This is to certify that I have examined this copy of a master's thesis by

Kaleen E. Povis

and have found that it is complete and satisfactory in all respects,
and that any and all revisions required by the final examining committee have been made.

Committee Members:

_____
Kris Morrissey

_____
Leslie Herrenkohl

_____
Nick Visscher

Date:_____

A Unifying Curriculum for Museum-Schools

Kaleen E. Povis

Abstract

There are over two dozen schools in the United States with the word "museum" in their names. However, the philosophy and pedagogy that tie these schools together is unclear. A consistent definition, criteria for classification, and a unifying curriculum to guide museum-schools is lacking. Yet, museum-schools continue to open across the country. Just in 2010, four new museum-schools were added to the educational landscape. These public and charter K-12 schools employ a diversity of methods and curricula which is testament to the ambiguous definition of 'museum-school.'

This thesis project contributes to the field an updated database of our nation's museum-schools which has been informed by reading the work of past researchers, culling school websites, conducting site visits, and corresponding with museum-schools. This database provides a school overview including the educational approaches in use and may help define museum-schools in the future. An additional product, the Core Elements Schema, which was created through the synthesis of research findings, may assist schools in placing themselves within the landscape of museum-schools.

This thesis project also provides the seed for a unifying museology curriculum to support the learning in museum-schools. This series of six museological lessons focuses on the older elementary learner. The purpose of the lessons is to bolster the current work being done in museum-schools by providing museological grounding in current best practices. These museology lessons are intended to facilitate a greater understanding of the field with which these schools share a name.

Dedication

To my parents who taught me to press on.

Nothing in the word can take the place of persistence.
Talent will not.
Nothing is more common than unsuccessful men with talent.
Genius will not.
Unrewarded genius is almost a proverb.
Education will not.
The world is full of educated derelicts.
Persistence and determination alone are omnipotent.

-Calvin Coolidge

Acknowledgements

This work would not have been possible without the thoughtful responses of teachers and principals across the nation. Thank you for your time and welcoming me into your schools.

The guidance and insights of my committee were useful beyond measure. Thank you for your patience throughout this learning process.

Additionally, I would remiss not to extend my gratitude to my professors and mentors, especially Judy Rand and Ann Farrington who nurtured my creativity and allowed me to learn from their achievements. It is my pleasure to know you.

Certainly every spouse must know that the achievements of one are partially owed to the sacrifices of the other. Brent, your selflessness and encouragement deserve acknowledgement. I am continually grateful for the partner and playmate I have in you.

Table of Contents

Introduction

There are over two dozen schools in the United States with the word "museum" in their names. However, the philosophy and pedagogy that tie these schools together is unclear. A consistent definition, criteria for classification, and a unifying curriculum to guide museum-schools is lacking. Yet, museum-schools continue to open across the country. Just in 2010, four new museum-schools were added to the educational landscape. These public and charter K-12 schools employ a diversity of methods and curricula which is testament to the ambiguous definition of 'museum-school.'

Museum-schools continue to be established, despite the lack of research evaluating their educational worth. Though a few theses and dissertations have added to the general knowledge base of museum-schools, there is still a dearth of research and common terminology. In many instances the museum-schools also identify with a specific philosophy, such as Paideia, expeditionary learning, hands-on/minds-on, project-based, or a number of other approaches. What then is at the core of the name "museum-school"?

This thesis project contributes to the field an updated database of our nation's museum-schools which has been informed by reading the work of past researchers, culling school websites, conducting site visits, and corresponding with museum-schools. This database provides a school overview including the educational approaches in use and may help define museum-schools in the future. An additional product, the Core Elements Schema, which was created through the synthesis of research findings, may assist schools in placing themselves within the landscape of museum-schools.

Given that there is no association or network of museum-schools, communication among programs is minimal. This thesis project provides the seed for a unifying museology curriculum to support the learning in museum-schools. This series of six museological lessons focuses on

the elementary learner. The purpose of the lessons is to bolster the current work being done in museum-schools by providing museological grounding in current best practices. These museology lessons are intended to facilitate a greater understanding of the field with which these schools share a name.

The larger, looming question is: What are the unique characteristics and benefits of museum-schools and the learning they support? To thoroughly assess this question many 'museum-schools' would need to be observed in practice and compared to schools that do not distinguish themselves as such. The scope of this master's thesis is smaller in scale, but informs that bigger question by looking for the common core of museum-schools and designing a six-lesson series to seed a unifying curriculum.

Literature Review

Lack of Research

A conversation began in 1995 about a new educational phenomenon termed museum-schools (Science Museum of Minnesota, 1996). Three years later Kira King, in her dissertation, described museums-schools as an educational experiment in creating new 21st Century institutions, yet noted that "few people from the educational research community or from the general public are even aware of them" (1998). King pointed to the "dearth in research" and lack of common terminology (1998). A report from the Center for Informal Learning in Schools in 2006 echoed the same sentiment:

> The dearth of research on museum-schools is surprising, given the abundance of policy and reports produced by researchers and practitioners recommending increased interaction between museums and schools. (Phillips)

Although research was promoted at the Museum School Symposium of 1995, research of museum/school partnerships was still labeled as "in its infancy" in 2001 (Klein, Corse, Grigsby, Hardin, Ward). Symposium attendees had talked about generating a body of "research and knowledge in the assessment of museum school programs and student learning" (Science Museum of Minnesota, 1996) along with gathering information about museum learning and "analyzing the ways that the museum's environment and pedagogy can have a positive impact on the mandated state and city requirements" (Science Museum of Minnesota, 1996). Questions about the impact museum-schools have on students remain unanswered (Borden, 2000). Borden identified the need to research museum-schools to determine the mutual advantage to the educational missions of both museums and schools such a relationship might illustrate. As of 2006, after finding two unpublished dissertations about museum-schools, Dr. Michelle Phillips concluded that there was still "a lack of widely available information about museum-schools, despite the increase in their number." Klein et al. found that even though museum-schools were going up in number "research into their effectiveness, strengths and impact on the two cultures" remained limited (2001).

Lack of Communication

In addition to research goals, communication goals were discussed at the Museum School Symposium. David Chittenden, then Vice President of Education at the Science Museum of Minnesota, commented on a desire to "share ideas, concerns and approaches" and the need to "connect with and learn from some of the other museum schools" (Science Museum of Minnesota, 1996). The scope of this goal was large: "By establishing a national learning community through the Museum School Symposium" those at the Museum Magnet School at the Science Museum of Minnesota hoped "to work together to seek answers to questions about how

museum schools can contribute to national discussions on systemic educational reform" (Science Museum of Minnesota, 1996).

King identified the Museum School Symposium of 1995 as "the first and only seminar and publication gathering multi-site information about the emerging field of museum schools" (1998). According to Klein et al., there was a follow-up conference in 1998 sponsored by the Science Museum of Minnesota and the Smithsonian Institute in partnership with the Institute of Museum and Library Sciences. At this conference titled Museum Schools and Student Success: A National Discussion, "participants considered ways to assess the impact of 'museum schools' on student achievement and thus make a stronger case in support of the 'museum school' concept" (Klein et al., 2001). This conference led to the creation of an impact assessment plan at the Compton-Drew/ St. Louis Science Center museum-school (Klein et al., 2001). Unfortunately, the results of this assessment were not publically accessible. Despite the lack of research results, millions of dollars are spent every year on K-12 museum education programs (Phillips, 2006) and museum-schools persist. As conference attendant Andrea Anderson said in 1995, "It strikes me that we have an opportunity for a grand scale inquiry. There are a lot of questions out there…many questions are yet to be explored and answered. I applaud all of you as you proceed, and invite all of you to share your stories with us at ASTC" (Science Museum of Minnesota, 1996). Sixteen years later, such stories are being shared as the spring issue of ASTC Dimensions will feature museum-schools (Emily Schuster, personal communication, 2011).

Lack of Curriculum

Some information about museum-school curricula has been shared through the limited literature. Dennis St. Sauver, then principal of the Museum Magnet School in St. Paul, MN told conference attendees in 1995 that, "curriculum the first year was what we call 'curriculum on the

run.' We had none" (Science Museum of Minnesota, 1996). Similarly, Sonnet Takahisa of the New York City Museum School pointed out "that there is no museum learning curriculum. It is something that [museum educators] ultimately will construct" (Science Museum of Minnesota, 1996). In the case of the Henry Ford Museum School, a company, Learning Designs Inc., was hired to begin the curriculum development process (Pittman & Pretzer, 1998). Compton-Drew Middle School at the St. Louis Science Center also worked with a third party for its curriculum development (Klein et al., 2001). Conversely, and more typically, all four of the museum-schools King visited for her dissertation research designed their own curriculum and they expressed "the amount of stress, hard work, frustration and exhilaration they experience while designing and implementing their new curricula" (King, 1998). King expands on this with specific stories demonstrating the struggle teachers have incorporating math and "trying to integrate the curriculum within the museum learning units" which leads them to instead fall back on traditional instruction (King, 1998). At the Flagstaff Arts and Leadership Academy on the grounds of the Museum of Northern Arizona school faculty work "with the entire museum staff to plan the academy's integrative lessons" (Butterfield, 1998). It is through such partnerships that the NYC Museum School believed, in 1995 that it represented "one of the first attempts to construct a curriculum that from the outset gives the classroom and the museum parallel statues as leaning environments" (Science Museum of Minnesota, 1996). As The Manual of Museum Learning points out, "curriculum varies widely among museum schools" (Lord, 2007), so too does the definition of museum-school.

Museum-School Definition

In 1996, Kelly Finnerty, then program coordinator of the Museum Magnet School at the Science Museum of Minnesota, found there to be no defining model or definition for museum-

schools, “only a spectrum of possibilities” (Science Museum of Minnesota, 1996). Ten years later, Phillips confirmed the definition gap saying “currently, there is no firm, widely accepted or consistently used definition of a museum-school” (2006). In fact, King found there to be “a number of divergent programs that labeled themselves with this term,” so divergent that “there appeared to be a higher number of differences than similarities” (1998). Even within the museum-school community King discovered “a tremendous amount of confusion about how to define the term” (1998). This is illustrated through her interviews with school employees which included responses such as, “I work here and I still don’t know” (1998). King therefore concluded, “it was still unclear as to exactly what can and cannot be classified as a museum-school” (1998). Many definitions have tried to un-muddy the waters. However, as Phillips stated in her 2006 report all previous definition attempts “suggested criteria for distinguishing museum-schools (e.g. formal, regular, museum learning, organizational partnership structure, and systemic change) [that] requires further definition, to avoid subjectivity hastening the descent down what is already a slippery slope.” Below are some such definitions:

> Museum schools are schools where the curriculum, instruction, and assessment are aligned with a cultural institution. These schools take what is known about learning in museums and apply it to the traditional school setting. Students spend part of their day at a school and part of their time in a museum setting. These schools have long-term, cooperative relationships with museums. (Borden, 2000)
>
> In the context of our work, and in use by more and more institutions, the term “museum school” refers to the school resulting from a partnership between museum and school district or school, sometimes with a university partner. (Klein et al., 2001)
>
> A school that is collaboratively designed and implemented through a partnership between a school district and at least one museum in order to implement museum learning with at least one of the follow three activities: object creation, exhibit creation, and museum creation. (King, 1998)

After exploring this definition conundrum, Philips concluded that "whether a particular association can be accurately labeled a museum-school is of less consequence than the access to learning that collaborative partnerships between museums and schools afford" (Phillips, 2006).

Museum-School Model

Phillips' "research reveals that conceiving of museum-schools as fitting a single model or being defined, based only on linear continua, fails to capture their multiple dimensions and complexity" (2006). Silverton Paideia Academy, which became a museum-school in 2006, identifies three elements for successful museum-school implementation on its website. First, "in depth partnerships with museums and related institutions" must be established. Second, there must be a commitment to "frequent visits to and by museums and related institutions to support in-class curriculum." Third, "student projects, particularly created artifacts and exhibits" should be "integrated into the curriculum and prominently displayed throughout the school building." Similarly, King identified three "critical components of the museum school model, these being: museum learning, organizational partnership, and systemic change" (1998). Additionally, Klein et al. "identified four aspects of interactions between the school and science center: resources, levels of engagement, participants and purpose" (2001). Resources include exhibits, collections, facilities, and staff. Engagement refers to the duration of interaction such as a one-time visit compared to a series of visits. Participants could be teachers, students, parents or volunteers. The purpose of the resource inclusion might be to support learning in general or directly meet learning goals (Klein et al., 2001).

As recent as 2010, the American Association of Museums Press published a book which includes a chapter on museum-schools (Fortney & Sheppard). In this chapter the partnership with community institutions is identified as the main difference between regular public schools and

museum-schools (Fortney & Sheppard, 2010). It goes on to say "their funds per student, teach-to-student ratios, and student demographics are on par with other schools in their district" and that the mandated curriculum is still taught, but is "incorporated into museum-related themes or units" (2010). In 2010, the Museum School at Avondale Estates opened and in its charter the school states that it "shall implement the museum school model by partnering with at least one museum that will provide resources to the charter school students for hands-on, interactive and interdisciplinary learning opportunities" (Avondale Estates, 2009).

Museum Learning

"The use of objects for learning is probably the most anticipated element of museum-schools' pedagogy," according to Dr. Michelle Phillips (2006). Museum-School interviewees, in her 2006 research through the Center for Information Learning and Schools, "all cited 'object-based learning' or 'hands-on learning' as special characteristics of their museum-school's pedagogy" (Phillips, 2006). This re-affirms Kira King's 1998 research of museum-schools in which "all eleven schools appeared to focus on creating hands-on, project-based instruction" (King, 1998). Three years prior, at the Museum-School Symposium the D.C. Museum Magnet Schools Project said that, "The core of what is often called museum pedagogy is object-based learning. Objects focus the students' learning to help support interdisciplinary approaches to education" (Science Museum of Minnesota, 1996).

The New York City Museum School adopted the term "museum learning" to replace the traditional term "object-based learning" (King, 1998). Museum learning is the application of the "series of skills that professionals in museums use to understand, analyze and present findings" (Borden, 2000). Sonnet Takahisa, co-director and co-founder of the New York City Museum School, breaks down the stages of museum learning as follows: sustained looking, articulate

observations, generate questions, undertake research to learn more, analysis and synthesis, and presentation (Borden, 2000). The New York City Museum School believes that "kids need constant stimulation. [They need to] ask questions and follow through with research to find answers and then pass it on. That is the model we are working with. And that is what museum professionals do every day" (King, 1998). Yet, the school's goal is not to train future curators and conservators, instead, they prompt a way of looking at the world that "encourages questioning, active investigation, engaged problem solving" and "deepens understanding of world around them." (Science Museum of Minnesota, 1996).

Co-director Ron Chalusian summarizes by saying, "We always come back to talk about museum learning. We talk about project-based learning. We talk about object-based learning. Ultimately, to us, it is just good learning" (King, 1998). As the NYC Museum School used the term 'museum learning' which "refers to the use of either objects or experience-oriented activities to promote learning, and to involve students in using museum exhibits for research," (King, 1998) the Museum Magnet School at the Science Museum of Minnesota devised the 'museum process.'

Museum Process

The Museum Process, as designed by the Museum Magnet School in St. Paul, is "a tool to structure exhibit planning with children" (Science Museum of Minnesota, 1996). It is meant to summarize "the learning process museum professionals engage in while researching and creating exhibits" (King, 1998). A spiraling wheel illustrates the steps of exploring, experimenting, explaining and exhibiting (Appendix B) which is "how the children's interest is engaged through exposure to authentic objects and phenomena centered around a theme" (Science Museum of Minnesota, 1996). The Museum School's "philosophy is based on the

premise that the same processes used by museums in developing exhibits also are profound tools to engage children in learning" (Science Museum of Minnesota, 1996) and that by "creating and evaluating exhibits, students are forced to think about how they thing and learn best" (Finnerty, 1996).

The Museum School in St. Paul works with the museum process and has sought to devise a museum curriculum that incorporates open-endedness, independent inquiry, rigor and discipline (Finnerty, 1996). They have added program goals to the museum process which focus on using museum resources, using objects and collections as research tools, developing exhibit projects, interpreting exhibit projects, and creating a museum by kids for kids (Finnerty, 1996).

According to Borden, "the critical feature of this paradigm is that students create actual museum displays from which other students and children learn" (2000). Speaking about the schools at the 1995 symposium and what was learned, Finnerty says, "All [museum schools at the 1995 Symposium] share a philosophical commitment to object-based learning; some share our focus on exhibit development" (Finnerty, 1996). Interviewees at the four museum-schools King visited for her research mentioned that they tried to mirror the museum process (King, 1998).

Museum-School History

As early as the 1870s, museums stated their educational role in their charters (King, 1998). The 1992 AAM publication Excellence and Equity re-emphasized the importance of education and challenged the museum field to ensure their "commitment to serve the public is clearly stated in every museum's mission and central to every museum's activities" (King, 1998). In fact, The New York City Museum School and The Museum Magnet School in St. Paul stemmed from the Task Force mandate that followed Excellence and Equity (King, 1998).

Though the concept of museum school partnerships and the extensive use of museums by schools has reemerged, is not new; "it goes back more than 100 years, to the 'Progressive Era' of the early 20th century" (Hein, 2004a). John Dewey and John Cotton Dana were two prominent advocates of 'learning by doing.' Their work, in the school community and the museum field respectively, "forecast the hybrid philosophy and pedagogy of these museum-schools" (Hein, 2004b). The 'experiential learning' Dewey and Dana advocated for included three principals "1) the importance of education for improving society, 2) the primacy of experience and the use of objects for learning, and 3) the need for a rich learning environment, unencumbered by traditional subject classifications" (Hein, 2004b). In 1896 Dewey founded the Laboratory School in Chicago through which he promoted the museum school interactions in which he believed. His students "went on numerous field trips and visited the Columbian Field Museum for an hour and a half each week" (Hein, 2004a). Dewey's book, *The School and Society*, published in 1900 suggests that schools be designed with a central library and museum "with the latter providing a link between the mere 'doing' of experience and the reflecting on it" (Hein, 2004a). In his 1991 article Making School More like Museums, Howard Gardner also invites people to reconceptualize museum school relationships, to "imagine an educational environment in which youngsters at the age of seven or eight, in addition to – or perhaps in place of – attending a formal school, have the opportunity to enroll in a children's museum, a science museum, or some kind of discovery center or exploatorium" (King, 1998). Although museum-schools were already in operation, Falk and Dierking added to the conversation in 2000 saying, "[Schools] will greedily snap up any and every good idea they can find, including the museum concept. Don't be surprised to see future public schools built around museums." (2000)

While the individuals mentioned above pointed to the philosophical reasons for collaborating between museums and schools, there are more practical reasons as well. One reason museum schools came into being in the 1990s was because "the school system needed an attractive institution to bring about desegregation in the city" and a museum magnet school provided that (Science Museum of Minnesota, 1996). According to the U.S Department of Education magnet schools:

> are designed to attract students from diverse social, economic, ethnic, and racial backgrounds. They focus on a specific subject, such as science or the arts; follow specific themes, such as business/technology or communications/humanities/law; or operate according to certain models, such as career academies or a school-within-a-school (2009).

"Federal support for magnet schools began in 1972 with the Emergency School Aid Act" and continues today under the Magnet Schools Assistance Program, which was launched in 1985 (Magnet Schools Assistance Program Technical Assistance Center, website). Congress has stated that "magnet schools are a significant part of the Nation's effort to achieve voluntary desegregation in our Nation's schools" and provide "equal educational opportunities for all students" (U.S. Department of Education, 2004).

Research Methods

Culling the Internet and Established Literature

To get a picture of the current state of museum-schools in the United Sates, an updated database needed to be built. The first step was to locate as many museum-schools as possible. A Google search of the term "museum school" provided only a few results that fell within the desired category. Instead of schools of compulsory education, the results primarily pertained to art classes at museums, university art programs, or museums housed in former school buildings. A search using the term "museum magnet," as in the above mentioned school magnet programs, was the key to retrieving quality results. Additionally, conducting a state-by-state search for schools with the word "museum" in their title on the website greatschools.org led to the discovery of more potential museum-schools. In this way the database was populated.

The foundation laid by prior research was not ignored. Every school mentioned in the accessible museum-school body of literature also appears in this master database. Through these methods sixty-one schools, including fifteen heretofore unmentioned in the literature, found their way into the current database (Appendix A).

The before mentioned website, greatschool.org, provided a means to gather basic school information such as location, grade level, and student body population for some of these schools. To account for inaccuracies and absences, the next step was to cross-check the acquired information against each school's or each school district's website. Those websites that went into greater depth contained information about museum partnerships, curriculum, and teaching philosophy.

Contacting Schools

To acquire more of this pertinent information and allow schools the opportunity to check the database, an e-mail with the database attached was sent to schools for review. The database categories included the following: school name, school website, address, city, state, school district, grade level, number of students, private or public, charter or magnet, first year as functioning museum-school, final year as functioning museum-school, campus location in relation to museum, special educational focus, museum partners, are these formal partnerships, estimated time students spend in museums, museum interaction, museum curriculum components, school philosophy/curriculum model, self identifies as museum school-yes/no, institution's definition of 'museum-school,' and additional comments. Typically, correspondence was directed to the principal of the school, but in some cases a curriculum specialist or museum liaison was contacted instead. Unless the school was a late addition to the list, at least three attempts were made to gain a response from each museum-school.

The first e-mail presented an offer to verify the information contained within the attached database and included the following two questions: 1) Does your school identify itself as a "museum school"? If not, when in the past was that label used, or can you explain why it may have been applied to your school? 2) How does your school define the term "museum school"

when asked by prospective parents or granting agencies? Unresponsive schools were contacted a second time with a list of open ended questions corresponding to the database categories. Some questions were occasionally altered based on the known school information, but a general list of the questions is available in Appendix C. A third e-mail attempt contained targeted questions with factual information already inserted for schools to check. For example one question read, "Is your school still a K-6 public magnet school with a student population of ~400 students?"

Those schools with whom a rapport was established were also asked to reflect more deeply on their current curriculum and suggest areas of need. Addressing these identified needs along with those identified in previous literature was a goal of the lessons developed for this thesis project.

Conversations on Site

Four site visits provided further insights. In part, these four schools were selected for site visits based on timing of school events and ease of access, since these visits were incorporated into pre-arranged winter and spring break trips. The four schools were also selected based on their varied characteristics.

Normal Park Museum Magnet Elementary in Chattanooga, TN is a zoned-magnet school with a long list of awards since its establishment in 2002. Alternatively, The Museum School at Avondale Estates, GA is a charter school in its first year of operation. According to the U.S. Department of Education charter schools:

> are public schools that operate with freedom from many of the local and state regulations that apply to traditional public schools. Charter schools allow parents, community leaders, educational entrepreneurs, and others the flexibility to innovate and provide students with increased educational options within the public school system. Charter schools are sponsored by local, state, or other organizations that monitor their quality while holding them accountable for academic results and responsible fiscal practices (2009).

Another charter school provided a look at a middle school program; Exploris Middle School is a charter school in Raleigh, NC that was established in 1997 in partnership with Exploris Children's Museum. The museum is now called Marbles Children's Museum, however, and the two institutions are no longer tied. Also in Raleigh, NC, just five miles away, is Brooks Elementary Museum Magnet. Like Normal Park, Brooks became a museum-school in 2002. Below is a brief synopsis of the travel itinerary for this portion of thesis research:

December 15th - Normal Park Museum Magnet
Meeting with Museum Liaison, tour of school, and exhibit night dress rehearsal

December 16th - The Museum School at Avondale Estates
Exhibit night and e-mail correspondence with principal

March 22nd - Brooks Museum Magnet Elementary
Meeting with the Museums Coordinator and tour of school

March 22nd – Exploris Middle School
Meeting with the Principal and tour of school

Rather than a structured interview the on-site meetings were conversational in nature. Topics covered included the history of each school and the origins of its museum partnerships, the student body population and school structure, museum interactions and incorporation into curricular elements, and a discussion of the school's accolades and struggles.

Core Element Analysis

Compiling the database provided a framework for comparison from which trends began to emerge. Although this landscape view of museum-schools has room for growth, a preliminary analysis of the museum concept in practice led to the development of the Core Elements Schema. This schema provides a framework for analyzing museum-schools based on three simple measures. The Core Elements Schema will be further explained in the following results section.

Curriculum Development

Curricular challenges for museum-schools had appeared in some of the past literature, particularly in Kira Kings dissertation where the struggle to integrate math and reading into a museum curriculum was addresses. Culling the Internet could only suggest current perceived needs. Continuing these conversations with schools identified areas where curriculum is lacking. More details into these conversations is provided in the results section below. To address this need, a set of six-lessons was created for use in museum-schools. The topics of these lessons were influenced by the needs indicated in both past literature and current conversations with museum-schools. The content was informed by museological best practices. Active lessons were designed to achieve multiple levels of Bloom's Taxonomy of Thinking Skills. The lessons were then reviewed by veteran teachers Bridget C. Tison and Chesta Owens who have almost sixty years of combined teaching experience. Their expertise guided the revision process. Lesson summaries were also sent by way of SurveyMonkey to museum-schools with whom a relationship had been developed in order to elicit feedback.

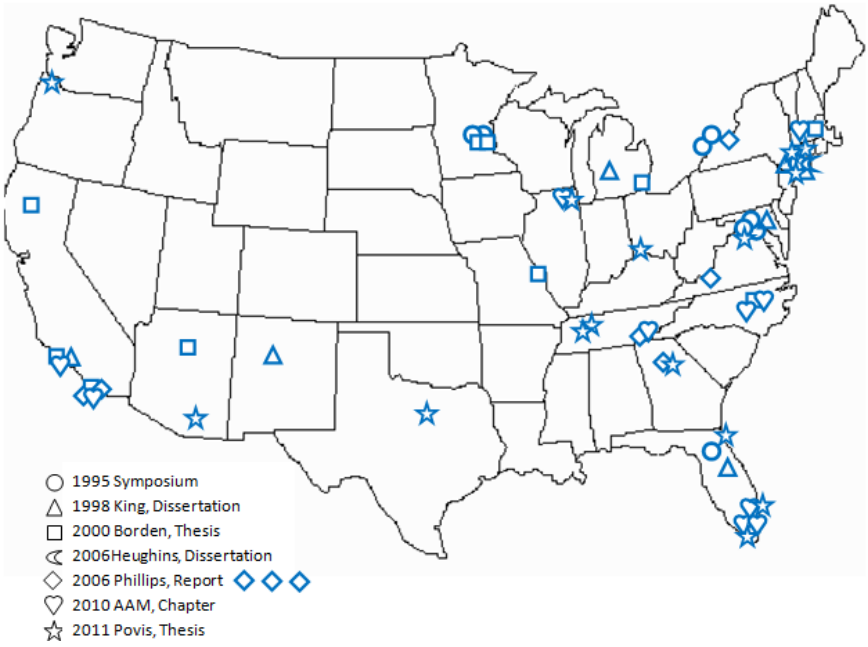
Research Findings

Database- School Structure

Since the first meeting of museum-schools in 1995, the museum-school landscape has changed dramatically. That year, nine schools were represented at the Museum School Symposium hosted by the Science Museum of Minnesota. In the literature that followed from 1995-2007, thirty-six museum-schools were mentioned. That is a four-fold increase. In 2010 the AAM Press published *An Alliance of Spirit: Museum and School Partnerships* with a roster of museum-schools, 10 of which had not appeared in the literature before (Fortney & Sheppard). Through this thesis research, an additional 15 schools were added to the list, bringing the total number of potential museums-schools in the nation to 61. Not all of these institutions remain,

however. Some schools have closed completely, others have changed magnet status. Of the 61 schools that at some point were identified as museum-schools 32 appear to be current, functioning, museum-schools. This difference is visually represented in the two maps below.

Map of the 61 museum-schools identified from 1995-2011



Map of the 32 currently known museum-schools in the nation

Two related groups were not the focus of this research, but are indicated in the map in green (zoo schools) and purple (residence programs). The zoo schools contacted do not identify with the term 'museum-school' although they too are public schools associated with a cultural institution, a zoo. Additionally, residence programs in which limited grade levels take part in a museum sponsored on-site extended program were not included in this study either. School in the Park is an example of one such well-documented program for 3rd and 4th graders in the San Diego area. While listed in the chart below for context, zoo schools and residence programs will not be addressed further. It is also important to note that pre-school programs were not included in this study.

Given that 22 of the nation's 32 museum-schools have only come into the literature in the last year, previous generalizations about museum-schools have been made based on only a third of the current museum-school population. The results that follow are an attempt to provide a wider picture based on the information gathered about the known 32 museum-schools in the nation.

Potential Museum Schools		Still Museum School	Planning to Re-establish	Looks the part & doesn't ID	Museum Location Only	Residence Program	Zoo School
Identified in Lit 1995-2007	36	8	1	1	1	3	4
Additions from 2010-2011	25* (10 + 15)	22	0	0	1	0	0

The chart above shows that only 8 of the 36 museum-schools identified from 1995-2007 still identify as museum-schools. One holds the name museum-school, but said that they "are in the process of rekindling the museum studies program." Conversely, Exploris Middle School has separated from the children's museum and no longer uses the term museum-school, but has

continued its museum program components and has forged a new relationship with another local museum. Two schools appear to share facilities with a museum, but do not take on museum-school characteristics which are further explored in the core elements section below.

A total of 21, or 66%, of museum-schools are magnet schools. Another 8, or 25%, have charter designation. Of the apparent 32 museum-schools in the county, 8 have the phrase "Museum School" in their name, such as The NYC Museum School. The phrase "Museum Magnet" appears in 14 of the school names, as it does in the name Arroyo Seco Museum Science Magnet. The combination of these phrases appears in 2 school names, as in the Museum School of Arts & Sciences Magnet. Another 8 schools do not indicate their museum affiliation in the title of their school; Silverton Paideia Academy in Silverton, OH is an example of this. Thus, it is possible that schools which identify with the term museum-school, but do not include the title in their school name have been overlooked.

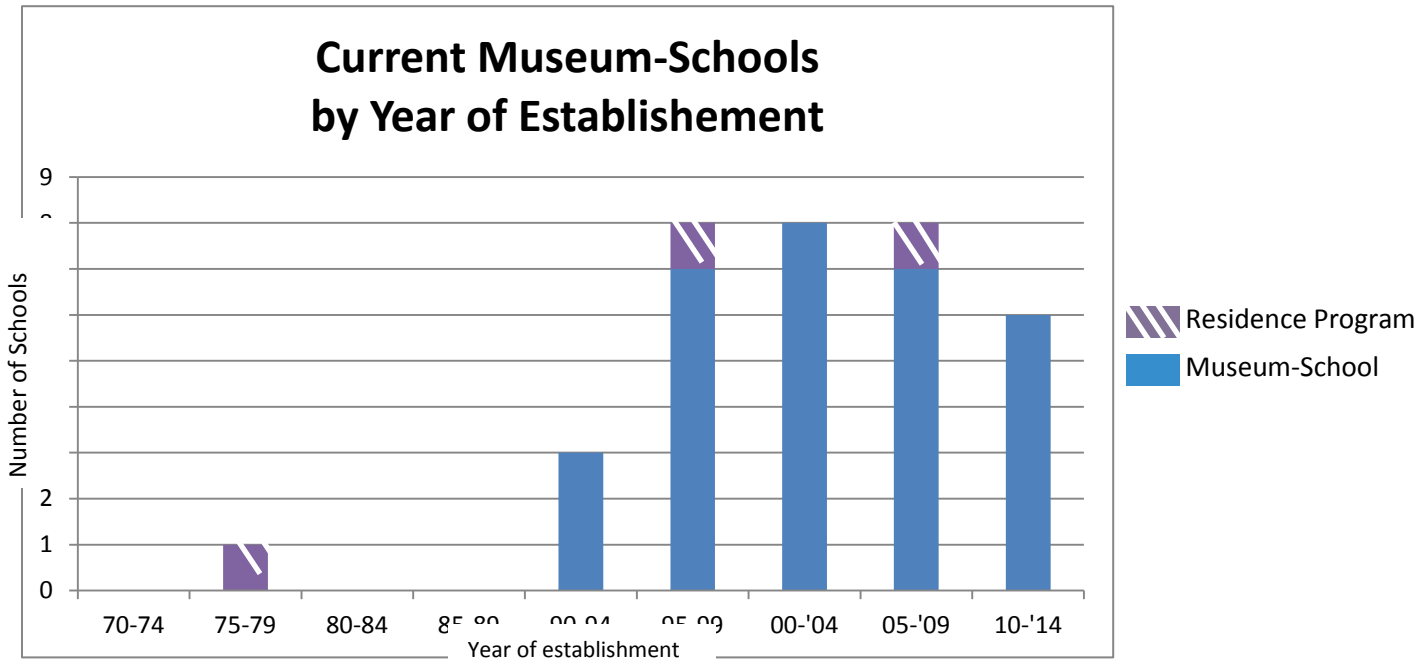
The known museum-schools are located in 15 states and are primarily housed separately from museums. Only 4 are on a museum campus and 2 are in the museum itself. This means that 84% of museum-schools are not on a museum site. While museum-schools do exist throughout the K-12 educational spectrum, the majority of museum-schools address the elementary learner, as seen in the chart below.

	Elementary School	Elem-Middle	Middle School	High School
Museum Schools	13	11*	6	2
Residence Programs	2		0	1
Zoo Schools	1		1	2

*Three of these schools are currently elementary schools, but plan to expand to middle school.

While included in the count of 32, two schools are not yet open. Both the Discovery Museum Magnet School in Bridgeport, CT and the John Early Museum Magnet Middle School

in Nashville, TN are scheduled to open for the 2011-2012 school year. These two schools are included in the graph below which displays museum-schools by year of establishment.



Note: n=34 because one school's year of establishment was unknown

As the graph above shows, the vast majority of museum-schools were established in the past two decades. If museum-schools are a trend on the rise or decline has yet to be determined. The last segment of the graph, covering 2010-2014, contains 6 schools at the moment, but this number may grow since it is currently 2011, which means three years unaccounted for at this point.

Database- Educational Structure

While there are 32 known museum-schools in the nation, the information in this section reflects only the schools whose educational information was accessible whether that be through school websites or through personal communications. Since information was not obtained from each of the schools it is not possible to generalize conclusions across all museum-schools. Of the 20 schools that provided partnership information, 18 identified their relationship with a museum as a formal partnership. Ten schools quantified the time their students spend in museums. These

times ranged from 0-70 hours a month, with a median of 6 hours a month. While fieldtrips were the most frequently mentioned type of museum interaction, a range of other interactions with museums were addressed by the 26 schools from whom this information was obtained. The responses are listed in the chart below and also visually displayed in Appendix D.

Number of Responses	Type of Museum Interaction
22	fieldtrips
12	guest speaker
6	instructional resources (science lab/artifacts)
5	behind the scenes tours
3	junior docent program
2	museum professional teach
2	museum passes for families
1	student internships
1	test exhibit design/programs for museum

The database also contains information regarding the educational philosophies or curriculum models with which museum-schools self-identify. As seen in the word cloud below, which displays each word based on its frequency in responses, there are a variety of teaching approaches employed by museum-schools.

Of the 23 schools from whom information was obtained, only two mentioned the museum process or wheel and one sited their own set of museum principles from which they work. The Seven Principles of Museum Science from the Arroyo Seco Museum Science Magnet School in Los Angeles, CA is available in Appendix E. The most frequently mentioned teaching philosophy was Paideia. According to the National Paideia Center,

> The Paideia philosophy celebrates the fundamental notion that to be fully educated is a lifelong adventure that only begins with an individual's formal schooling. It is based on the assumption that all human beings are by definition activist learners, capable of a fully humanistic life defined by intellectual growth.

Paideia includes didactic instruction, intellectual coaching, and seminar discussions. These techniques comprise the "three columns of instruction." The Museums Coordinator at Brooks Museum Magnet Elementary School shared that she would find it very difficult for a school to be a museum-school without utilizing the overarching Paideia philosophy which provides a defined structure.

The database also reveals how museums are incorporated into the curriculum at museum-schools. The word cloud and chart below show the museum related curriculum components as provided by 23 museum-schools.

Curriculum Components	Number of Responses
Exhibit Nights	16
Exhibit Design	3
Student Docents	3
Products for Museums	2
Citizen Science	2
Examine Artifacts	2
Museum Studies Class	2
Write Labels	1
Make in-school exhibit guide	1
Museum Modules	1

By far, exhibit nights are the most frequently cited curriculum component in museum-schools. Exhibit nights are similar to a school open house in that parents are invited to the school in the evening to view student work on display. Ortega Elementary Museum Magnet references exhibit nights in the later part of their definition of museum-school when they describe a museum school as a "school that partners with museums to provide hands-on, minds-on learning experiences for students to examine their world, explore their strengths, and exhibit their knowledge" (Jill Cross, Curriculum Integration Specialist, personal correspondence). The two exhibit nights visited as part of this thesis project included student work on display in hallways and classrooms, labels, display cases, and student 'docents' to explain the work. Arroyo Seco Museum Science Magnet describes the exhibit night concept by saying that projects are presented as museum displays.

Arroyo Seco is also develops products for museums through its museum studies classes. A year-long 8th grade elective class involves writing a script and becoming part of a living history exhibit at Casa de Adobe, while another elective "includes trips to Audubon and the creation of field-trips for younger students" (Laura Griffith, Museum Studies Teacher, personal correspondence). Another example of museum classes comes from the NYC Museum School which in their 1998 Communications with Kira King outlined their classes as such:

> At the sixth grade level, the students study the object in isolation, using observation and descriptive writing, and doing research on objects. In the seventh grade, we add a second layer, as students study exhibits. How can you put objects together to create a message? How do you compare objects? How do you build an argument by using objects? In the eighth grade we add a third level, as students compare (exhibits and objects within different museums). They should be able to read the messages museum professionals are communicating as they put objects together (to form exhibits) and consider how that message relates to the fact that this is a museum of art and not a museum of natural history, or that it is a small ethnic museum rather than a children's museum.

The museum classes described above are distinct from the term museum module which was further explained to be a thematic unit with a content tie to museum exhibit, such as studying evolution and using a museum for content support.

Synthesizing Findings- Categorizing Schools

Looking at the varying school and educational structures listed above, museum-schools appear to fall into four categories. These four categories are based upon how the school views the museum. The purpose of the museum shifts slights based on the category in which each museum-school falls which partially explains the differences in museum and school interactions and museum integration into school curriculum.

Four Categories of Museum-Schools
- Teaching Approach – museum style education as model
  - Emphasis on object-based learning
- Thought Process – mimic museum professionals work flow as thought model
  - Imitates the examine, explore, explain, exhibit process
- Topical – museum as subject topic expert
  - Looks to museum for aligned content knowledge
- Thematic – museum as topic itself
  - Approaches museums as a field of study

A statement from one museum-school that might be classified as each type is reproduced below to further illuminate how the four different categories could differ in perspective and operation.

> Teaching Approach: Museum as Educational Model
> *Stuart-Hobson Museum Magnet Middle School, Washington D.C.*
> A museum school uses the authentic and unique objects of the museums as the basis for a one-of-a-kind interdisciplinary studies program.

> Thought Process: Museum as Thought Model
> *The Museum Magnet School, St. Paul, MN*
> Our strength is the Museum Process which we developed. Each grade level creates two formal exits a year. A grade level planning team identifies standards, key knowledge, big questions, subject content, lessons/experiments and assessments for a unit of study. Once the students have a strong knowledge in the area of study they create a formal exhibit. The exhibit is presented to multiple audiences. Every child in that grade level participates and presents. There are formal presentations, question and answer periods, and feedback from the audience. Graphic design and presentations skills are part of our curriculum.

Topical: Museum as Content Expert
Dr. Charles Drew Science Magnet Museum Site, PS 59, Buffalo, NY
The museum is used as part of daily instruction to enhance students' science knowledge.

Thematic: Museum as Field of Study
Arroyo Seco Museum Science Magnet School, Los Angeles, CA
Museum Science is not an autonomous discipline but a comprehensive set of interdisciplinary strategies for the formal study of the museum as a site of cultural and scientific authority. Modern Museum Science is concerned with the study of the science of museums – the intricate network of systems, regulations, and practices that museums depend upon to develop, execute, and sustain their missions. At Arroyo Seco Museum Science Magnet School (ASMSM) we analyze the everyday workings of museums to understand how they perform their missions.

Synthesizing Findings- Core Elements Schema

Given that there is no one commonly accepted definition of museum-schools, and seeing the variety of methods employed by museum-schools, it still seems applicable to describe museum-schools as a "spectrum of possibilities" just as Kelly Finnerty did in 1996. Kira King took some measures to sort this spectrum by placing museum-schools on a seven feature continuum. Her Museum Learning Continua looked at the following seven activities: creating museums, creating exhibits, creating objects, using the museum process, creating object-oriented products, creating experience-oriented products, and learning in the museum (King, 1998). This continuum is a comparative tool dependent upon knowledge of other museum schools.

Presented below is a simple three element schema that can be used for museum-school self assessment. This schema was developed as a means to further understand museum-schools based upon the museum linkages they display and is intended to help museum-schools or scholars identify what museum-school methods they are utilizing and to what extent. After assessing the research and given information about museum-schools, museum imitation, museum relationship, and museology components were identified the three elements that encapsulate the variety of activities museum-schools employ. These core elements reflect the educational

practices of the nation's museum-schools. While a specific museum-school may embody these elements differently, or even exclude one completely, the idea is that a school can still assess how the methods it uses map onto the schema below.

Core Elements Schema
1) Museum Imitation
    Surface Level – school projects displayed as exhibits with labels
    Deeper Level – school projects are linked to museum process/wheel
2) Museum Relationship
    Surface Level – school has regular museum visits/tours, or hosts museum guests
    Deeper Level – school and museum co-teach, share curricular resources or funds
3) Museology Component
    Surface Level – schools offer Museum Studies classes or lessons (museology)
    Deeper Level – schools create Museum Studies products (programs, tours)

Curriculum

Curriculum Findings

There is one area of the schema above to which a third party can contribute a significant, useful product. By providing lessons to enhance the museology core element, this masters project aims to positively impact museum-schools and offer something in return for the research information those schools generously provided.

Topic selection for the six lessons created as part of this thesis project was based on information found within the literature review in relation to curriculum and was also informed by conversations with museum-schools and current discussions within the museum field. Past literature indicated the struggle museum-schools face in incorporating math and reading lessons into museum themed topics (King, 1998). The difference in school and museum vocabulary was also brought up in The Museum School Symposium; "collections was a new word that museum people brought to us" (Science Museum of Minnesota, 1996). Therefore incorporating math, reading, and the concept of collections became a priority in the development of the lesson set (Appendix G).

In personal correspondence, museum-schools also asked for museum lessons that address vocabulary development (Denise Luka, Principal, Dr. Charles Drew Science Magnet,) and expressed the importance of supporting reading and writing skills (Jason Dennison, Principal ,Silverton Paideia Academy). Specifically, there was a call for lessons on how to write labels to further support the student exhibit presentations many museum-schools term museum nights. One teacher wrote and said, "we still struggle with finding an easy way to teach students to write label copy for the artifacts they use in their museum displays. Any lesson ideas you have about labeling would be much appreciated" (Laura Griffith, Arroyo Seco Museum Sciences Magnet School). These statements reinforced the need to provide ample reading comprehension and writing practice within the lessons.

Five school officials, from separate institutions, expressed their desire to develop their museum studies programs and increase their students' knowledge of the museum field. One way to involve students with a topic is to invite them into relevant discourse within the field. The most recent edition of *The Exhibitionist* deals with the question, "What is a Museum," which is why the first lesson in this set invites students to join that conversation and define 'museum.' Two of these schools also expressed their dream of starting computer labs for middle school students to explore exhibit design. The words below from the principal of Silverton Paideia Academy echo the sentiment of the principal of The Museum School in San Diego:

> My hope is to actually work with students to do more in-depth exhibit design (incorporating all aspects of the process including education/interpretation, marketing, fundraising, conservation, etc) so that students will realize just how much work a museum is (Jason Dennison, personal correspondence).

While it was not within the scope of this thesis to assist with the development of design labs, these lessons about museums themselves (their history, collections, research, etc.) are intended to make accessible museum topics for those schools that seem to be looking to provide

such for their students. At the same time, the lessons acknowledge that "it has taken an enormous amount of ingenuity to integrate" museum topics into schools while, "at the same time, assuring that students are provided with an education that covers the requirements of the state and the district" (Karen Thimmesch, Specialist, Gifted Services and Enrichment Museum Magnet School Minnesota, personal corresponsance). Therefore, the focus of the lessons is not on memorizing facts about museums. Instead, these lessons use museums as a backdrop while addressing skills (graphing, reading comprehension, multiplication, problem solving, etc.) schools aim to teach.

Lesson Design

The lesson design took into account the structure of museum-schools across the nation, the variety of teaching philosophies in place, and the current museum integration into curricula at this point. Given that the vast majority of museum-schools are not located in a museum, all of the lessons were designed for classroom use without the need of museum objects in order to avoid off-site accessibility issues. Since the 32 museum-schools use a myriad of teaching philosophies the lessons were designed around Bloom's Taxonomy of Thinking Skills (Appendix F). Bloom's Taxonomy, first published in 1956, is a tiered model which classifies levels of cognitive complexity and can be used in educational design to target higher level thinking (Forehand, 2005). Hooks, or introductory sets, are also used to introduce and draw students in to each lesson concept. A variety of activities which promote individual work, small group work, class discussion, and individual projects are included in each lesson to engage multiple thinking skills. Each of the six lessons was designed to align with the active environments museum-schools seem to promote.

Acknowledging there are many more potential lessons to write, this lesson set focuses on defining 'museum,' collections, the Smithsonian, audience research, and label writing. These lessons do not cover all that could be part of a museum studies curriculum; they are simply the seeds of such a curriculum. These lessons are not intended to supplant the current work being done in museum-schools. The hope is that they could bolster the work being done in those museum-schools that see museums as a topic of study.

Below is each lesson's expanded objective/summary statement follow by how that lesson maps to Bloom's Taxonomy of Thinking Skills. The complete lesson set can be found in Appendix G.

Lesson Set Review

All six lessons, in their entirety were sent to two teachers for review. Veteran teachers Bridget C. Tison and Chesta Owens from the Wichita Falls Independent School District were kind enough to provide their near sixty years of combined teaching experience to evaluate and critique the lessons. Both teachers hold a masters degree in education and their teaching experience spans grades 2-6, including teaching appointments overseas and in gifted education classrooms. They were asked to evaluate the age level appropriateness, lesson approachability for teachers, potential student outcomes, effective and ineffective lesson components, and provide suggestions for improvement.

Their suggestions were incorporated during the revision process. Some of these suggestions related to altering pictures for age appropriateness, labeling pages for easier teacher access, and dividing the label lesson into two separate components. Content changes included broadening the audience for the persuasive repot and omitting the PowerPoint of collections housing systems within museums.

Their overall review complemented the "hands-on approach and student involvement" and indicated that all of the lessons "incorporate the main three learner modalities:" kinesthetic, auditory and visual. They also expressed that the format and activities "are teacher friendly because the lessons are student engaging" and provide sufficient background information for successful implementation. The lessons were estimated to "take a classroom teacher about a month to complete," but thoughtfully include each of the core subjects. Additionally, the amount of rigor and "higher-order thinking" involved in the lessons was seen as an asset.

Museology Lessons

After research, review, and revisions, the resulting six lessons focus on defining museums, introducing collections, The Smithsonian, audience research, and label writing. A summary/objective statement for each lesson is listed below. The words in bold within each statement correspond to Bloom's Taxonomy of Thinking Skills. These words are mapped onto the six levels of Bloom's Taxonomy following each summary statement.

Museology Lesson One: Defining Museum
Summary/Objective
Students will develop and articulate a class definition of 'museum,' after evaluating which components or 'ingredients' define museums with the assistance of an analogy about baking a cake. Through a tactical activity, students will test and discuss their definitions by comparing the museum components they selected to familiar institutions such as a park, library, and zoo. Based on these tests, students will then modify their definitions and compose a class definition of 'museum' through group discussion. By participating in this lesson, students will join a continuing conversation in the museum field. This lesson also sets the groundwork and provides a common language for further museum lessons.

Bloom's Taxonomy of Thinking Skills
Knowledge- Select
Comprehension- Articulate, Discuss
Application- Modify
Analysis- Test, Compare
Synthesis- Develop, Compose
Evaluation- Evaluating, Group Discussion

Museology Lesson Two: Collections

Summary/Objective

During the four segments of this lesson, students will connect with collections by categorizing objects, describing their own collection habits, assessing a collection dilemma, and solving a verbal logic puzzle involving word origins. The four components of this lesson offer accessible access points to the topic of museum collections by starting discussions with that which is familiar.

The "Tissue Box Treasure" activity requires students to find similarities and sort items. Additionally, students will discuss which word from a thesaurus list (stuff vs. treasures) best describes the items in the box. As students work together to examine, compare, debate, and justify their selections, they will come to understand that words connote the importance of objects.

"Connection Reflection" links student with objects by drawing from personal collections. Prompting students to generate reasons for collecting begins a conversation about the importance of collections.

Through storytelling, "Collection Dilemma" invites students to react through perspective taking and solve a conflict about using or preserving.

The "Name Game" is a verbal logic puzzle which also exposes students to an array of objects that individuals or museums collect. In order to solve the puzzle, which involves matching pictures of objects with the term for a person who collects such objects, students will analyze Latin and Greek root words. (Example: xylographer comes from the Greek root words xylon, meaning wood, and graph, meaning drawn. Thus, it follows that a xylographer collects drawings on wood or engraved wood.)

Bloom's Taxonomy of Thinking Skills

Knowledge
Comprehension- Describing, Discuss
Application- Solving
Analysis- Categorizing, Sort, Examine, Compare, Debate, Analyze
Synthesis- Generate
Evaluation- Assessing, Solving, Justify, Solve

Museology Lesson Three: The Smithsonian

Summary/Objective

By researching the Smithsonian and constructing a scale model of the National Mall using recycled materials, students will gain knowledge about the world's largest museum complex while developing mathematical, research, and presentation skills. Students will create a tour script and use a museum floor plan to plot out a virtual visit for the class. Students will then act as guides and lead the class on a museum tour which will include a brief outline of the museum's history, an explanation of what the museum collects and researches, and descriptions of the three artifacts the student selected as important.

In addition to the "Tour Guide Project," four other activities provide learning opportunities in this lesson "Going to The Mall" is a map-reading activity during which students compare two map displays in order to identify Smithsonian Museums on the National Mall. During the scale model component, titled "Modeling the Mall with Math," students will measure materials, estimate sizes, and solve math problem, as they work to build a scale model. By reading the

story of the founder of the Smithsonian, complete with a transcript of James Smithson's Will, students will practice reading comprehension and gain historic context. Students will brainstorm, justify, and debate during "Museums and the Mall" which asks what kinds of museums should represent the nation and what artifacts hold national importance.

Bloom's Taxonomy of Thinking Skills
Knowledge- Outline, Identify
Comprehension- Explanation, Descriptions, Estimate
Application- Constructing, Measure, Solve
Analysis- Selected, Compare, Debate
Synthesis- Create, Plot, Build
Evaluation- Justify

Museology Lesson Four: Audience Research

Summary/Objective

By taking the role of audience researchers, students will experience the growing field of visitor studies. Students will utilize a technique called Tracking and Timing to analyze playground usage at their school. During this lesson students will hypothesize based on personal experience, record observations, compile and graph data, and then document their conclusions in a report or persuasive writing piece. In addition to the above mentioned skills, this lesson offers students practice timekeeping, adding, averaging, and perspective taking.

Bloom's Taxonomy of Thinking Skills
Knowledge- Record, Compile
Comprehension- Graph
Application- Report
Analysis- Analyse
Synthesis- Hyposthesize
Evaluation- Conclusions

Museology Lesson Five: Labels Part I

Summary/Objective

This lesson provides guided practice in comparing and evaluating signage as a means of learning the art of label writing. Starting with a postcard analogy, students will identify aspects of effective succinct writing. Students will demonstrate their knowledge by recognizing five aspects of effective label writing in sample museum signs. Students will then analyze museum signage and design revised versions that employ the label-writing standards identified earlier.

Bloom's Taxonomy of Thinking Skills
Knowledge- Identify
Comprehension- Recognizing
Application- Employ
Analysis- Compare, Analyze
Synthesis- Design
Evaluation- Evaluating

Museology Lesson Six: Labels Part II

Summary/Objective

This lesson provides students a context in which to practice the art of label writing. Students will apply the label writing standards they identified in Part I to create labels for toys that have been inducted into the Toy Hall of Fame. Each student will read and paraphrase the information provided about one toy. Then students will compose toy labels that demonstrate their knowledge of effective label writing.

Additionally, students are asked to carefully examine a stick and to imagine how the stick might be described on labels from different types of museums (science vs. history). By comparing potential labels about a single object, students will recognize the power of labels and the importance of the story behind the object.

Bloom's Taxonomy of Thinking Skills
Knowledge - Identified
Comprehension- Paraphrase, Described
Application- Apply
Analysis- Examine
Synthesis- Create, Compose
Evaluation - Comparing

Lesson Set Assessment

Lesson summaries/objectives, like those in the section above, were sent to museum-schools by way of Survey Monkey for review. The following question accompanied each lesson summary: "Having read this lesson objective, on a scale of 1 (not at all) to 5 (enthusiastic yes), can you see your school using this lesson? Please explain."

Lesson four, which involves doing audience research on the playground, received a rating of three by a school that does not have a playground. All other ratings on that and the other lessons were exclusively 4s and 5s. Below are the resulting comments:

Lesson One: Average Rating 5

- Higher order thinking skills required.
- Museums and related institutions are complex organizations that serve many potential roles. Understanding all of the components can help students understand these complexities even better.
- Students would be engaged both from experience and from learning about defining a museum.

Lesson Two: Average Rating 4.75

- Inquiry-based instruction encouraged
- Many museums in the U.S. started as a personal collection, so it can be very powerful.
- Students regularly engage in collaborative learning. Having actual objects to touch and inspect would add further depth and richness to the discussion.

Lesson Three: Average Rating 4.75

- Multiple content areas and academic proficiencies fostered
- First-hand application is very important, and by blending other curricular areas (math, science, language arts) into the lesson, it hits on all of the key needs of both teachers and students.
- We would add an additional component and incorporate this lesson into a "Museum Night" where families would attend and students would act as docents.

Lesson Four: Average Rating 4.25

- We do not have a playground; however this lesson might be able to be modified for our usage
- Again, multidisciplinary approach is key here. If only more museums would take the time to practice their own visitor studies...
- This lesson is timely and relates to real-world experiences for the children.

Lesson Five and Six: Average Rating 4.5

- Writing for various purposes is highly encouraged. Technical writing is often an ignored technique; this promotes that.
- VERY enthusiastically. "Summarizing the main idea" is a key standard in just about every state's curriculum requirements. Again, many museums could also learn a lesson here.
- Great lesson - These lessons fit with the curriculum.

Conclusion

With four museum-schools added to the educational landscape in just 2010 and another two expected to open for the 2011-2012 school year, the state of museum-schools continues to change. Trying to describe the known 32 museum-schools in the nation within a singular definition is difficult given the variety of school and educational structures in place. While the philosophy and pedagogy that tie these schools together is not consistently articulated, this thesis project supplies an updated picture of the nation's museum-schools and provides terminology to categorize them. The Core Elements Schema, may assist schools in placing themselves within

the landscape of museum-schools. Additionally, this thesis project provides the seed for a unifying museology curriculum. This series of six museological lessons is intended to facilitate a greater understanding of the field with which these schools share a name. Perhaps an element of this work will contribute to a unifying definition of museum-schools in the future.

Bibliography

Borden, R.B. (2000). Museum Schools. Master's Thesis, Curry School of Education, University of Virginia.

Butterfield, K. (1998). Partners in the arts. *Museum News*, Sept/Oct. Retrieved from http://www.aam-us.org/pubs/mn/MN_SO98_MuseumCharter.cfm

Commission Charter (2009). Charter for the Museum School of Avondale Estates. Retrieved from http://gcsc.georgia.gov/vgn/images/portal/cit_1210/16/20/165253509The%20%20Museum%20School%20of%20Avondale%20Estates.pdf.

Forehand, M. (2005). Bloom's taxonomy: Original and revised.. In M. Orey (Ed.), Emerging perspectives on learning, teaching, and technology. Retrieved May 31, 2011, from http://projects.coe.uga.edu/epltt/

Finnerty, K.O. (1996). Introduction to a museum school: the museum process as pedagogy, *Journal of Museum Education*, 21 (1), 6-10.

Fortney, K., & Sheppard, B. (Eds.). (2010). *An Alliance of Spirit: museum and school partnerships.* Washington D.C.: The AAM Press.

Hein, G.E. (2004a). Museum-School Bridges: a legacy of progressive education, *ASTC Dimensions*, Jan-Feb 2004, http://www.astc.org/pubs/dimensions/2004/jan-feb/index.htm

Hein, G.E. (2004b). John Dewey and Museum Education, *Curator*, 47 (4), 413-427.

King, K.S. (1998). *Alternative educational systems: A multi-case study in museum schools.* Doctoral Dissertation, Indiana University. UMI Number 9834571.

Klein, C., Corse, J., Grigsby, V., Hardin, S., Ward, C. (2001). *A Museum School: building grounded theory as two cultures meet.* Paper presented at the Annual Meeting of the American Educational Research Association. http://www.eric.ed.gov/PDFS/ED456030.pdf

Lord, B. (Ed.), (2007). The Manual of Museum Learning. Lanham, MD: AltaMira Press.

Pittman, W. & Pretzer, W.S. (1998). The most public of public schools, *Museum News*, Sept/Oct. Retrieved from http://www.aam-us.org/pubs/mn/MN_SO98_MuseumCharter.cfm

Science Museum of Minnesota, (1996). Museum schools symposium 1995: Beginning the Conversation (Washington, DC.): Science Museum of Minnesota.

Phillips, M. (2006). Museum-Schools: hybrid spaces for accessing learning, Center for Informal Learning and Schools.

Websites

http://www2.ed.gov/parents/schools/choice/definitions.html
http://www.msapcenter.com/faq.aspx
http://www2.ed.gov/policy/elsec/leg/esea02/pg65.html

School Websites

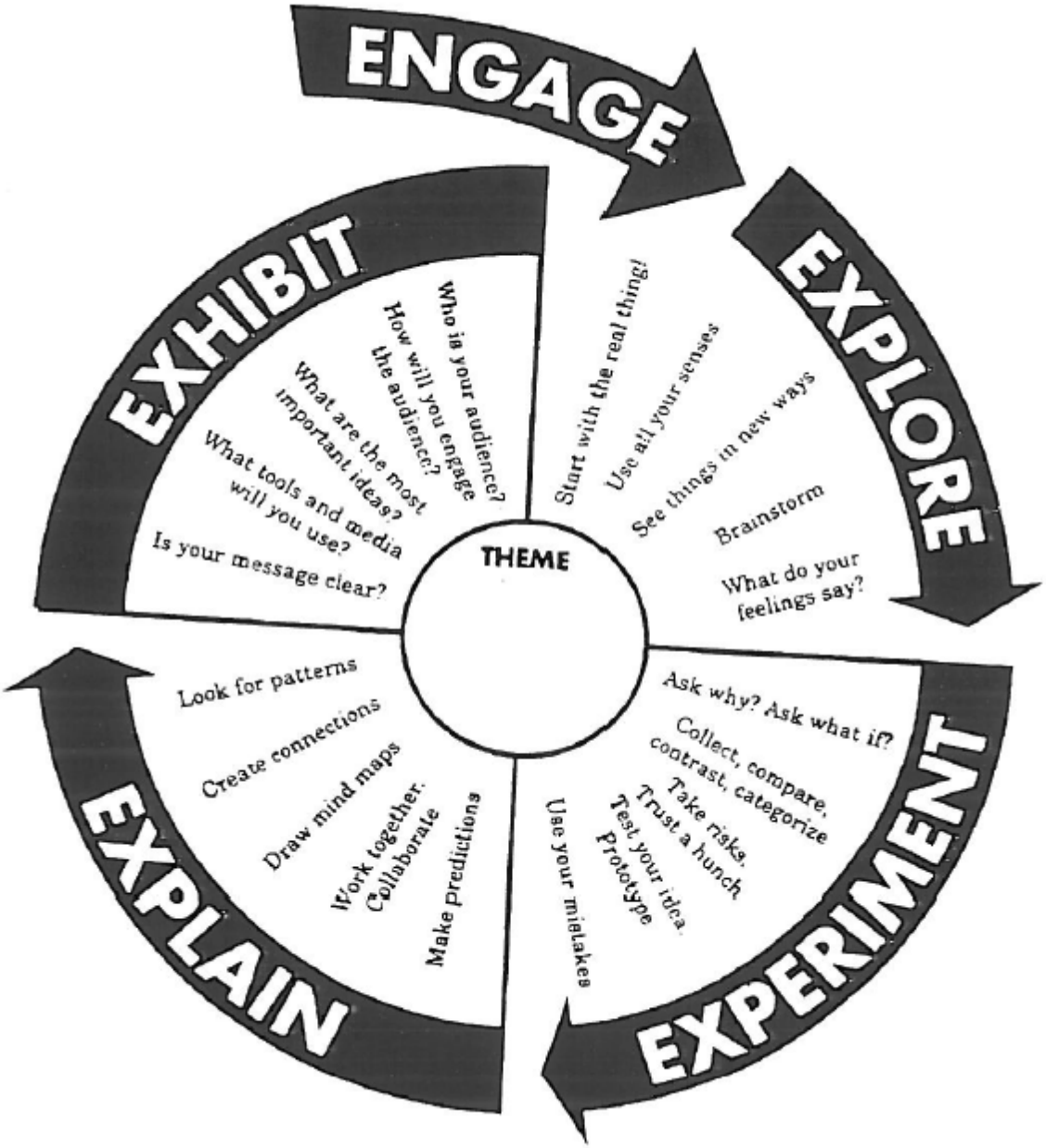
http://silverton.cps-k12.org/aboutus.htm
http://museum.spps.org/
http://www.buffaloschools.org/DrewScienceMagnet.cfm
http://www.tucsonmuseumofart.org/education/school-for-visual-arts.php
http://brentelementary.org/
http://www.nycmuseumschool.net/
http://schools.nyc.gov/SchoolPortals/02/M414/AboutUs/Overview/Our+Mission.htm
http://www.capitolhillclusterschool.org/our-schools/stuart-hobson-middle-school
http://www.explorismiddleschool.org/
http://museumschool.org/
http://www.arroyosecomagnet.org/
http://www.fcps.edu/HuntersWoodsES/ceta.htm
http://www.pbmm.org/Academy.htm
http://ps25.ypschools.org/
http://www.yonkerspublicschools.org/schools/schools_museum25.php
http://www.gccschool.org/
http://brookses.wcpss.net/
http://www.normalparkmuseummagnet.com/
http://mooresquarems.wcpss.net/
http://www.californiasciencecenter.org/Education/ScienceCenterSchool/ScienceCenterSchool.php
http://www.sps.springfield.ma.us/schoolsites/brookings/default.asp
http://southside.dadeschools.net/
http://shenandoahmiddle.dadeschools.net/index2.html
http://shenandoahmiddle.dadeschools.net/museums_magnet.asp
http://www.mcmcharter.com/
http://www.newhavenmagnetschools.com/index.php/beecher
http://silverton.cps-k12.org/ourstaff.htm
http://www.duvalschools.org/ortega/magnet.htm
http://www.themuseumschool.org/
http://www.mnps.org/Page52689.aspx
http://www.uplifteducation.org/laureateprep/site/default.asp
http://www.discoverymuseum.org/about/about/about/magnet.html
http://www.johnearlyms.mnps.org/site148.aspx
http://schools.nycenet.edu/region7/ps104/
http://www.talcottfama.org/

APPENDIX A
Abridged Museum-School Database

School Name	Address	City	State	School District/ Oversight	Level	# Students	Charter/Magnet	First Year	Campus
Museum School for the Visual Arts	140 N. Main Avenue, 85701	Tucson	AZ	Tucson Unified School District	9-12	30	Alternative Ed	1993	2006-In Museum
Arroyo Seco Museum Science Magnet	4805 Sycamore Ter, 90042	Los Angeles	CA	Los Angeles Unified School District	K-8	560	Magnet	~1998	Off Site
Dr. Theodore T. Alexander California Science Center School	3737 South Figueroa St., 90007	Los Angeles	CA	Los Angeles Unified School District	K-5	620	Charter	2004	adjacent
The Museum School, San Diego	211 Maple Street, 92103	San Diego	CA	San Diego Unified School District	K-6 (7 added 2011, 8 in 2012)	140	Charter	1998	Off Site since 2002
Discovery Museum Magnet School	4450 Park Avenue, 06604	Bridgeport	CT	Bridgeport Public Schools	PreK-8	500	Magnet	2011*	Museum Campus
L.W. Beecher Museum School of Arts and Sciences Interdistrict Magnet	100 Jewell Street, 06515	New Haven	CT	New Haven School District	PreK-8	620	Magnet	2007	Off Site
Robert Brent Elementary	301 North Carolina Ave SE, 20003	Washington	DC	District of Columbia Public Schools	PreK-6	350	Neighborhood	1996	Off Site
Stuart-Hobson Museum Magnet Middle School	410 E St NE, 20002	Washington	DC	District of Columbia Public Schools	5-8 (2011 switch to 6-8)	399	Magnet	1997	Off Site
Miami Children's Museum Charter School	980 McArthur Causeway, 33132	Maimi	FL	Miami-Dade County Public School	K-5	245	Charter	2006	In Museum
Ortega Elementary Museum Magnet School	4010 Baltic St, 32210	Jacksonville	FL	Duval County Public Schools district	K-5	330	Magnet	2010	Off Site
Palm Beach Maritime Academy	7719 South Dixie Highway, 33405	West Palm Beach	FL	Palm Beach County Public Schools	K-8	325	Charter	2000	Off site
Shenandoah Middle School Museums Magnet	1950 S.W. 19 Street, 33145	Miami	FL	Dade County Public Schools district.	6-8	1000	Magnet	2005	Off Site
Southside Elementary Museums Magnet School	45 SW 13th St, 33130	Miami	FL	Dade County Public Schools district.	PreK-3	600	Magnet	2005	Off Site
The Museum School, Avondale Estates	3191 Covington Highway, 30002	Avondale Estates	GA	Commission approved charter	K-3 (growing annually to 8)	133	Charter	2010	Off-Site
Talcott Fine Arts and Museum Academy	1840 W Ohio St, 60622	Chicago	IL	Chicago Public Schools	PreK-8	550	Magnet	2005	Off Site
Elias Brookings Expeditionary Learning Museum Magnet School	367 Hancock Street, 01105	Springfield	MA	Springfield School District	K-5 (6-8 phased out in 2010)	392	Magnet	2004	Off-Site
The Museum Magnet School/Rondo	560 Concordia Ave, 55103	St. Paul	MN	St. Paul Public School District	PreK-6	340	Magnet	1990	Off Site
Brooks Elementary	700 Northbrook Dr, 27609	Raleigh	NC	Wake County Schools district	K-5	580	Magnet	2002	Off Site
Exploris Middle School [no longer ID with term Museum-School]	401 Hillsborough Street, 27603	Raleigh	NC	Wake County Schools district	6-8	194	Charter	1997	Off Site since 2008
Moore Square Museum Magnet Middle School	301 South Person Street, 27601	Raleigh	NC	Wake County Schools district	6-8	600	Magnet	2002	Off Site
Dr. Charles Drew Science Magnet, Museum Site PS 59	1 Martin Luther King Jr. Park, 14211	Buffalo	NY	Buffalo City School District	3-8	475	Magnet	1990	Museum Campus
Genesee Community Charter School at the Rochester Museum	657 East Ave, 14607	Rochester	NY	Rochester City School District	K-6	210	Charter	2001	Museum Campus
Museum School (of the arts and sciences) #25	579 Warburton Ave, 10701	Yonkers	NY	Yonkers City School District	PreK-6	450	Magnet	2001	Off Site, close
NYC Museum School #414	333 W 17th St, 10011	Manhattan	NY	New York City Department of Education	9-12	433		1996	Off Site
The Magnet School of Museum Studies (P.S. 104 The Fort Hamilton School)	9115 5th Avenue, 11209	Brooklyn	NY	New York City Department of Education	K-8	1200	Magnet		Off Site
Silverton Paideia Academy	6829 Steward Rd 45236	Silverton	OH	Cincinnati Public Schools	PreK-6	370	Maget	2009	off site
Chattanooga Middle Museum Magnet	1219 West Mississippi Ave, 37405	Chattanooga	TN	Hamilton County School District	4-8	(800)	Magnet, zoned	2008	Off Site
John Early Museum Magnet Middle Schol	1000 Cass Street, 37208	Nashville	TN	Metropolitan Nashville Public Schools	6-8	360	Magnet	2011*	Off Site
Normal Park Museum Magnet Elementary School	1009 Mississippi Ave, 37405	Chattanooga	TN	Hamilton County School Distrct	K-3	(800)	Magnet, zoned	2002	Off Site
Robert Churchwell Museum Magnet Elementary School	1625 Dr. D. B. Todd Jr. Blvd., 37208	Nashville	TN	Metropolitan Nashville Public Schools	PreK-5	473	Magnet	2010	Off Site
Laureate Preparatory an Uplift Education Museum School	2020 N Lamar, 75202	Irving	TX	Peak Preparatory School District	K-2 (goal-8)	110	Charter	2010	Off Site, close
Hunter Woods Elementary for the Arts and Sciences	2401 Colts Neck Road, 20191	Reston	VA	Fairfax County Public Schools	K-6	900	Magnet	1999	Off Site

APPENDIX B

MUSEUM WHEEL



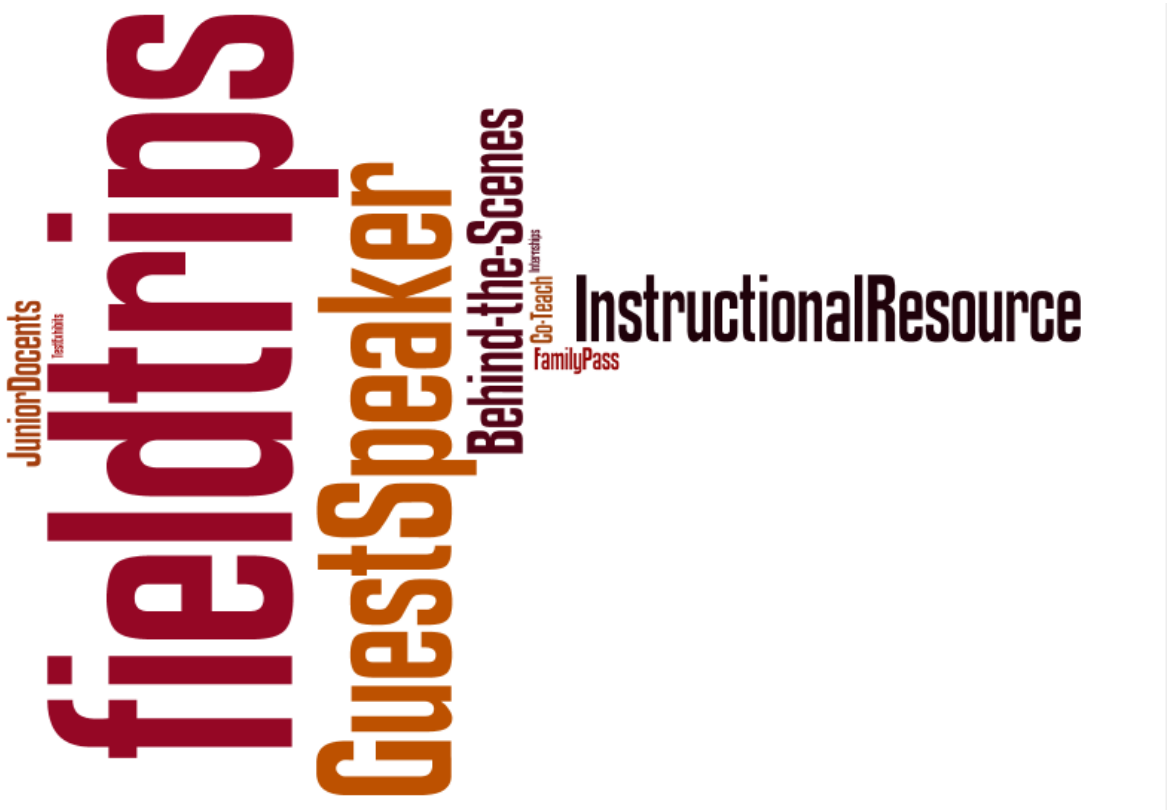
APPENDIX C

Sample Database Questions

1) When did your school receive its magnet or charter designation?
2) About how many students does your school currently serve?
3) Does your school partner with any local museum or cultural institutions?
4) In what ways do your students engage with museums or their staff?
5) In what ways are museums incorporated into classroom curriculum?
5) Can you estimate the number of school-hours your students spend in museums?
6) Does your school have a particular philosophy or curricular model?
7) How would you define a "museum-school"?
8) Does your school identify itself as a museum-school?
9) What area of museum work/museum topic would you like to see incorporated into school curricula?

APPENDIX D

Word Cloud of Museum-School Interaction



APPENDIX E
Arroyo Seco's Guiding Principles

Museum Science is not an autonomous discipline but a comprehensive set of interdisciplinary strategies for the formal study of the museum as a site of cultural and scientific authority. Modern Museum Science is concerned with the study of the science of museums – the intricate network of systems, regulations, and practices that museums depend upon to develop, execute, and sustain their missions. At Arroyo Seco Museum Science Magnet School (ASMSM) we analyze the everyday workings of museums to understand how they perform their missions.

The 7 Guiding Principles of Museum Science at Arroyo Seco

Arroyo Seco Museum Science Magnet developed an original guiding framework, in close collaboration with museum directors, curators, and scholars, organized around seven ethical principles for museums.

I. Acquiring artifacts—Museums have an ethical duty to acquire artifacts consistent with their theme and purpose from our collective natural, cultural, historical, and scientific heritage. They have a legal and moral responsibility to ensure that artifacts in their possession and accessioned into their collection were acquired by legal means, certify their provenance and to preserve and protect the cultural and natural contexts from which they were acquired.

II. Researching artifacts—Museums have a responsibility to identify, research and understand the significance of artifacts within their collection and presented to them for analysis. Museums research the history of individual artifacts to determine their origin and establish verfiable relationships with other items in their collection.

III. Cataloging artifacts—Once accepted into their collections, it is the responsibility of the museum to catalog each individual artifact, accurately maintaining records of its origins, history, circulation and location within the museum, and making their inventories accessible to research and archival activities.

IV. Conserving/Preserving artifacts—Museums are responsible for maintaining the physical integrity of artifacts within their collection for preservation, conservation, and public display. Museums employ or retain conservation scientists to mitigate the environmental effects of storage and exhibition on artifacts and to protect them from further damage. They analyze such factors as light, temperature, humidity, chemical composition, insect activity and human contact that contribute to artifact destruction.

V. Displaying/Exhibiting artifacts—Museums have an ethical responsibility to present artifacts in their possession for public access and inquiry. Curators are tasked wth developing narratives, assembling and demonstrating contextual relationships between individual artifacts from the collection to tell particular stories. Museums are morally accountable for the accuracy of their presentations, and do so through conscious and deliberate analysis of aesthetic theory, scientific principle, historical chronology and responsible cultural representation. Curators determine the number and type of artifacts selected and the way that artifacts are displayed—from the background colors used, to the type of display case, from the explanation of their origin and the process of acquisition, to the meaningful implications of the actual, physical arrangement of artifacts within an exhibit and their distribution throughout the museum's facilities. They are responsible for transmitting the thematic interests while maintaining the integrity of associated disciplines, anticipating the impact of representation on the formation of meaning and reconciling the consequences of presentation with the development of knowledge.

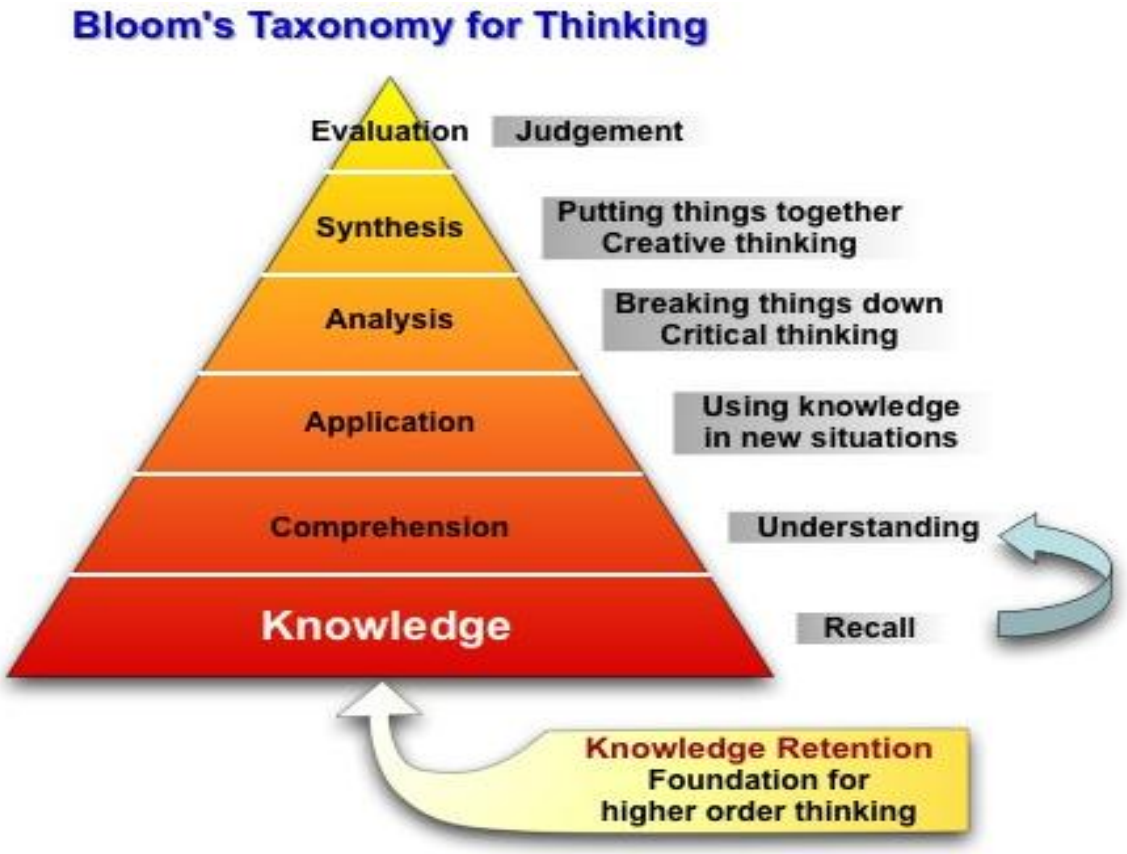
VI. Educating the public about artifacts—Museums have a responsibility to educate the public about the artifacts in their collection and to support research that enhances our collective knowledge. Museums meet this mission through written text in object labels and educational pamphlets, sponsoring internships and residency programs for scholars and students, developing effective outreach programs and by providing opportunities for direct interaction between museum educators and visitors.

VII. Maintaining a fiduciary trust—Museums have a direct obligation to oversee the interests and investment of their trustees. They also have a ethical duty to ensure that these interests are superseded by their public obligation to preserve and exhibit artifacts, and their integrity, to safeguard our collective natural, cultural, and scientific heritage. Museum practices must conserve the material value of natural resources, demonstrate respect for the intended or symbolic usage of cultural artifacts, ensure that their display promotes a universal respect for human dignity and a holistic understanding of the relevant historical contexts of the cultures and traditions that produced the artifact.

http://www.arroyosecomagnet.org/apps/pages/index.jsp?uREC_ID=57922&type=d&termREC_ID=&pREC_ID=85254

APPENDIX F

Bloom's Taxonomy



http://www.uvm.edu/~cdisorda/blooms.html

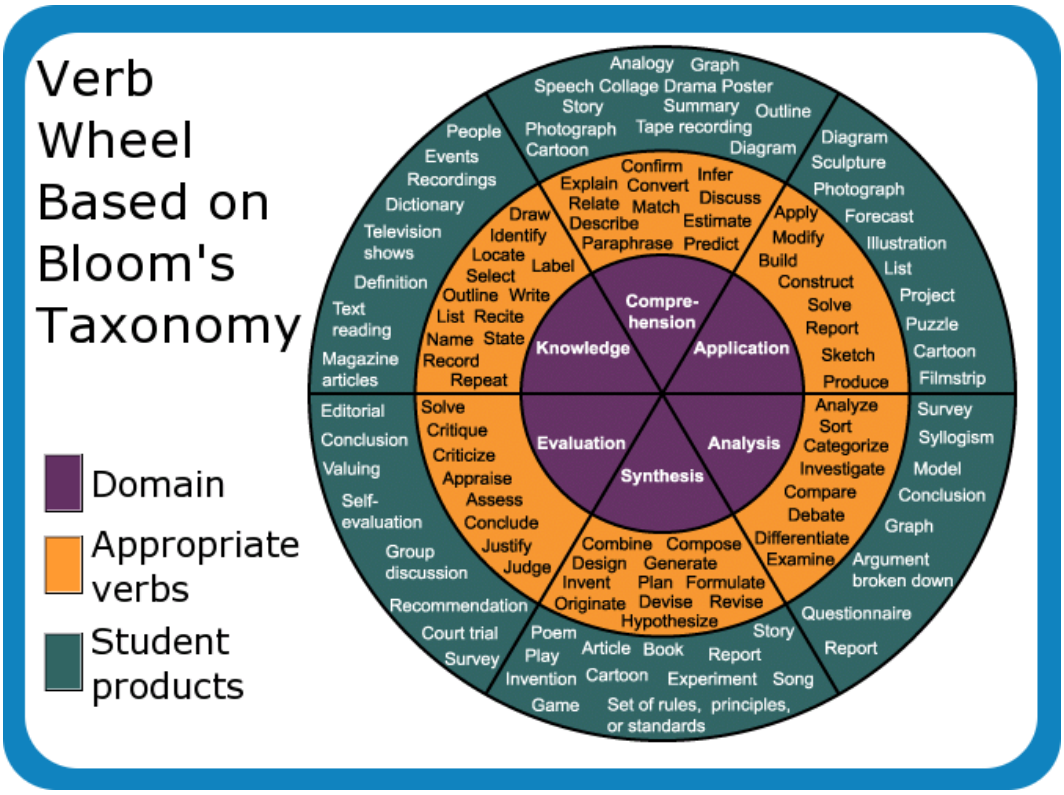
Bloom's Taxonomy of Measurable Verbs

Benjamin Bloom created a taxonomy of measurable verbs to help us describe and classify observable knowledge, skills, attitudes, behaviors and abilities. The theory is based upon the idea that there are levels of observable actions that indicate something is happening in the brain (cognitive activity.) By creating learning objectives using measurable verbs, you indicate explicitly what the student must do in order to demonstrate learning.

Verbs that demonstrate *Critical Thinking*

KNOWLEDGE	COMPREHENSION	APPLICATION	ANALYSIS	SYNTHESIS	EVALUATION
List	Discuss	Dramatize	Diagram	Design	Justify
Name	Explain	Employ	Differentiate	Devise	Measure
Recall	Express	Illustrate	Distinguish	Formulate	Rate
Record	Identify	Interpret	Examine	Manage	Revise
Relate	Recognize	Operate	Experiment	Organize	Score
Repeat	Restate	Practice	Inspect	Plan	Select
State	Tell	Schedule	Inventory	Prepare	Support
Tell	Translate	Sketch	Question	Propose	Value
Underline		Use	Test	Setup	

http://www.llcc.edu/LinkClick.aspx?fileticket=%2F0BA4qlDaAE%3D&tabid=3938



http://zaidlearn.blogspot.com/2009/07/use-blooms-taxonomy-wheel-for-writing.html

APPENDIX G

Museology Lesson Set

Museology Lesson One: Defining Museum

The Muses

Pic: http://www.thearchetypalconnection.com/Numbers%20as%20Archetypes.htm

Museology Lesson One
Defining Museum

Objective

Students will **develop** and **articulate** a class definition of 'museum,' after **evaluating** which components or 'ingredients' define museums with the assistance of an analogy about baking a cake. Through a tactical activity, students will **test** and **discuss** their definitions by **comparing** the museum components they **selected** to familiar institutions such as a park, library, and zoo. Based on these tests, students will then **modify** their definitions and **compose** a class definition of 'museum' through **group discussion**. By participating in this lesson, students will join a continuing conversation in the museum field. This lesson also sets the groundwork and provides a common language for further museum lessons.

Bloom's Taxonomy of Thinking Skills

Knowledge- Select
Comprehension- Articulate, Discuss
Application- Modify
Analysis- Test, Compare
Synthesis- Develop, Compose
Evaluation- Evaluating, Group Discussion

Contents:

Lesson Script (3 pages)
Worksheet – A Piece of Cake
Worksheet – Museum Cupcakes
Worksheet – Defining Museums
Museum Ingredient Cards
Cupcake Liner Labels (2 pages)

Materials:

crayons/markers
1 large mixing bowl
1 set of museum ingredients cut out, per group
1 cake pan, per group
1 set of labeled cupcake liners, per group

The Muses

The word 'museum' references the Muses. In Greek Mythology the Muses were the nine daughters of Zeus. These young goddesses watched over literature and the arts: poetry, tragedy, comedy, the epic, history, dance, music, and astronomy. The first organized museum, which was founded at Alexandria, Egypt in the 3rd century BC, was not focused on objects; instead it was a knowledge community, similar to a university. The word museum was first applied to a collection of objects in 15th century Florence, Italy. These European museums were primarily private collections, not typically open to the general public. It was not until the late 1700s that museums became the public institutions known today.

Gary Edson and David Dean, The Handbook for Museums (New York: Routledge, 1996), 3-4.

Lesson One: Defining Museums
Sample Teacher Script

Draw a picture of a cake.

Today is _____ (insert birthday/occasion), so we're going to start with a little celebration! Go ahead and take a sheet of paper and a crayon, or marker, and draw a picture of a cake. Don't worry if your picture isn't perfect. Next you're going to write a quick list of the ingredients you'd need to make your cake. Feel free to title your cake as well.

Let's talk cake!

_____, can you read some of the ingredients off your list? As _____ reads his/her list put your hand in the air each time you hear an ingredient that would also be used in your cake.

Note on the board the ingredients that appear on the student lists often, sometimes, and rarely. Below are a few more ideas:

Flour	Eggs	Milk	Cinnamon
Sugar	Butter	Dried Fruit	Carrots
Cream Cheese	Nutmeg	Graham Crackers	Nuts
Frosting	Pudding	Powdered Sugar	Pineapple
Sprinkles	Vanilla	Chocolate Chips	Peppermint

Think about all of the different types of cake. With so many differences, what is it that allows us to categorize all of these items as cake? What about cake is always the same? Even these…..

Cupcake	Carrot Cake
German Chocolate Cake	Fruit Cake
Birthday Cake	Pound Cake
Cheesecake	Pineapple Upside-down Cake
Pancake	Flourless Chocolate Cake

Define cake

Write a unifying definition for cake. It might help to think about other characteristics of cake, in addition to the ingredients.

Looking at/Listening to your definitions of 'cake' I see that you all really worked to distill the essence of cake. I've read a few that hold to an essential ingredient, like sugar. Others look at the whole rather than the ingredients and see the common feature is the end product: a bread-like food. I also see a shift from what cake is made of to the purpose it serves.

Commonalities:

- Ingredient: sugar
- Process: baked
- Product: bread-like
- Function: dessert

Note: If students mention savory cakes such as crab cakes, etc. that's okay…. just adjust

- Ingredient: flour or sugar
- Process: mixed and cooked
- Product: flat, round shape
- Function: food

Lesson One: Sample Script
Museum Cupcakes

Now in this bowl I have another list of ingredients: the ingredients of a museum.

Dinosaurs	Planetarium	Stairs
Exhibits	Security Guards	Bones
Animals	Costumes	Docents
Tours	Arts and Crafts	White Walls
Shows/Talks	Plants	Facts
Café	Curators	Movies
Shop	Glass Cases	Volunteers
Knowledge	Sculptures	Admissions Tickets
Paintings	Artifacts	Visitors
Dust	Computers	Science Experiments
Labels	Models	Stories

As a group, try to agree upon the essential ingredients for a museum.

As you work through this problem use the cake pan on your table to sort your ideas.

1. Choose some of the ingredients and put them in the cake pan.
2. Does that grouping of ingredients define a museum? Discuss as a group.
3. Once you have your final group of ingredients ready, put them to the test.

Taste Test!

Compare your list of ingredients to each cupcake. Cross out the places that cannot be considered museums according to your ingredient list.

History Museum	**Sports Hall of Fame**	Your Bedroom
Playground	**Zoo**	Post Office
Arboretum	Amusement Park	School
Haunted House	Library	**Science Center**
National Park	**Aquarium**	**Art Museum**
Children's Museum	Antique Store	White House

The cupcake liners symbolize different places, such as a Zoo, Park, or Library. Your next task is to see if the essential ingredients you selected fit the mold. For example, if I said that museums contain exhibits, bones, and visitors. I put these ingredients in the Science Center cup and decide if I have a match. A Science Center does contain those elements. I test my ingredients again and find that according to my list a Haunted House could also be a museum! Oops.

Note: The institutions in the list above that appear in bold are commonly considered to be museums.

Mixed Up!

As in the cake exercise, perhaps there are factors other than ingredients we should consider.

Our goal is to come up with a definition for museum that solely identifies institutions we consider to be museums. Seeing how professional organizations identify museums will help us complete the chart below and help us craft a class definition for museums.

Read one of the definitions below. As you read, highlight the key words that might help us define museum. [Here in the teacher version key words have been underlined.]

The International Council of Museums (ICOM) defines a museum as:

- A non-profitmaking, permanent institution in the service of society and of its development, and open to the public, which acquires, conserves, researches, communicates and exhibits, for purposes of study, education and enjoyment, material evidence of people and their environment.

The federal government in the Museum and Library Services Act defined a museum as:

- A public or private nonprofit agency or institution organized on a permanent basis for essentially educational or aesthetic purposes, which, utilizing a professional staff, owns or utilizes tangible objects, cares for them, and exhibits them to the public on a regular basis.

The American Association of Museums says this of museums:

- American museums are infinitely diverse. The AAM *Code of Ethics for Museums* notes that their common denominator is making a "unique contribution to the public by collecting, preserving, and interpreting the things of this world."

  The code also acknowledges the variety of sizes and types of museums: "Their numbers include both governmental and private museums of anthropology, art history and natural history, aquariums, arboreta, art centers, botanical gardens, children's museums, historic sites, nature centers, planetariums, science and technology centers, and zoos."

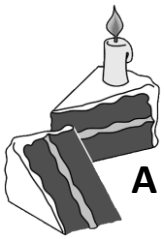
Complete this chart based on the common features in the above definitions

Essential	**Cupcake**	**Museum**
Ingredient	Sugar	Artifacts
Process	Baked	Cared for and Exhibited
Product	Bread-like food	Public Institution
Function	Dessert	Educational

Class Definition:

museum /myōōze´e∂m/ *n.*

(Example: A place that collects, cares for, researches, and displays objects in order to inform and teach the public)



Name_____

A piece of Cake

Draw a picture of a cake	**Ingredients:**

Let's talk cake!
Fill in the chart as you listen to the cake ingredients each person lists.
Which ingredients are mentioned often, sometimes, and rarely?

Often	Sometimes	Rarely
Eggs	Chocolate Chips	Carrots

Mix it up!
Have you considered these cakes? With so many differences what is it that allows us to categorize all of these items as cake?

Cupcake	Fruit Cake	Pancakes
Carrot Cake	Cheesecake	Flourless Chocolate Cake

Define cake
Write a unifying definition for cake. It might help to think about other characteristics of cake, in addition to the ingredients. What about cake is always the same?

cake /kayk/ *n.*

Name_____

Museum Cupcakes

What are the essential ingredients of a museum?

As you work through this problem, use the cake pan on your table to sort your ideas.

1. Choose some of the ingredient cards and put them in the cake pan.
2. Does that grouping of ingredients define a museum? Discuss as a group.
3. Once you have your final group of ingredients ready, put them to the test.

Taste Test!

Compare your list of ingredients to each cupcake. Cross out the places that cannot be considered museums according to your ingredient list.

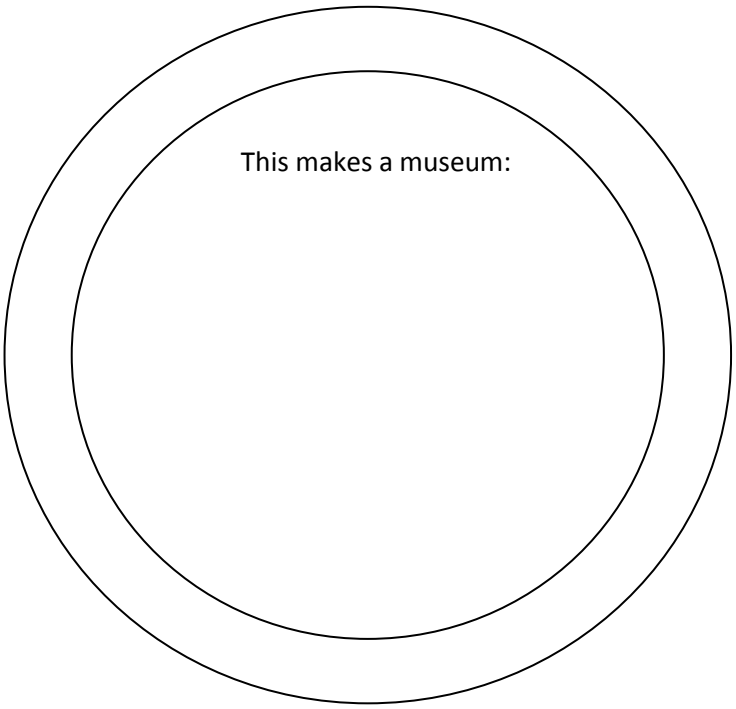
History Museum	*Sports Hall of Fame*	*Your Bedroom*	*Playground*	*Zoo*	*Post Office*
Arboretum	*Theme Park*	*School*	*Haunted House*	*Library*	*Science Center*
National Park	*Aquarium*	*Art Museum*	*Children's Museum*	*Antique Store*	*The White House*

Mixed Up!

Want to make some changes to your essential ingredients?

As in the cake exercise, perhaps there are factors other than ingredients that we should consider.

In the cake pan to the right, write down your final essential ingredients and other ideas of what makes a museum.



Name_____

Defining Museum

Read one of the definitions below.

As you read, highlight the key words that might help us define 'museum.'

The Muses

The International Council of Museums (ICOM) defines a museum as:

- A non-profitmaking, permanent institution in the service of society and of its development, and open to the public, which acquires, conserves, researches, communicates and exhibits, for purposes of study, education and enjoyment, material evidence of people and their environment.

The federal government in the Museum and Library Services Act defined a museum as:

- A public or private nonprofit agency or institution organized on a permanent basis for essentially educational or aesthetic purposes, which, utilizing a professional staff, owns or utilizes tangible objects, cares for them, and exhibits them to the public on a regular basis.

The American Association of Museums says this of museums:

- American museums are infinitely diverse. The AAM *Code of Ethics for Museums* notes that their common denominator is making a "unique contribution to the public by collecting, preserving, and interpreting the things of this world."

Complete this chart based on the common features in the above definitions

Essential	**Cupcake**	**Museum**
Ingredient	Sugar	
Process	Baked	
Product	Bread-like food	
Function	Dessert	

Class Definition:

museum /myōōze´e∂m/ *n.*

Museum Ingredients:
Copy and cut out for each group

Dinosaurs	**Planetarium**	**Stairs**
Exhibits	**Security Guards**	**Bones**
Animals	**Costumes**	**Docents**
Tours	**Arts and Crafts**	**White Walls**
Shows/Talks	**Plants**	**Facts**
Cafe	**Curators**	**Movies**
Shop	**Glass Cases**	**Volunteers**
Knowledge	**Sculptures**	**Admissions Tickets**
Paintings	**Artifacts**	**Visitors**
Dust	**Computers**	**Science Experiments**
Labels	**Models**	**Stories**

Cupcake Liner Labels: Page One

Cut out the circles below and place them in the bottom of cupcake liners for each group.
Options: Write the terms directly on the liners, or use circles in place of liners

History Museum	Sports Hall of Fame	Your Bedroom
Playground	Zoo	Post Office
Arboretum	Amusement Park	School

Cupcake Liner Labels: Page 2

Cut out the circles below and place them in the bottom of cupcake liners for each group.
Options: Write the terms directly on the liners, or use circles in place of liners

Haunted House

Library

Science Center

National Park

Aquarium

Art Museum

Children's Museum

Antique Store

The White House


Museology Lesson Two:
Collections

Museology Lesson Two
Collections

Summary/Objective

During the four segments of this lesson, students will connect with collections by **categorizing** objects, **describing** their own collection habits, **assessing** a collection dilemma, and **solving** a verbal logic puzzle involving word origins. The four components of this lesson offer accessible access points to the topic of museum collections by starting discussions with that which is familiar.

The "Tissue Box Treasure" activity requires students to find similarities and **sort** items. Additionally, students will **discuss** which word from a thesaurus list (stuff vs. treasures) best describes the items in the box. As students work together to **examine, compare, debate,** and **justify** their selections, they will come to understand that words connote the importance of objects.

"Connection Reflection" links student with objects by drawing from personal collections. Prompting students to **generate** reasons for collecting begins a conversation about the importance of collections.

Through storytelling, "Collection Dilemma" invites students to react through perspective taking and **solve** a conflict about using or preserving.

The "Name Game" is a verbal logic puzzle which also exposes students to an array of objects that individuals or museums collect. In order to solve the puzzle, which involves matching pictures of objects with the term for a person who collects such objects, students will **analyze** Latin and Greek root words. (Example: xylographer comes from the Greek root words xylon, meaning wood, and graph, meaning drawn. Thus, it follows that a xylographer collects drawings on wood or engraved wood.)

Bloom's Taxonomy of Thinking Skills

Knowledge
Comprehension- Describing, Discuss
Application- Solving
Analysis- Categorizing, Sort, Examine, Compare, Debate, Analyze
Synthesis- Generate
Evaluation- Assessing, Solving, Justify, Solve

Contents:

Lesson Script (4 pages)
Worksheet – Tissue Box Treasures
Word List
Worksheet – Collection Reflection
Worksheet – Name Game
Teacher Guide: Collector's Chart
Terminology Cards
Collectables Pictures
Word Origin Chart
Word Origins Two
STORY Sheet – Extension Activity

Materials:

Tissue Boxes, one per group
Assortment of items to fill tissue boxes (coins, buttons, tokens, game pieces, etc.)
Artifacts from local museum [for Extension]

Lesson Two: Collections
Sample Teacher Script

Tissue Box Treasures
Fill empty tissue boxes with odds and ends such as coins, buttons, stamps, leaves, game pieces, tokens, etc. Prepare one tissue box for each group.

Ask students to organize the contents of the box into groups. After a few minutes have them stop and sketch what they have done in Section One of "Tissue Box Treasures." This may look like a list, or contain picture, or be organized as a web or brainstorming chart.
How did you categorize or group the items?
What characteristics or features do the items in each group share?

Now the challenge is to completely rethink your work and organize the items based on a different set of characteristics.
As they sort, encourage your students to write their groups in Section Two of "Tissue Box Treasures."

Give each group the "Word List" or display it for the class, and begin a discussion about the connotations behind those words.
If you look up one of these words in a thesaurus other words on the list might show up, but do the words all mean the same thing? If you were to group these words which do you feel are most similar to one another? Look at the items on the table and try to group them according to this list.

Give your students time to select the words they feel describe the items in the tissue box and write them in Section Three "Word Choice."
What if these tissue box treasures were displayed in a museum, in cases, behind glass? Would that change the words you chose?

Collection Reflection: Your Collection
Stamps, rocks, leaves, coins, ticket stubs, baseball cards, people collect all sorts of things. On the "Collection Reflection" page students will think about what, how, and why people collect. After students have completed the "Your Collection" brainstorming box insert the Name Game activity.

Name Game
There are some great, long names for special collectors of certain items. Your students might find they have acquired a new title after this activity.

1. Pass out a set of Terminology Cards to each group
   The words may look scary, strange, or funny.
   Encourage students to find familiar parts in the words or patterns between words.
   Let them struggle through the problem a bit and see what they can discover.

Students may notice the common -phile, -ology, and –ist endings or link to other words. Here are some of the word links they might find or you can talk about together:

Aerophilatelist	**Aero**dynamic
Bibliophile	**Biblio**graphy
Conchologist	Conch Shell
Phil**lumen**ist	**Illumin**ate
	Lumos (Harry Potter Spell)
	Lumiere (candle stick in *Beauty and the Beast*)
Pyrographer	**Pyro**technics
Xylographer	**Xylo**phone

2. Pass out a set of Collectable Pictures to each group along with the Name Game worksheet
   It is okay if they do not recognize all of the items. That will be part of the problem-solving. Have students match each picture to its name (coins, stamps, eggs, etc.) as best as possible.
3. Ask the class what they have discovered so far.
   Perhaps, a student has written a bibliography for a research paper and is able to link the idea of a list of books with the word bibliophile. Bingo!
   [Note: Because this is difficult, move on to the next steps before students get too frustrated.]
4. Give each group the Word Origins Charts
   With this new knowledge, students should be able to get an idea of what each collectors' term means. The goal is to complete the Name Game chart by filling in the appropriate collector term that matches each object being collected. Even with the pictures and word origins to assist this will require some deductive reasoning.
   [This is a higher order thinking skills activity, so takes some time and effort.]

Now that the terms and pictures and collections are all matched up, see what collectors are in the room. How many **philatelist**s in the room? Do we have any **Arctophiles**?

If there is not a specific term for collectors of a particular item which a student collects, make one up. Students can have fun creating a name from their imagination. Word Origin Chart Two might also be useful in creating new collector terms.

Say it five times fast! Plangon still doesn't sound like 'doll.'

How did doll collectors come to be known as plangonologists?

Women were not allowed to act on stage in ancient Greek theatre. Instead, a wax figure that represented women actors was placed on stage. This figure was called a 'Plangon.' Over time the word came to mean a human figure, such as a doll.

The word 'plangon' comes from the word 'plasse' meaning "to form, shape mold or fashion." The word 'plastic' comes from this same root word.

Barbie could be called a plastic plangon, as could many other popular toys today.

http://www.plangon.webs.com/
http://www.freedict.com/onldict/onldict.php
http://www.online-dictionary.biz/english/latin/meaning/pencil

Collection Reflection: Why Collect

As your students' collections may grow through birthday gifts, purchases, hand-me-downs or trades, items for a museum collection are similarly acquired through gifts, purchases, bequeaths or loans.

What is your motivation for collection?

Why have you held onto those items?

Cabinets of Curiosities

People have been collecting things for eons for similar reasons. People collect items that look cool, are unique, or have special significance. By looking at these items closely, they can often teach us things about who made them, who owned them, or how the world once was.

During the 15th and 16th centuries, collections grew as explorers brought back foreign items from other lands. Wondrous items were acquired from all over the world. Some of the wealthiest people amassed extensive collections, collections so large an entire room might be dedicated to the collection. These came to be known as Cabinets of Curiosities.

However, not everyone was given access to these places of wonder. Often these collections were owned by individuals who only shared these treasure troves of novelties with friends and those of status. There was even an application process to enter the British Museum in the 1800s, and this process could take two or three days. [1]

Museums have changed in other ways too. Now museums have much more advanced scientific processes for storing and caring for collections. We know a lot more about materials, their properties and how they might chemically change over time. Thanks to our understanding of chemicals, special tape, paper, glass and other materials are used by museums to help care for items. Maintaining proper temperature and humidity is also important for the preservation of a collection.

In fact, much of a museum's collection is safely stored, not out in an exhibit. Typically, what you see in a museum is only 2% of the museum's collection. The other 98% is often in the basement or even an off-site storage facility. Collections are kept in elaborate storage systems that might look like rows upon rows of file cabinets or draws. [Show pictures on PowerPoint]

Some museums are re-organizing their collections to be visible to the public. This displaying of collections is called Open Storage. [Show pictures on PowerPoint.] The items in Open Storage are visible to museum visitors, but are typically without the full explanation an exhibit would provide.

[1] Sharon Macdonald, ed., A Companion to Museum Studies (Malden, MA: Blackwell Publishing, 2006). 126.

Collection Reflection: Collectable Dilemma

I am curious, what do people do with the stuff they collect?
Do you play with the items? Do you store your collection a special way?

Here is a scenario for you to consider. What would you do in this situation?

> You have made a wish-list for your birthday and you really, really want one particular item on that list. That item is expensive and hard to find, so you are not having a birthday party this year. Instead, you are asking your family to get you some of your wish-list gifts… though you would really be happy with just that one big gift!
>
> Leading up to your birthday you try to drop some hints and you make sure to pitch in and do all of your chores. Finally, your birthday arrives and it is time to open the presents. There is a pretty good size stack on the table. If you were going to get the prized gift, the stack would have to be smaller. Perhaps you'll be getting some birthday money though and can start saving up to buy the prized item yourself.
>
> You tear into the first box and thank the giver. You open the second bag and see that your family really did a great job this year! They even picked out some winners you didn't expect, but nobody bought you IT. There is just an envelope left on the table, a birthday card. You open it up. As you read the message your eyes widen…. look under the---- you run into the other room and take a look. There is one more box! Could this be IT?
>
> It is!!! You are so excited!!! You want to rip into the package, take off the cardboard, take it out of its plastic sleeve, and really get a look at it.
>
> "WAIT! No! Don't do that!," your family yells.
>
> You freeze!
>
> "You aren't going to touch it are you?"
>
> "What if you hurt it?"
>
> "If you use it, it will become worn and lose worth"
>
> You hadn't thought about this. Your free-wielding excitement was quickly turning into equally overwhelming confusion - weeks of anticipation and now just frustration.
>
> You agree to wait a day and think about your new collector's item before deciding what to do. For now, it is time to eat some cake….. not just look at it!

What would your decision be? Would you use it or save it? What would you consider in making this decision? What else would you want to know? Would you play with it if doing so adds personal value, but decreases market value?

Before writing their decisions down, students might find it helpful to have a discussion first. If the class does not naturally express a variety of opinions, ask them to try to see the situation from another perspective.

Collections: Artifact Extension

If a teaching collection is available for loan from a local museum, then this is a great opportunity for your students to practice observational and reasoning skills.

Call a local museum and ask for a "Teacher Trunk" or to borrow pieces from the "Education Collection" for use in your classroom. Let them know that you are looking for 6-10 items that may be handled carefully and are accompanied by some sort of brief description. Most museums will be eager to help and many have such a collection already on hand! Some not-so-local museums will even ship these items to you, so ask around.

Then print out a copy of "Share your Artifact's STORY." The STORY process encourages students to look closely at objects and helps them see objects in a narrative context.

Name_____

Tissue Box Treasures

Ah, a treasure trove! Sort the items in the box based on their shared characteristics.
They might have more than one thing in common, so there are a lot of possibilities!

1 Represent the groups you made	**2** Draw, list map your new groups
3 Word Choice: Which few words from the list do you think best apply to what you have been looking at in the box?	

Word List

Collections

Things

Items

Objects

Artifacts

Assets

Investments

Evidence

Specimens

Cultural Property

Possessions

Works

Pieces

Relics

Material Culture

Archives

Donations

Gifts

Resources

INSTILLATIONS

Stuff

Heritage

Goods

Junk

Monuments

Curiosities

Treasures

Wonders

Inheritance

Memorabilia

Heirlooms

Antiques

Belongings

Name _____

Collection Reflection

Your Collection	What did or do you collect? What other things do people collect?

Name Game: What is your collector's term? _____

Why Collect	Why did you start collecting? How can people add to their collections?

Cabinet of Curiosities:

Collection Dilemma	What would you do and why?

Name _____

Name Game

Under each item write the technical term for a person who collects that item.

bird's eggs	**butterflies and moths**
flags	**dolls**
postcards	**mollusk shells**
transportation tokens	**Recipes**
airmail stamps	**coins**
key rings	**teddy bears**
phonograph records	**books**
matchbooks/boxes	**porcelain**
autographs	**phonograph records**
Engraved wood	**Stamps/postal material**
Burnt art wood/leather	

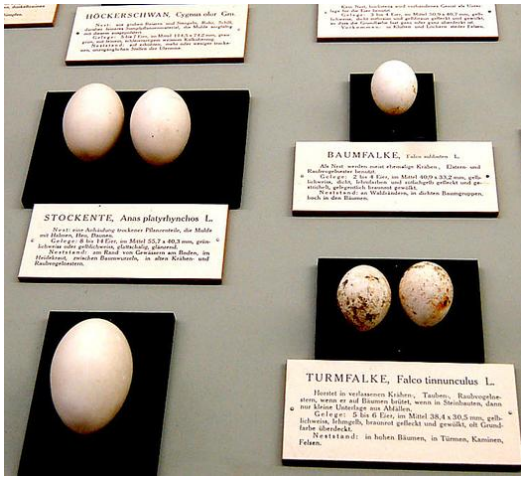
Teacher's Guide: Collectors Chart

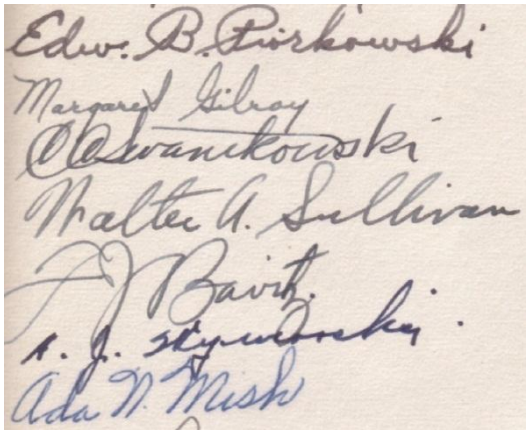
Term	Collector Of…	Word Origin		
Aerophilatelist [air-oh-fi-LAT-l-ist]	airmail stamps	aero (air) Greek	philos (love) Greek	*atéleia* (freedom from charges) Greek
Arctophile [AHRK-tuh-fahyl]	teddy bears	arktos (bear) Greek	philos (love) Greek	
Bibliophile [BIB-lee-uh-fahyl, -fil]	books	biblio (book) Greek	philos (love) Greek	
Conchologist [kong-KOL-uh-jist]	mollusk shells	conch (shell) Latin	logy (study of) Latin	-ist, suffix indicating a person who is concerned with a topic (Greek *ista*)
Deltiologist [del-tee-OL-uh-jist]	postcards	déltos (writing tablet) Latin	logy (study of) Latin	
Discophile [DIS-kuh-fahyl]	phonograph records	discus (disc) Latin	philos (love) Greek	
Lepidopterist [lep-i--DOP-tuh-rist]	butterflies and moths	lepidos (fish scale) Greek	pteron (wing) Greek	Lepidoptera = insects with four scaly wings
Numismatist [noo-MIZ-muh-tist]	coins	numisma (coin) Latin		-ist, suffix indicating a person who is concerned with a topic (Greek *ista*)
Oologist [oh-OL-uh-jist]	birds' eggs	oion (egg) Greek		
Philatelist [fi-LAT-l-ist]	stamps and postal material	philos (love) Greek	*atéleia* (freedom from charges) Greek	-ist, suffix indicating a person who is concerned with a topic (Greek *ista*)
Phillumenist [fi-LOO-muh-nist]	matchbooks, matchboxes	philos (love) Greek	lumen (light) Latin	
Pyrographer [pahy-ROG-ruh-fur]	wood/leather with burnt art	pyro (fire) Greek	graph (drawn) Greek	
Vecturist [VEK-chuh-rist]	transportation tokens	vectur (transport) Latin		-ist, suffix indicating a person who is concerned with a topic (Greek *ista*)
Vexillologist [vek-suh-LOL-uh-jist]	flags	vexillum (flag) Latin	logy (study of) Latin	
Xylographer [zahy-LOG-ruh-fur]	engraved wood	xylon (wood) Greek	graph (drawn) Greek	
Words not in dictionary, but commonly used by collectors of such				
Copoclephilist	key rings	clavis (key) Latin	philos (love) Greek	-ist, suffix indicating a person who is concerned with a topic (Greek *ista*)
Philographist	autographs	philos (love) Greek	graph (drawn) Greek	
Phonophile	phonograph records	phone (voice) Greek	philos (love) Greek	
Porcelainist	porcelain	porcelain (cowrie shell) Italian		-ist, suffix indicating a person who is concerned with a topic (Greek *ista*)
Plangonologist	dolls	Plaggon (doll) Greek	logy (study of) Latin	
Receptarist	recipes	recipe (take) Latin		

Main Source: http://collectibles-articles.com

Aerophilatelist [air-oh-fi-LAT-l-ist]	**Pyrographer** [pahy-ROG-ruh-fur]
Arctophile [AHRK-tuh-fahyl]	**Vecturist** [VEK-chuh-rist]
Bibliophile [BIB-lee-uh-fahyl, -fil]	**Vexillologist** [vek-suh-LOL-uh-jist]
Conchologist [kong-KOL-uh-jist]	**Xylographer** [zahy-LOG-ruh-fur]
Deltiologist [del-tee-OL-uh-jist]	**Copoclephilist**
Discophile [DIS-kuh-fahyl]	**Philographist**
Lepidopterist [lep-i--DOP-tuh-rist]	**Phonophile**
Numismatist [noo-MIZ-muh-tist]	**Porcelainist**
Oologist [oh-OL-uh-jist]	**Plangonologist**
Philatelist [fi-LAT-l-ist]	**Receptarist**
Phillumenist [fi-LOO-muh-nist]	

Collectables





Collectables

Collectables

Word Origin Chart

Root	*Meaning*	*Language*
aero	air	Greek
pyro	fire	Greek
arktos	bear	Greek
vectur	transport	Latin
vexillum	flag	Latin
xylon	wood	Greek
biblio	book	Greek
conch	shell	Latin
déltos	writing tablet	Latin
clavin	key	Latin
discus	disc	Latin
lepidos	fish scale	Greek
numisma	coin	Latin
logy	study of…	Latin
phone	voice	Greek
oion	egg	Greek
porcelain	cowry shell	Italian
philos	love	Greek
graph	drawn	Greek
recipe	take	Latin
plaggon	doll	Greek
petron	wing	Greek
lumen	light	Latin
atéleia	freedom from chares	Greek
-ist	concerned with….	Greek

Word Origins Two

If there is no term for a student's type of collecting, let her get creative and make one up! Below is a list of Latin words that might help in creating a new word.

herb	plants	Latin
petra	rock	Latin
leaves	leaves	Latin
bestia	animal	Latin
campanan	bell	Latin
subtructio	base	Latin
nutrimens	food	Latin
marmor	marble	Latin
ludus	game	Latin
penicullus	pencil	Latin
scrib	write	Latin
pecto	card	Latin
panulus	small	Latin
puerilis	childish	Latin

Name _____

Share Your Artifact's STORY

S see	T touch	O opinions	R read	Y your story
Look at the artifact and describe in detail what you see.	Now that you have the artifact in your hand, expand on your description.	Imagine situations in which this artifact might have been used. Share your opinions.	Read the caption for your artifact and summarize the facts below.	Create a story about your artifact. Write some notes here, but then use the space on the back of this page to elaborate. Who might have owned this object? How does this object connect to you?

http://www.flickr.com/photos/kevharb/5195013325/

Museology Lesson Three
The Smithsonian

Summary/Objective

By researching the Smithsonian and **constructing** a scale model of the National Mall using recycled materials, students will gain knowledge about the world's largest museum complex while developing mathematical, research, and presentation skills. Students will **create** a tour script and use a museum floor plan to **plot** out a virtual visit for the class. Students will then act as guides and lead the class on a museum tour which will include a brief **outline** of the museum's history, an **explanation** of what the museum collects and researches, and **descriptions** of the three artifacts the student **selected** as important.

In addition to the "Tour Guide Project," four other activities provide learning opportunities in this lesson "Going to The Mall" is a map-reading activity during which students **compare** two map displays in order to **identify** Smithsonian Museums on the National Mall. During the scale model component, titled "Modeling the Mall with Math," students will **measure** materials, **estimate** sizes, and **solve** math problem, as they work to **build** a scale model. By reading the story of the founder of the Smithsonian, complete with a transcript of James Smithson's Will, students will practice reading comprehension and gain historic context. Students will brainstorm, **justify**, and **debate** during "Museums and the Mall" which asks what kinds of museums should represent the nation and what artifacts hold national importance.

Bloom's Taxonomy of Thinking Skills

Knowledge- Outline, Identify
Comprehension- Explanation, Descriptions, Estimate
Application- Constructing, Measure, Solve
Analysis- Selected, Compare, Debate
Synthesis- Create, Plot, Build
Evaluation- Justify

Contents:

Lesson Script
Worksheet – Museums and The Mall
Worksheet – Going to The Mall
The Founder of the Smithsonian
James Smithson's Last Will and Testament
Worksheet – Tour Guide Project
Worksheet – Modeling the Mall with Math
Teacher's Guide Conversion Chart for Model

Materials:

Butcher Paper
Recyclable Materials
Rulers

Lesson Three: Smithsonian
Sample Teacher Script

Museums and The Mall

In Washington DC, our nation's capital, there is a stretch of parkland called The National Mall. On the eastern end of The Mall sits The US Capital Building, and on the western end stands the Washington Monument. Along both sides of this mile-long stretch of parkland are museums! List the types of museums you think should represent our nation on The Mall. Name some significant artifacts that should be housed in these museums.

How many museums are on your list?
Let's go to The Mall and see how your list compares with what we see on the map.

Going to the Mall

Allow your students time to use the maps and discuss the questions:

Did any group put that many art galleries?
What other types of museums did you include that are not on The Mall?
Which museum on The Mall surprised you?

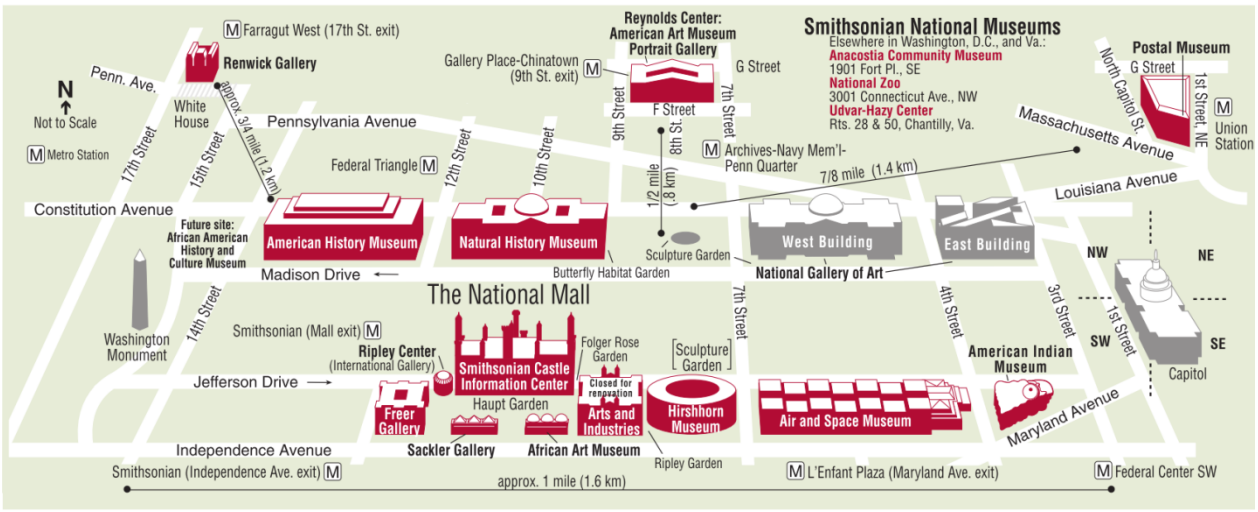
There are currently **eleven** museums on The Mall. Ten are part of the Smithsonian Institution and those are in red (or darkened) on the map. The eleventh museum on The Mall is composed of three pars. The National Gallery of Art (East, West, and Garden) was funded by Andrew Mellon so is not part of The Smithsonian which is why those buildings are in gray on the map.

List of National Mall Museums:

American History Museum
Freer Gallery (Art)
Smithsonian Castle
African Art Museum
American Indian Museum
Natural History Museum
Sackler Gallery (Art)
Arts and Industries
Hirshhorn Museum (Art)
Air and Space Museum
*National Gallery of Art (East, West, and Garden)

Find the site for the National African American History and Culture Museum on the map. Will it be on The Mall?

Despite official boundaries, the National African American History and Culture Museum will generally be considered part of The Mall. Upon the completion of this museum in 2015, the Smithsonian will physically include 19 museums, 1 zoo, and 9 research centers.



The Founder of the Smithsonian

James Smithson was born in 1765 to Hugh Smithson who became the first Duke of Northumberland and Elizabeth Keate Hungerford Macie, a wealthy woman from Weston, England. He took his mother's last name, and grew up in England as James Lewis Macie.

At the age of 21 he earned his Masters of Arts from Pembrook College. In 1787, just one year later, he became part of the prestigious Royal Society of London. There he contributed to the scientific community by researching chemistry, geology, and mineralogy.

Upon the death of his parents, James Lewis Macie inherited a large sum of money from his mother, and took his father's last name becoming James Smithson. The same name would later be given to a mineral and a museum.

Smithson was a collector, a collector of minerals. In fact, he traveled throughout Europe to add to his collection. Smithson was in Italy when he died in 1829, leaving this will which he had written three years earlier.

[Copy of will attached to read.]

Six years after Smithson's death, Henry James Hungerford died without any heirs. According to the will, what then was to happen to Smithson's money?

In his 64 years Smithson had traveled to many countries, but he had never stepped foot in America. Yet, this scientist left an enormous sum of money to "the United States of America, to found at Washington, under the name of the Smithsonian Institution, an Establishment for the increase and diffusion of knowledge."

Congress debated suitable uses for the money and even questioned the constitutionality of accepting such a sum. Nothing like this had happened before, so there was no precedent for such a bequest, and this was a huge sum of money- $508,318! Half a million dollars was about 1.5% of the United States' entire federal budget at the time.

On July 1, 1836 the US Congress authorized the acceptance of the money. President Andrew Jackson then sent attorney and diplomat Richard Rush to England to deal with the paperwork. It was not until May 9, 1838 that the Court awarded the money to the United States. Why did it take two years? Part of the reason for the delay was due to a counterclaim filled by the mother of Smithson's deceased nephew.

Nine years after his death, Smithson's will was finally carried out…. almost. The money was now in the United States, but what should be done with it? Proponents argued for a library, an observatory, and various universities.

On August 10th 1846, President James K. Polk signed into law the bill that established the Smithsonian Institution. The debate had spanned five presidents and 10 years.

That is only the beginning of the story of the Smithsonian. You will research and share the rest.

Sources: http://siarchives.si.edu/history/main_founding.html
http://www.sil.si.edu/Exhibitions/Smithson-to-Smithsonian/intro.html

[After hearing the story of James Smithson and reading his will, it is time to introduce the project. Depending on your class size this could be an individual assignment or group project. There are 19 museums and 1 zoo to research, plus the 9 research centers. However, researching the research centers is more difficult.]

Smithsonian Tour Guide Project

The Smithsonian Institution, named after its funder James Smithson, is the world's largest museum and research complex with 19 museums, 1 zoo, and 9 research centers.

We are going to create a model of the National Mall right here in the classroom and you all are going to become tour guides. After researching your site you'll be the class expert for one of these museums (or research centers) and will lead us on a virtual tour of your site!

Highlight tours like these are available at many museums, so think about what you would like to hear if you took one of those tours. Include facts, but you can also be creative with how you write your script (ex. by taking on a character), and how you present (PowerPoint, notebook, diorama, models).

Include the following information on your highlights tour:

Timeline	**Visitor Information**	**Collection's Scope**
year built	location	what items
year opened	admissions fee	how many
year renovated	floor plan	what time period

Research: What does the organization research? Explain <u>two</u> discoveries.

Exhibit: Select pictures of <u>three</u> significant artifacts and tell their stories.

Example Tour Script

"Welcome to the _____ Museum here on the National Mall! I'm so glad you are here today, taking advantage of our exceptional facilities open free to the public. My name is _____ and for the next _____ minutes I'll be sharing some of our interesting history and showing you some of our signature exhibit pieces, along with a few personal favorites. I'm happy to answer any questions you may have and only ask that you stay together in a group… and let me know if I'm about to run into anything, as we guides do walk backwards most of the time!

We'll be starting here (point to floor plan) at the _____. Then we'll _____ and _____ until we make our way back to _____. This is a Highlights Tour which means it does not cover our entire _____ piece collection from _____. After the tour, I'd be happy to provide recommendations if you can extend your visit.

From where you stand you can see signs of this build's age. Parts of this building are _____ years old. ____ was built in _____ and as the museum acquired more _____ the _____ was added in _____. . . ."

Modeling the Mall with Math

We can transform a piece of butcher paper into a model of the National Mall with a bit of math.

[Make sure you have a 14ft. long piece of butcher's ready with lines marked 2ft from each end. On the east end this line represents 3rd street; on the west end this represents 14th street.]

First, remind me what building sits at the eastern end of The Mall?
(Place two shoeboxes end to end with a coffee filter on top at the east end for the U.S. Capitol.)

What, stands at the western end of The Mall?
(Place a paper towel cardboard roll on west end to represent the Washington Monument)

Between 14th St. NW and 3rd St NW we have the National Mall.

National Mall: ___1___ mile(s) long = ___5280____ ft long
___0.3___ mile(s) wide = ___1584____ ft wide

Our Model: ___10___ feet long from 14th Street SW and 3rd Ave SW
___3___ feet wide Constitution Ave NW and Independence Ave SW

What is our scale? 1ft model = _____ ft actual [Problem 1]

__in model = 100ft actual [Problem 2]

Problem 1:

	Model	to	Actual
If	10ft	=	_5280_ ft,
then	1ft	=	_528__ ft.

Check Solution:

	Model	to	Actual
If	3ft	=	0.3miles or _1584_ ft,
then	1ft	=	0.1miles or __528_ ft.

Problem 2:

	Model	to	Actual
If	__12_ in	=	528 ft,
then	_2.25_ in	=	100 ft.

Once your students have calculated the 2.25in = 100ft scale, they will be able to complete the Conversion Chart with only a few calculations.

Teacher's Guide: Conversion Chart for Model

Site	Building Footprint	Model Dimensions
Washington Monument, Circular Area Washington Monument	200ft x 200ft 55ft x 55ft (x 555ft)	4.5in x 4.5in 1.14in x 1.14in (x12.5)
US Capitol Building	350ft x 750ft (x 188ft)	8in x 17in (x 4.25)
African American History and Culture Museum	400ft x 200ft	9in x 4.5in
African Art Museum	100ft x 50ft	2.25in x 1.13in
Air and Space Museum IMAX	700ft x 200ft 200ft x 200ft	15.75in x 4.5in 4.5in x 4.5in
Air and Space Museum Udvar-Hazy Center	1750 x 3000	39.38in x 67.5in
American Art Museum (shares building with Portrait Gallery)	400ft x 300ft	9in x 6.75in
American History Museum	500ft x 200ft	11.25in x 4.5in
American Indian Museum	400ft x 200ft	9in x 4.5in
American Indian Museum Heye Center	300ft x 300ft	6.75in x 6.75in
Anacostia Community Museum	100ft x 200ft	2.25in x 4.5in
Arts and Industries Building	300ft x 300ft	6.75in x 6.75in
Cooper-Hewitt, National Design Museum	300ft x 200ft	6.75in x 4.5in
Freer Gallery of Art	200ft x 200ft	4.5in x 4.5in
Hirshhorn Museum and Sculpture Garden	200ft x 200ft	4.5in x 4.5in
National Zoo	3000ft x 3000ft	67.5in x 67.5in
National Museum of Natural History	850ft x 400ft	19.25in x 9in
Portrait Gallery (part of American Art Museum)	400ft x 300ft	9in x 6.75in
Postal Museum	400ft x 500ft	9in x 11.25in
Renwick Gallery	100ft x 130ft	2.25in x 2.93in
Sackler Gallery	100ft x 50ft	2.25in x 1.13in
Smithsonian Institution Building, The Castle	400ft x 100ft	9in x 2.25in

The Mall with Recycled Materials

Now it's time to add some imagination to the math!
We are going to build a model of The Mall with Recyclable Materials.

Just as I used a paper towel role for the Washington Monument and the boxes for the US Capitol, you are going to brainstorm and then select recyclable materials to complete our model of The Mall.

1) What recyclable materials could represent each museum on The Mall?

2) Use the maps you have to get an idea of the shape of each building

3) Remember the scale when selecting your recycled representation.

Scale:

1ft model = 528ft actual

2.25in model = 100ft actual

Use this space to sketch out ideas or brainstorm supplies

Start collecting some of the materials you listed. Bring them to class to add to the model.

[If you have a box of materials ready, students can rummage around for supplies and construct buildings on the spot. Alternatively, students can use their lists to start collecting recyclables from home to add to the model.]

[Putting together the recycled material model could be the culmination of this math lesson, or part of the project presentation days when each student takes the class on a tour.]

Name _____

Museums and the Mall

In Washington DC, our nation's capital, there is a mile-long stretch of parkland called The National Mall.
On the western end of The Mall stands the Washington Monument, and on the eastern end sits The US Capital Building.
Along both sides of this mile-long stretch of parkland are museums!

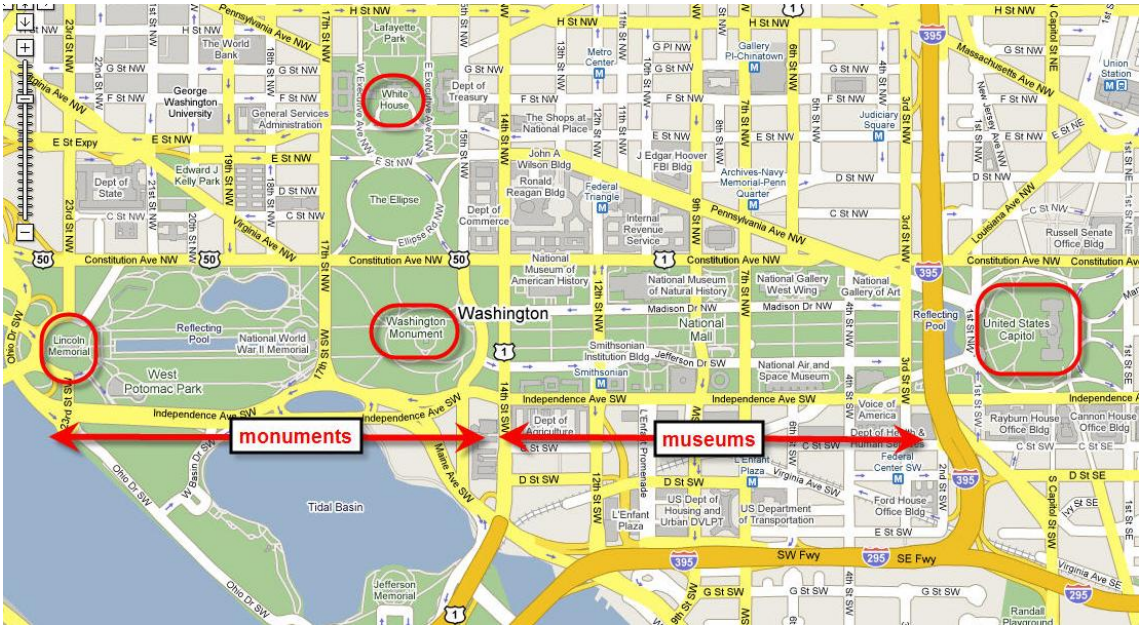
List the types of museums you think should represent our nation on The Mall.
Name some significant artifacts that should be housed in these museums.

Name _____

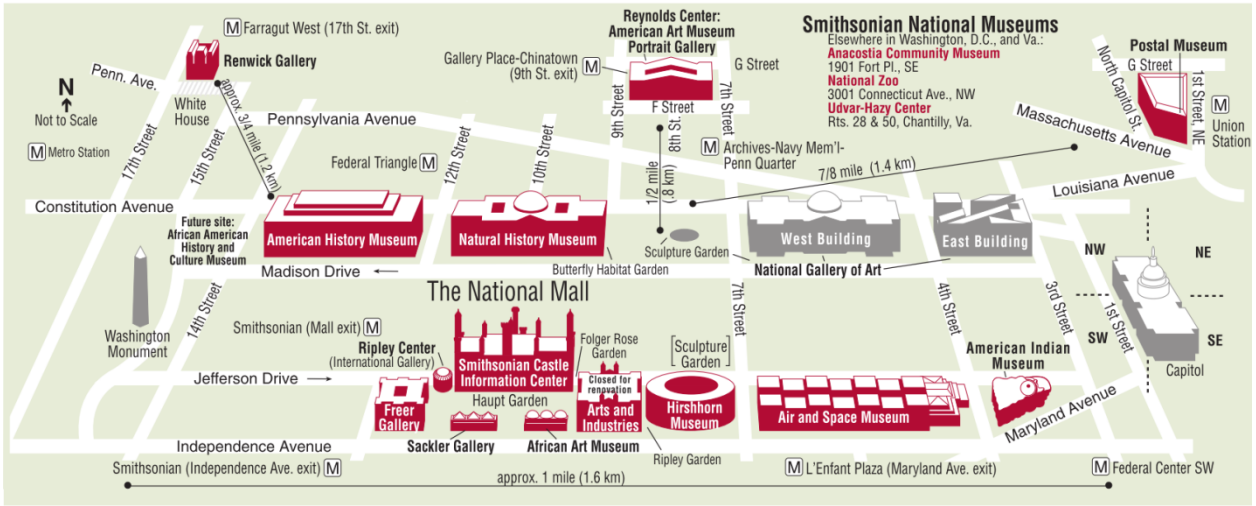
Going to The Mall

Often people refer to the entire avenue of green space as The Mall.
Outline The Mall's official boundaries on the map bellow.

Boundaries
North and South: Constitution Ave NW and Independence Ave SW
East and West: 14th Street SW and 3rd Ave SW



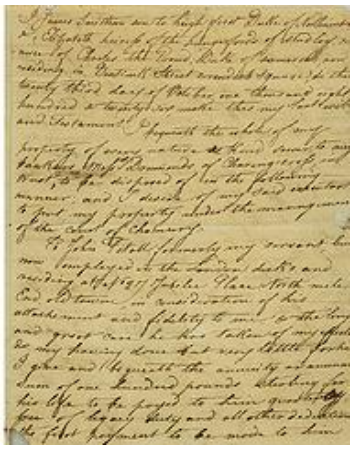
Using the more detailed map below, determine how many museums are on The Mall. _____

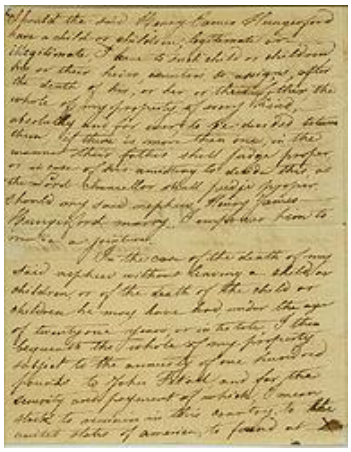


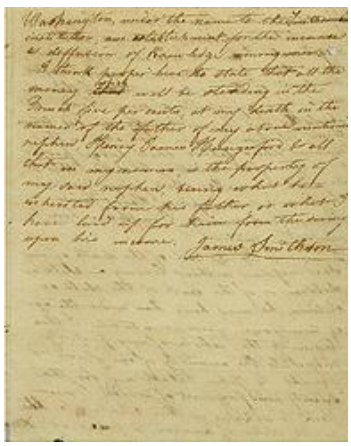
Compare the list of museums you wrote with the ones on the map.
How many different art museums did you list?

What other types of museums did you include that are not on The Mall?

Which museum on The Mall surprised you?







James Smithson
Last Will and Testament, October 23, 1826

I James Smithson Son to Hugh, first Duke of Northumberland, & Elizabeth, Heiress of the Hungerfords of Studley, & Niece to Charles the proud Duke of Somerset, now residing in Bentinck Street, Cavendish Square, do this twenty-third day of October, one thousand eight hundred and twenty-six, make this my last Will and Testament:

I bequeath the whole of my property of every nature & kind soever to my bankers, Messrs. Drummonds of Charing Cross, in trust, to be disposed of in the following manner, and I desire of my said Executors to put my property under the management of the Court of Chancery.

To John Fitall, formerly my Servant, but now employed in the London Docks, and residing at No. 27, Jubilee Place, North Mile End, old town, in consideration of his attachment & fidelity to me, & the long & great care he has taken of my effects, & my having done but very little for him, I give and bequeath the Annuity or annual sum of One hundred pounds sterling for his life, to be paid to him quarterly, free of legacy duty & all other deductions, the first payment to be made to him at the expiration of three months after my death. I have at divers times lent sums of money to Henry Honore Sailly, formerly my Servant, but now keeping the Hungerford Hotel, in the rue Caumartin at Paris, & for which sums of money I have undated bills or bonds signed by him. Now, I will & direct that if he desires it, these sums of money be let remain in his hands at an Interest of five per cent, for five years after the date of the present Will.

To Henry James Hungerford, my Nephew, heretofore called Henry James Dickinson, son of my late brother, Lieutenant-Colonel Henry Louis Dickinson, now residing with Mr. Auboin, at Bourg la Reine, near Paris, I give and bequeath for his life the whole of the income arising from my property of every nature & kind whatever, after the payment of the above Annuity, & after the death of John Fitall, that Annuity likewise, the payments to be made to him at the time the interest or dividends become due on the Stocks or other property from which the income arises.

Should the said Henry James Hungerford have a child or children, legitimate or illegitimate, I leave to such child or children, his or their heirs, executors & assigns, after the death of his, or her, or their Father, the whole of my property of every kind absolutely & forever, to be divided between them, if there is more than one, in the manner their father shall judge proper, or, in case of his omitting to decide this, as the Lord Chancellor shall judge proper.

Should my said Nephew, Henry James Hungerford, marry, I empower him to make a jointure.

In the case of the death of my said Nephew without leaving a child or children, or the death of the child or children he may have had under the age of twenty-one years or intestate, I then bequeath the whole of my property subject to the Annuity of One Hundred pounds to John Fitall, & for the security & payment of which I mean Stock to remain in this Country, to the United States of America, to found at Washington, under the name of the Smithsonian Institution, an Establishment for the increase & diffusion of knowledge among men.

I think it proper here to state, that all the money which will be standing in the French five per cents, at my death in the names of the father of my above mentioned Nephew, Henry James Hungerford, & all that in my names, is the property of my said Nephew, being what he inherited from his father, or what I have laid up for him from the savings upon his income. James Smithson. [L. S.]

http://siarchives.si.edu/history/exhibits/documents/smithsonwill.htm

Name _____

Tour Guide Project

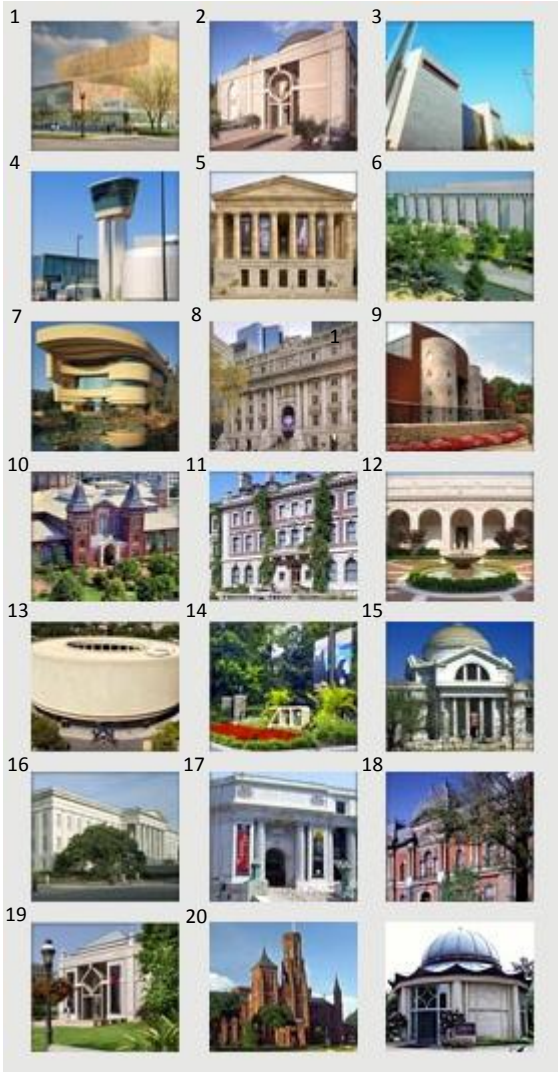
The Smithsonian Institution, named after its funder James Smithson, is the world's largest museum and research complex with 19 museums, 1 zoo, and 9 research centers.
You are going to become the class tour guide for one of the museums/centers below:

19 Museums + 1 Zoo

- African American History and Culture Museum[1]
- African Art Museum[2]
- Air and Space Museum[3]
- Air and Space Museum Udvar-Hazy Center[4]
- American Art Museum[5]
- American History Museum[6]
- American Indian Museum[7]
- American Indian Museum Heye Center[8]
- Anacostia Community Museum[9]
- Arts and Industries Building[10]
- Cooper-Hewitt, National Design Museum[11]
- Freer Gallery of Art[12]
- Hirshhorn Museum and Sculpture Garden[13]
- National Zoo[14]
- Natural History Museum[15]
- Portrait Gallery[16]
- Postal Museum[17]
- Renwick Gallery[18]
- Sackler Gallery[19]
- Smithsonian Institution Building, The Castle[20]

9 Research Centers

- Archives of American Art
- Conservation Biology Institute (SCBI)
- Environmental Research Center (SERC)
- Harvard-Smithsonian Center for Astrophysics
- Marine Station at Fort Pierce
- Museum Conservation Institute (MCI)
- Smithsonian Institution Archives
- Smithsonian Institution Libraries (SIL)
- Tropical Research Institute (STRI)



Include the following information on your highlights tour:

Timeline	**Visitor Information**	**Collection's Scope**
year built	location	what items
year opened	admissions fee	how many
year renovated	floor plan	what time period

Research: What does the organization research? Explain <u>two</u> discoveries.

Exhibit: Select pictures of <u>three</u> significant artifacts and tell their stories.

Name _____

Modeling the Mall with Math

We can transform a piece of butcher paper into a model of the National Mall with a bit of math.

National Mall: _____ mile(s) long = _____ ft long

__0.3__ mile(s) wide = _____ ft wide

Our Model: _____ feet long from 14th Street SW and 3rd Ave SW

_____ feet wide Constitution Ave NW and Independence Ave SW

What is our scale? 1ft model = _____ ft actual [Problem 1]

__in model = 100ft actual [Problem 2]

Problem 1:

	Model	to	Actual
If	10ft	=	_____ft,
then	1ft	=	_____ft.

Check Solution:

	Model	to	Actual
If	3ft	=	0.3miles or _____ft,
then	1ft	=	0.1miles or _____ft.

Problem 2:

	Model	to	Actual
If	_____in	=	528 ft,
then	_____in	=	100 ft.

Using the ___in = 100ft scale you just calculated fill in the chart below.

Site	Building Footprint	Model Dimensions
Washington Monument, Circular Area Washington Monument	200ft x 200ft 55ft x 55ft (x 555ft)	4.5in x 4.5in 1.14in x 1.14in (x12.5)
US Capitol Building	350ft x 750ft (x 188ft)	8in x 17in (x 4.25)
African American History and Culture Museum	400ft x 200ft	
African Art Museum	100ft x 50ft	
Air and Space Museum IMAX	700ft x 200ft 200ft x 200ft	
Air and Space Museum Udvar-Hazy Center	1750 x 3000	39.38in x 67.5in
American Art Museum (shares building with Portrait Gallery)	400ft x 300ft	
American History Museum	500ft x 200ft	
American Indian Museum	400ft x 200ft	
American Indian Museum Heye Center	300ft x 300ft	
Anacostia Community Museum	100ft x 200ft	
Arts and Industries Building	300ft x 300ft	
Cooper-Hewitt, National Design Museum	300ft x 200ft	
Freer Gallery of Art	200ft x 200ft	
Hirshhorn Museum and Sculpture Garden	200ft x 200ft	
National Zoo	3000ft x 3000ft	67.5in x 67.5in
National Museum of Natural History	850ft x 400ft	19.25in x _____in
Portrait Gallery (part of American Art Museum)	400ft x 300ft	
Postal Museum	400ft x 500ft	
Renwick Gallery	100ft x 130ft	_____in x 2.93in
Sackler Gallery	100ft x 50ft	
Smithsonian Institution Building, The Castle	400ft x 100ft	

Name _____

The Mall with Recycled Materials

It's time to add some imagination to the math!
What recyclable materials could represent each museum on The Mall?

1) Use the maps you have to get an idea of the shape of each building.

2) Look back at the pictures of the buildings to visualize their features.

3) Remember the scale when selecting your recycled representation.

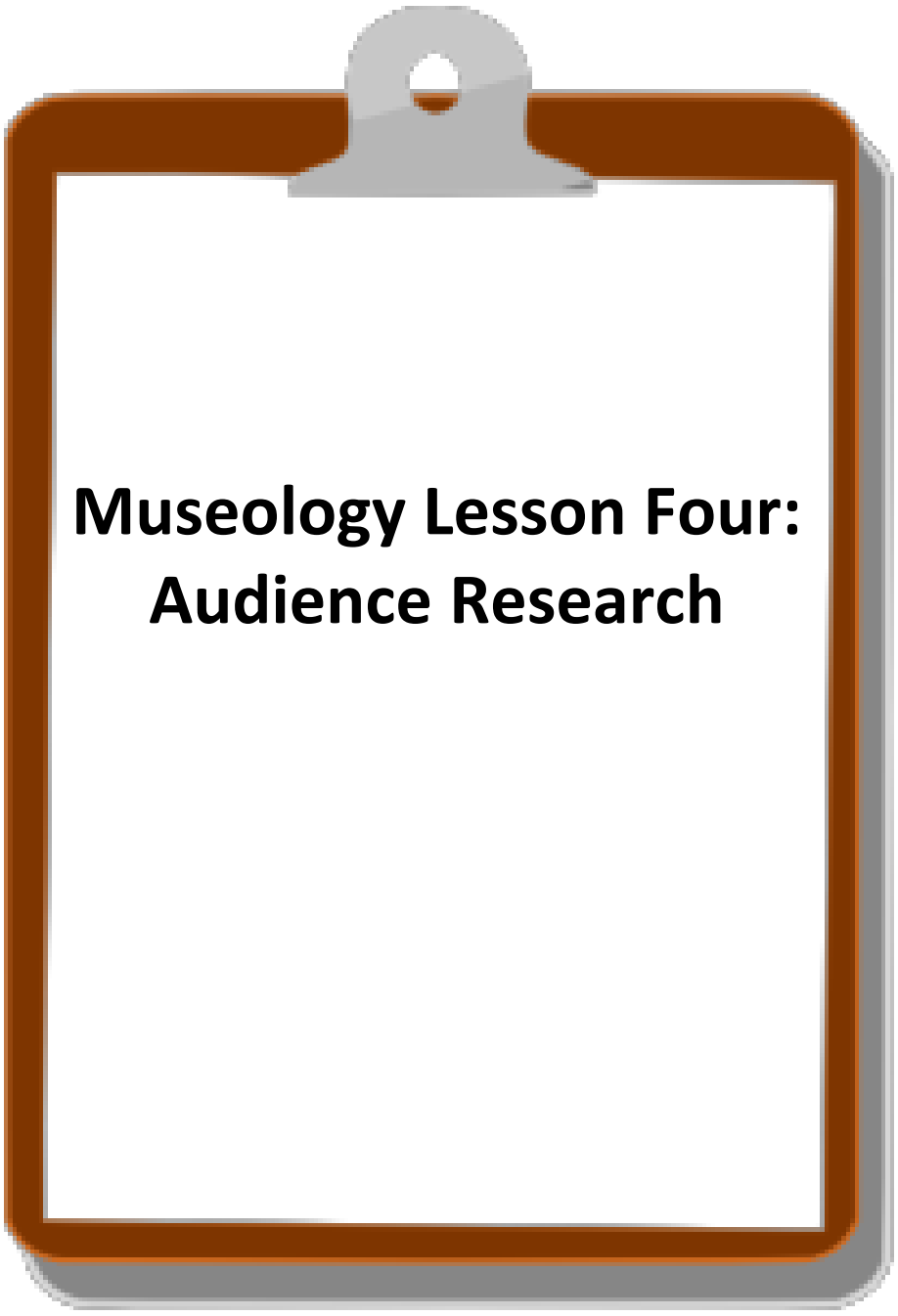
Scale:

1ft model = 528ft actual

2.25in model = 100ft actual

Use this space to sketch out ideas and brainstorm supplies:

Start collecting some of the materials you listed. Bring them to class to add to the model.



Museology Lesson Four: Audience Research

Museology Lesson Four
Audience Research

Summary/Objective

By taking the role of audience researchers, students will experience the growing field of visitor studies. Students will utilize a technique called Tracking and Timing to **analyze** playground usage at their school. During this lesson students will **hypothesize** based on personal experience**, record** observations, **compile** and **graph** data, and then document their **conclusions** in a **report** or persuasive writing piece. In addition to the above mentioned skills, this lesson offers students practice timekeeping, adding, averaging, and perspective taking.

Bloom's Taxonomy of Thinking Skills

Knowledge- Record, Compile
Comprehension- Graph
Application- Report
Analysis- Analyse
Synthesis- Hyposthesize
Evaluation- Conclusions

Contents:

Lesson Script
Worksheet – Time for Recess
Worksheet – Monkey (Bar) Graph
Octopus Exhibit, Sample Map
Octopus Exhibit, Sample Tracking
Playground Area, Sample Map
Playground Area, Sample Tracking
Worksheet- Map to Graph
Worksheet- Grounded in Data

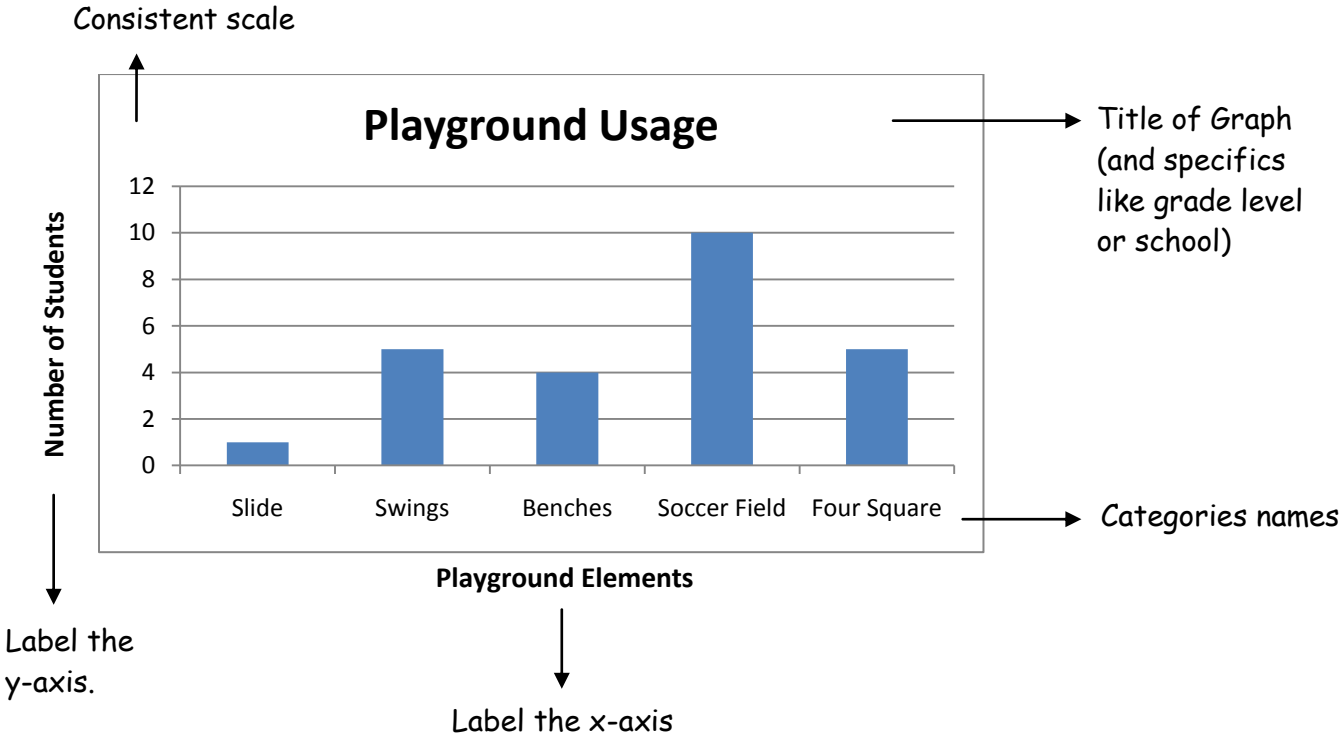
Materials:

Crayons/Markers (optional)
Rulers (optional)
Playground Map
Clipboards, for half the class
Stop Watches, for half the class

Lesson Four: Audience Research
Sample Teacher Script

Time for Recess!
As an introductory activity, have your students draw the school's playground area. Ask them to think about where they spend most of their time and mark those spots with an X on the map.

Data
Draw an oversized map of the playground on the board or on a piece of paper and have the students combine their data (the x's) on this map.
Next, use the data to guide the students through how to make a bar graph showing where students spend their time on the playground. Note: some students may have marked multiple spots and that is okay. Each spot where they spend time is a new piece of data.



Analysis
Lead the students through a discussion of the data, using the sample questions below:
Do you see any patterns or trends looking at the map or graph?
How might the information change if we asked other grades about their playground use?

Conclusions
Why might we collection this information? How could we use this information?
Think about how different people in the school might use this information:

Locate spots for benches and murals……Art Teacher
Figure out what is broken or needs repairs……Maintenance Staff
See what spots are most prone to injury……Nurse
Gauge student activity level……PE Teacher
Take away recess if low play rate……Principal
Determine an out-of-the-way area for a bird feeder or garden……Science Teacher
Propose a re-design of the playground and better equipment……Students

Future Research
By observing the playground we could get some idea of what is being used. We could make some assumptions or guesses as to how to re-design the playground. For example, if there are always lines at the slides, we could assume more slides would fix that problem. If we could not spend time outside watching what people are doing, how else could we find out about how students use the playground? Yes, by talking to them!

Connections
Museums do similar research. It is called visitors' studies or audience research. Observations and surveys are two of the common tools museums use for this type of research. They do research for reasons similar to those you listed for why we would do playground research.

Sometimes museums are trying to figure out who comes to the museum, where they go, and what they do in order to improve the museum to better serve their visitors. A special observation tool called Tracking and Timing can help researchers accurately find out where people spend their time in the museum.

Here is an example of a Tracking and Timing map for an aquarium exhibit.
1) Notice that the drawing does not have to be detailed. Often just the outline, or bird's eye perspective is used. The map needs to be clear enough for the researcher to know what picture matches what part of the exhibit.
2) Typically only one visitor is tracked at a time. The researcher selects one visitor to watch and draws a line on the map tracing where that person walks. It is standard to place an X in the spot where a visitor stops. Each visitor is tracked on a separate map.
3) The numbers on the map indicate how many seconds the visitor stayed in that location. This helps researchers determine what exhibit elements are holding the attention of the guests.

Research
You all are going to become researchers! You are going to use Tracking and Timing to collect data about playground use. Then we will present the results and conclusions to the principal.

Let your students know that Tracking and Timing takes practice. This activity might be frustrating, but it should also be fun. One of the most difficult parts is not interfering with the action of the person you are watching. You do not want your presence to affect their normal use of the playground. Be respectful and watch from the furthest distance possible.
Pair the students up and supply each pair with the playground map you prepared, a clipboard, and a stopwatch. The students will need to work together to keep track of the time and the movement on the playground. Talk through the map and have them practice in the classroom.

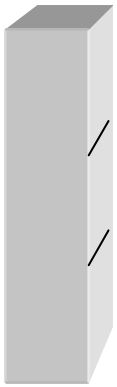
Once you go outside, assign each pair of students in your class to observe one student on the playground. **Of course, you will want to tell the other teacher's about your project in advance.** The teachers should tell their students that your class is doing a research project about the playground, so not to be surprised when you all come out with clipboards.

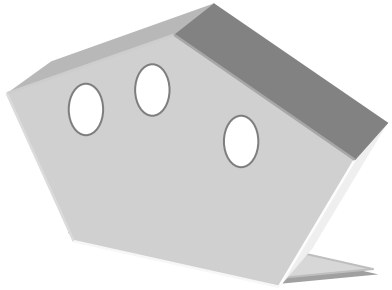
Ideally, your class can collect data for at least two 15 minute periods. It would be best if each of those two data collection periods involved students from two different grades. That way your students get experience with another variable: do students in different grades use different playground equipment?

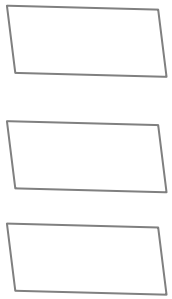
Date _____
Time _____

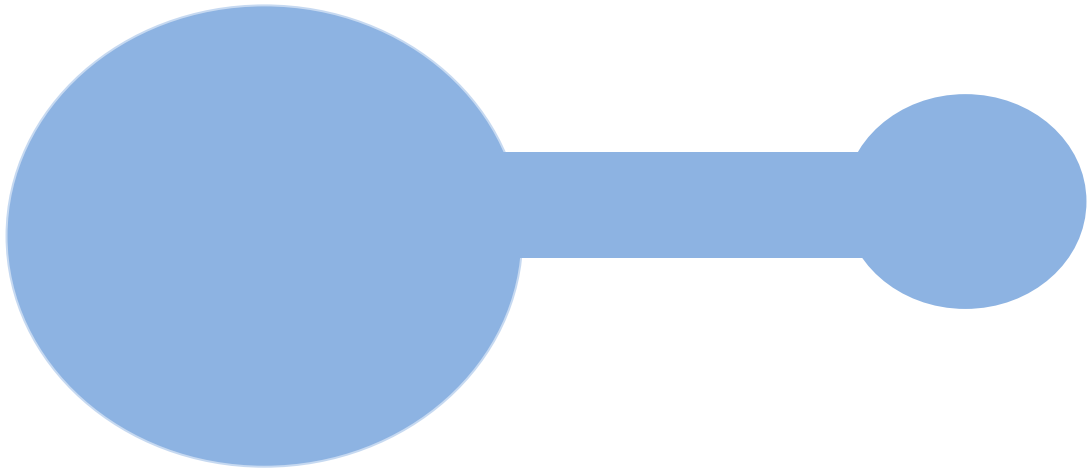
Octopus Exhibit
Sample Map

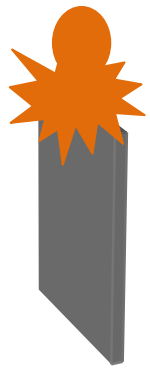
Instrument #_____
Researcher _____







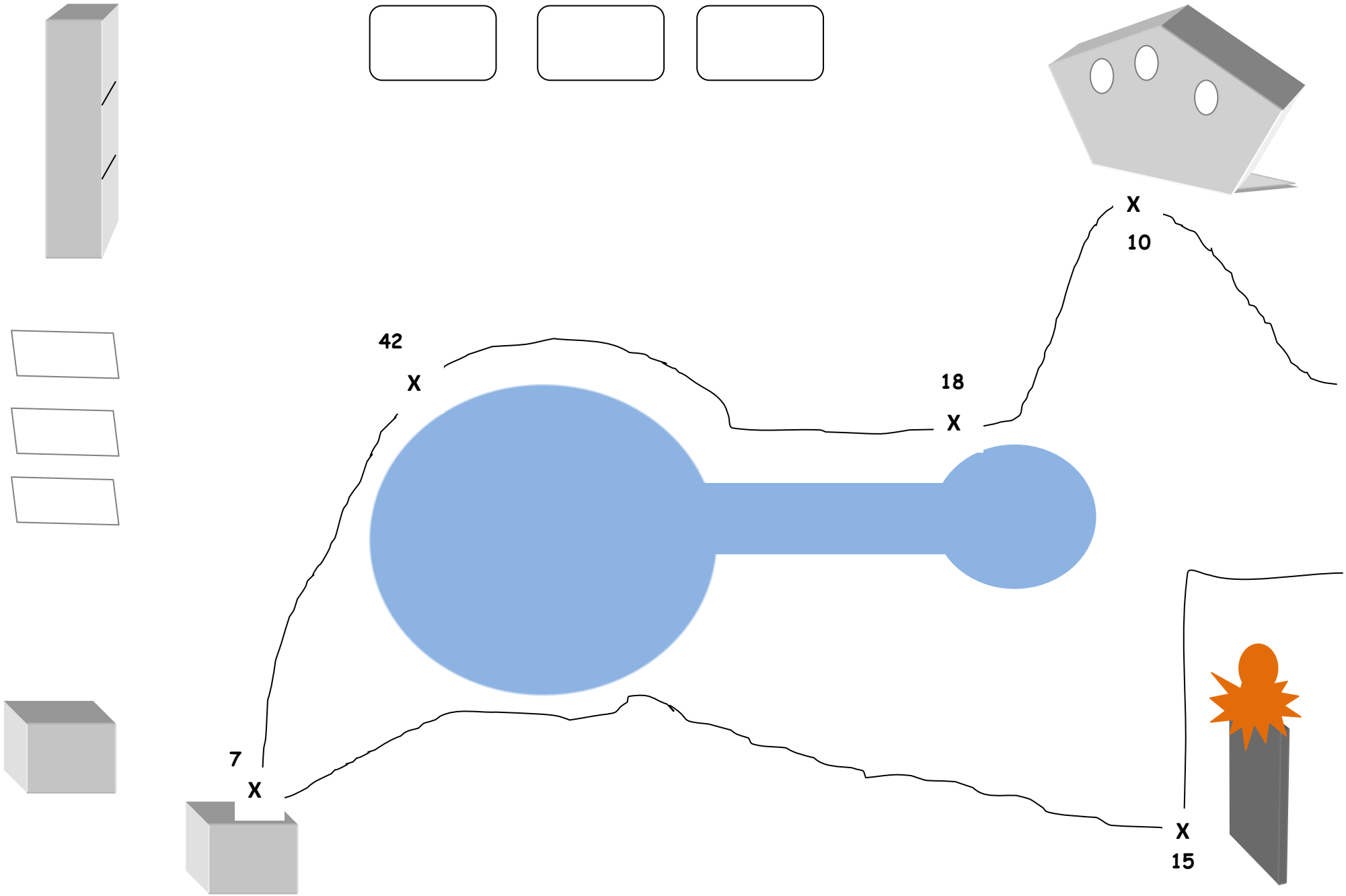




Date: June 10, 2011
Time: 1:30-2:00

Octopus Exhibit
Sample Tracking

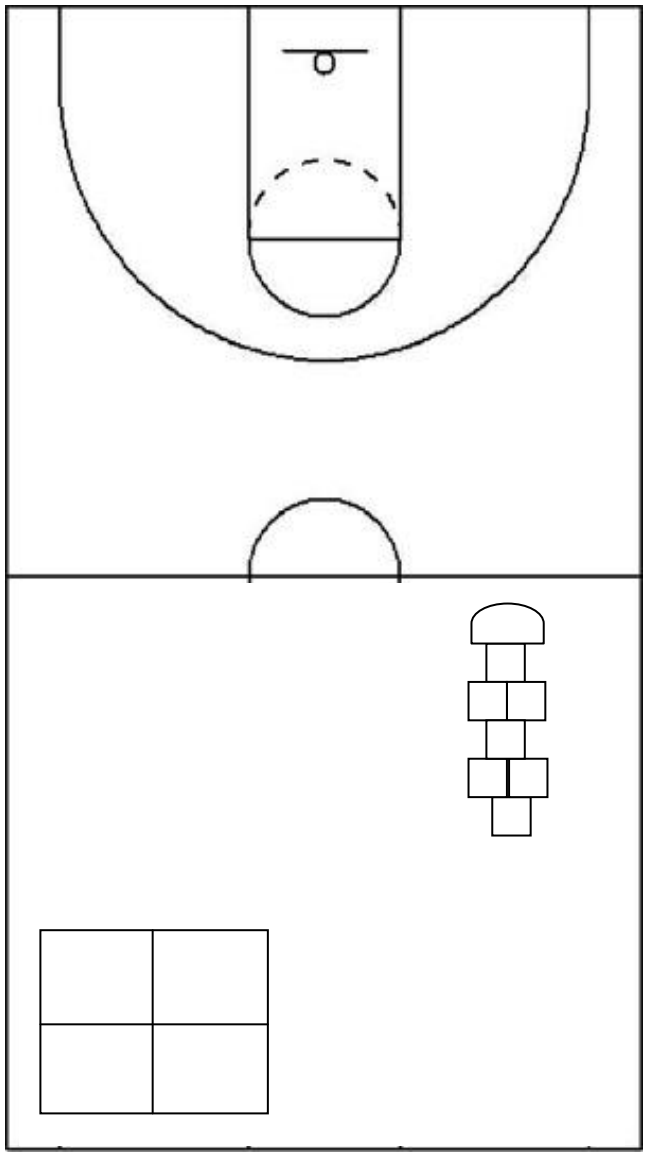
Instrument # 15
Researcher KET

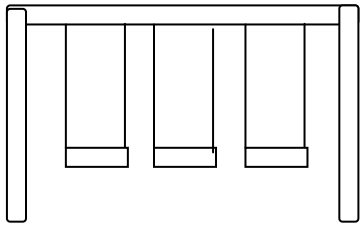


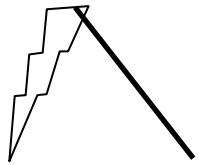
Date: _____
Time: _____

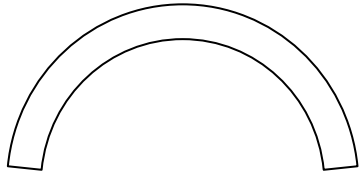
Playground Area
Sample Map

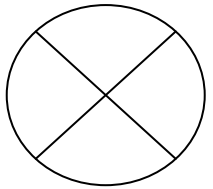
Instrument #_____
Researcher _____

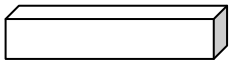


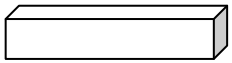










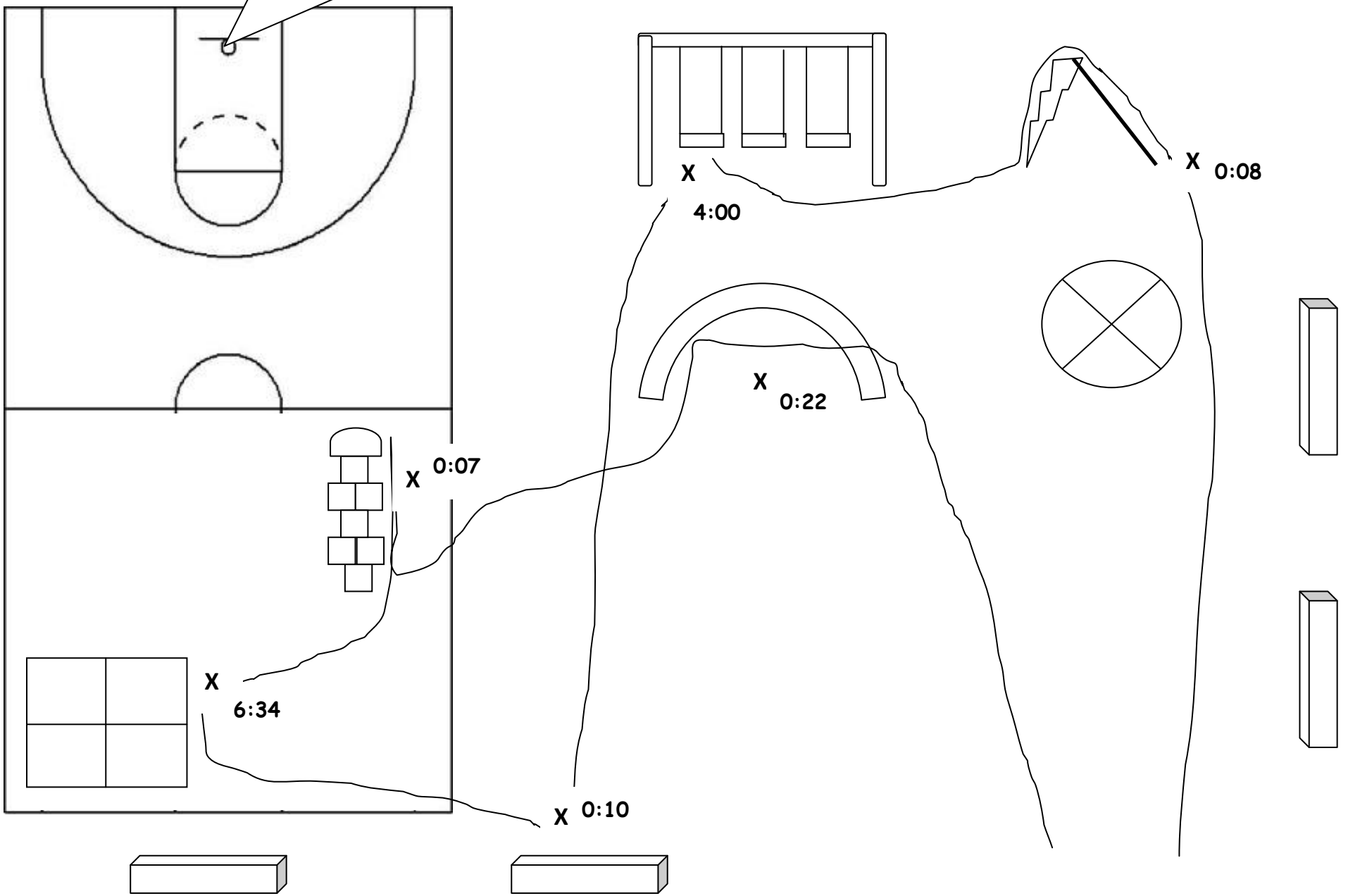


Date: _____
Time: _____

Tip: Do not try to mark exactly where a basketball player runs. Instead, just mark an X in one spot and keep track of the total time the student is on the basketball court.

Playground Area
Sample Data

Instrument #_____
Researcher _____



Compile the Data

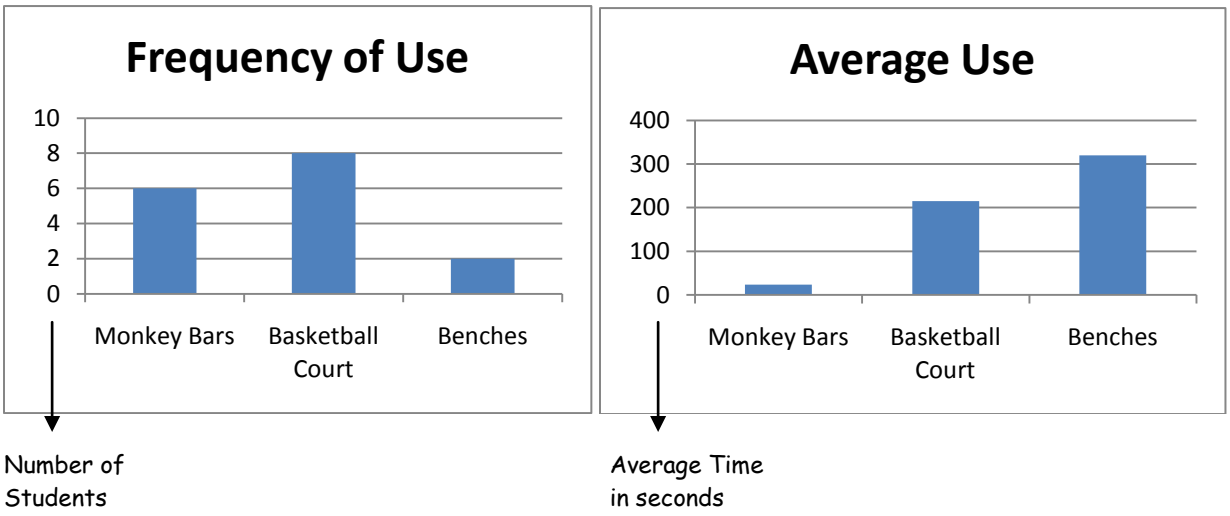
Once your students have collected all of the data, work as a class to complete a chart like the one below. Students can raise their hands to indicate how many students they observed stop/use each playground element. Involve the students in the calculation of averages.

Although the stop watches most likely marked time in minutes and seconds (6:34) all times will need to be converted into seconds for the students to add and average them.

Playground Element	Number of Xs	Average Length of Stop
Monkey Bars	6	$\frac{25 + 22 + 10 + 7 + 9 + 16}{6}$ ~ 24
Basketball Court	8	$\frac{320+320+320+320+200+60+120+60}{8}$ ~ 215
Benches	2	$\frac{320 + 320}{2}$ ~ 320

Map to Graph

Have the students graph the data on two bar graphs. One bar graph will show the number of students who use each playground element. The other will show the average time spent at each playground elements.



Grounded in Data

Give your students the opportunity to share their findings in their own words. Talk about the data as a group and then have your students write reports for the principal, etc.

Remind them to include:

- Project Description (Where did you do the research and why?)
- Evaluation Objective (What were you trying to discover?)
- Audience (What group of people were you observing?)
- Methods (How did you collect the data?)
- Results/Data (What did you discover?)
- Suggestions (What do you think the principal should do with this information?)

Name_____

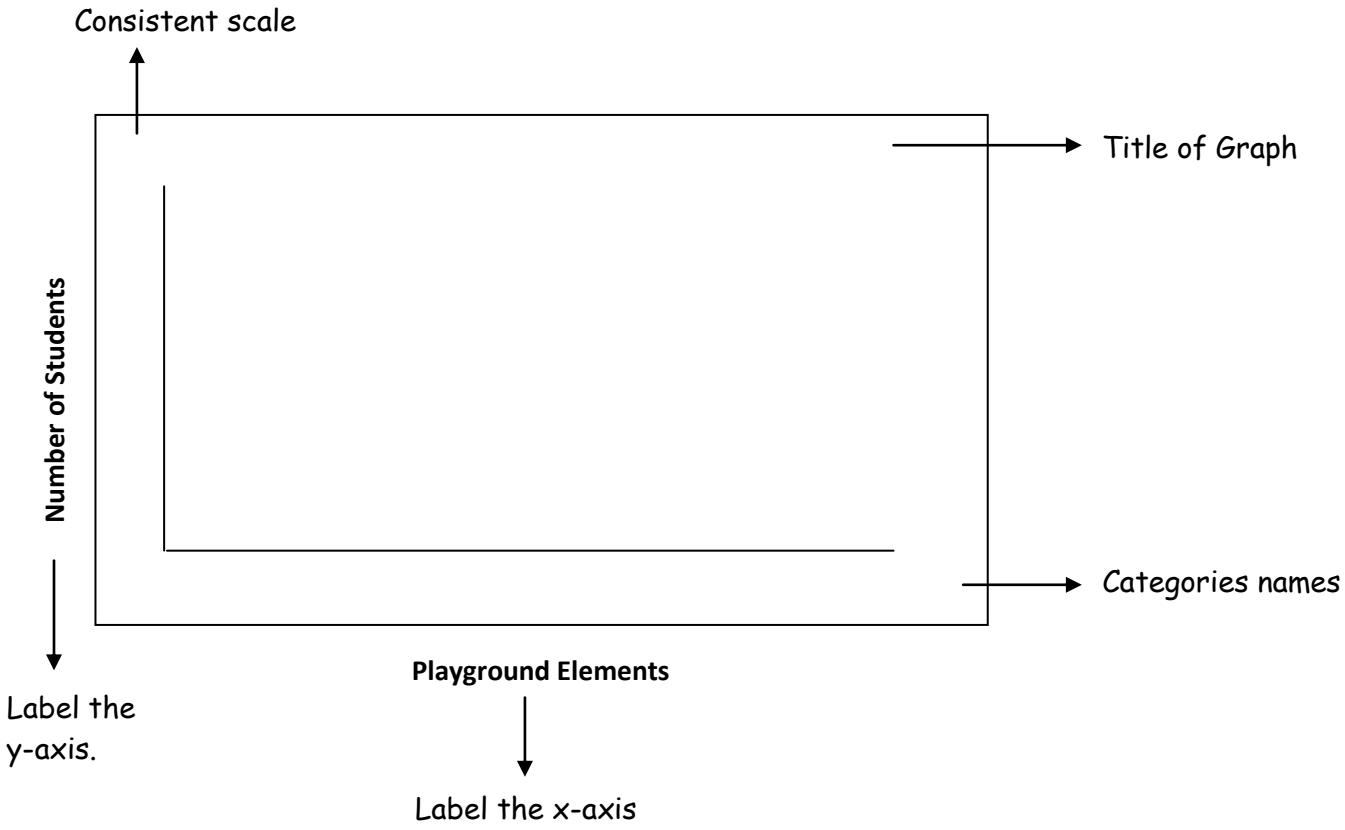
Time for Recess!

Draw the school's playground area. Mark with X's where you spend most of your recess time.
Describe what you usually do at recess.

Name_____

(Monkey) Bar Graph

Draw a bar graph showing the number of students who use each part of the playground.



Analysis

What patterns or trends do you see looking at the graph?

How might the information change if we did the same activity with more students?

Conclusions

Why collection this information? How could people in the school use this information?

People	**Use of playground data**
Art Teacher	
Maintenance Staff	
Nurse	
PE Teacher	
Principal	
Science Teacher	
Students	

Name_____

Data Chart

Compile the class Tracking and Timing data on the chart below.

**Although the stop watches most likely marked time in minutes and seconds (5:20), all times need to be converted into seconds (320) before you calculate the average. **

Playground Element	Number of Xs	Average Length of Stop
Monkey Bars	6	$\frac{25 + 22 + 10 + 7 + 9 + 16}{6}$ ~ 24
Basketball Court	8	$\frac{320+320+320+320+200+60+120+60}{8}$ ~ 215

Name_____

Map to Graph

Graph the data you have compiled from your Tracking and Timing research.

Playground Elements

Playground Elements

Name_____

Grounded in Data

Write a research report for the principal or other school official.

Include:

- Project Description (Where did you do the research and why?)
- Evaluation Objective (What were you trying to discover?)
- Audience (What group of people were you observing?)
- Methods (How did you collect the data?)
- Results/Data (What did you discover?)
- Suggestions (What do you think the principal or others should do with this information?)

Hello

My name is:

Museology Lesson Five: Labels Part I

Museology Lesson Five
Labels Part I

Summary/Objective

This lesson provides guided practice in **comparing** and **evaluating** signage as a means of learning the art of label writing. Starting with a postcard analogy, students will **identify** aspects of effective succinct writing. Students will demonstrate their knowledge by **recognizing** five aspects of effective label writing in sample museum signs. Students will then **analyze** museum signage and **design** revised versions that **employ** the label-writing standards identified earlier.

Bloom's Taxonomy of Thinking Skills

Knowledge- Identify
Comprehension- Recognizing
Application- Employ
Analysis- Compare, Analyze
Synthesis- Design
Evaluation- Evaluating

Contents:

Additional Materials:

Thesaurus, class set.

Optional: Extension Activity

Name Tags
Birthday Card, in mailed envelope
Baseball Bat
Chalkboard chalk
Tissue Box
Coin, old or foreign preferred
Feather

Extension:

Meeting Your Audience is a supplemental fun, comparative, creative writing exercise. The Meet Your Audience activity involves perspective taking and label writing. The purpose is to encourage students to think about the visitors coming to the museum.

Lesson Five: Labels Part I
Sample Teacher Script

Have postcards spread out on each table with a sign that says "Imagine you bought one of these postcards on a trip. Address your postcard to _____ and write about your trip."
(If postcards are not available, pictures from the Internet or from your own travels work too.)

Postcards
How many of you have written a postcard before? What did you write about? Usually people buy postcards while on a trip, when they see or do something cool. Figuring out how to say all of the interesting information in such little space can be hard. This is the same struggle label writers have in museums.

Museums are incredible storytellers.
The objects in a museum's collection help to tell stories. Most museums do not require visitors to be accompanied by a docent or tour guide. Often, signage and objects alone communicate the story. Some signage might look like an introduction to a book or like an invitation to enter the exhibit. The most common signs are object labels. An object label gives voice to an object, tying it in to an overall story.

Postcard Practice
What makes a good postcard… or a good label? Postcards and object labels don't share exactly the same set of rules, but reading some postcards will give us some label writing tips. Together we're going to figure out the guidelines for writing good labels. Then, you're going to use your new skills to improve some real museum signs.

Share the three Practice Postcards on paper, or overhead, or PowerPoint with your class. Stop after each to ask what seems good about the writing and what did not seem so good. Have students keep track of these pros and cons. Groups could also work together, then share out.

Use the teacher version of A Label Tells A (Short) Story to discuss writing tips and ways to improve the postcards. Spend some time going over the Label-Writing Pointers and guide the students through the improved versions on the back of their page.

Signage Re-Design
Let's take a look at how the label-writing tips we've learned are used to improve museum signs.

As you show the first half of the PowerPoint "Re-designed Museum Signs" guide your students through the worksheet "Signage: Observe, Rate, Re-Write" by encouraging them to point out good examples of the label writing guidelines in practice.

Now it's their turn! Six museum-signs are provided as options for your students to redesign. The three text-only signs have redesign examples in the second half of the PowerPoint.

Before passing out the sign samples to re-write share this quote with your students:

> Thomas Jefferson, the primary author of the Declaration of Independence, is thought to have said, "The most valuable of all talents is that of never using two words when one will do." That is precisely your task.

A Label Tells a (Short) Story

Like a postcard, a label tells a short story. With limited space and a lot of information to share, word choice becomes very important. Jot down the writing tips you discover as you read each of the three postcards.

Improved Ideas:

This sounds like an advertisement.

Perhaps thinking from a historic context would help.

Postcard Pros and Cons:

+ Facts
+ Details
+ Good imagery
+ Noted reader

- Long
- Undefined Big Words

Improved Ideas:

Come up with a main idea that can tie all of the points together.

"San Francisco is full of movement and color."

Postcard Pros and Cons:

+ Okay length

+ A few facts

- Did not relate to pic or to reader
- No main idea

Improvement Ideas:

Labels, unlike postcards are written to a general public, not one specific friend.

Rewrite, keeping it relevant, but not addressed to just one person.

Postcard Pros and Cons:

+ Good length
+ Pun
+ Ideas connected
+ Referred to pic
+ Addressed reader

- Did not say who the Bulls are.

Label-Writing Pointers:

- 50 words maximum ---------- Short
- Tell one central story ---------- Clear
- Use active words ---------- Readable
- Acknowledge your audience ---------- Relatable
- Adjectives can add emotion ---------- Memorable
- **Unlike postcards, labels typically do not use I**

Shaded by ancient oak trees on Wadmalaw Island, an antique trolley offers tours of the 127 acre Charleston Tea Plantation, America's only tea plantation. Here, during South Carolina's humid summers, *Camellia Sinenis* flourishes. At the on-site factory, visitors watch this plant's leaves being processed and taste the sweet finished products.

- **Word Count: 50**
- **Active Words: shaded, flourishes, watch, taste**
- **Adjectives: antique, humid, sweet**
- **Audience: Visitors**
- **Main Idea: You, too, could come tour America's only tea plantation.**
- ***Extra: Shade and humidity set the scene, almost leaving the reader parched.***

San Francisco is full of movement and color. There you'll find the Golden Gate Bridge, surfers on white beaches, and bustling markets with purple peppers! Silver-belled cable cars climb up the city's steep hills. And ferries carry chilly tourists over to the dark, island-prison of Alcatraz.

- **Word Count: 46**
- **Active Words: movement, climb, carry**
- **Adjectives: bustling, steep, chilly**
- **Audience: You and tourists**
- **Main Idea: First line. "San Francisco is full of movement and color."**
- ***Extra: The colors make this label vivid.***

This bronze bovine isn't mooooving anytime soon! Weighting two-tons, "The Major" grazed throughout Durham, NC before becoming a permanent public art piece in 2006. The sculpture stands half a mile from the Bulls' baseball stadium. In colorful, crocheted clothing today, come by again and he might be sporting a jersey.

- **Word Count: 50**
- **Active Words: moving, grazed,**
- **Adjectives: Bronze, colorful, crocheted**
- **Audience: You**
- **Main Idea: The bull state in Durham does not move, but it changes…clothes.**
- ***Extra: The alliteration, repeated sounds in paired words, makes this one fun to read.***

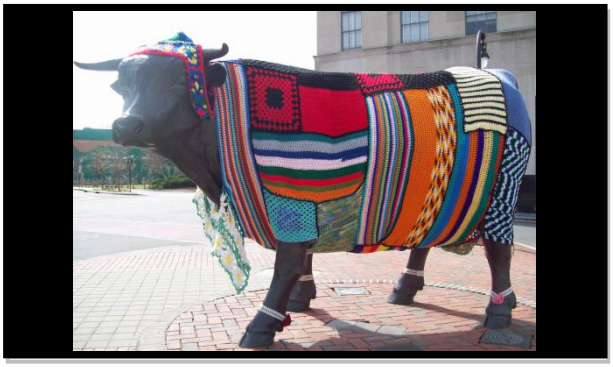
Name _____

A Label Tells a (Short) Story

Like a postcard, a label tells a short story. With limited space and a lot of information to share, word choice becomes very important. Jot down the writing tips you discover as you read each of the three postcards.

Postcard Pros and Cons:

Postcard Pros and Cons:



Postcard Pros and Cons:

Label-Writing Pointers:

- _____ words maximum
- Tell one _____ _____
- Use active _____
- Acknowledge your _____
- _____ can add emotion
- **Unlike postcards, labels typically do not use _____**

Postcards Improved

Shaded by ancient oak trees on Wadmalaw Island, an antique trolley offers tours of the 127 acre Charleston Tea Plantation, America's only tea plantation. Here, during South Carolina's humid summers, *Camellia Sinenis* flourishes. At the on-site factory, visitors watch this plant's leaves being processed and taste the sweet finished products.

- **Word Count _____**
- **Active Words _____**
- **Adjectives _____**
- **Audience: _____**
- **Main Idea _____**

  _____

San Francisco is full of movement and color. There you'll find the Golden Gate Bridge, surfers on white beaches, and bustling markets with purple peppers! Silver-belled cable cars climb up the city's steep hills. And ferries carry chilly tourists over to the dark, island-prison of Alcatraz.

- **Word Count _____**
- **Active Words _____**
- **Adjectives _____**
- **Audience: _____**
- **Main Idea _____**

  _____

This bronze bovine isn't mooooving anytime soon! Weighting two-tons, "The Major" grazed throughout Durham, NC before becoming a permanent public art piece in 2006. The sculpture stands half a mile from the Bulls' baseball stadium. In colorful, crocheted clothing today, come by again and he might be sporting a jersey.

- **Word Count _____**
- **Active Words _____**
- **Adjectives _____**
- **Audience: _____**
- **Main Idea _____**

  _____

Practice Postcard One

Dear Tourist,
You can smell the sweet tea aroma released by the 320 varieties of Camellia Sinensis as the sun beats down on the 127 acres of tea plants at The Charleston Tea Plantation, America's one and only tea plantation! Though it is called the Charleston Tea Plantation, the factory and grounds are actually over in Wadmalaw Island, South Carolina, which is just a short bridge drive away from Charleston. You don't drive around the farm in your own car though; instead there are these cute antique trolleys that take you around the grounds. A tour guide shares fun facts and you might see the specially designed Green Giant harvesting machine at work. The factory does not run year-round, but you can still go inside and see the production line and learn all about the making of black, green, and oolong teas. Did you know they all are made from the same tea leaves? After the tours you can taste all kinds of tea: different flavors and temperatures. Since it's the South, most of the guests prefer the sweet iced tea varieties. Oh, and perhaps the best part is that the tasting and factory tour are free. So, you'll have some spare cash to buy a souvenir!

PLACE STAMP HERE

Practice Postcard Two

Dear General Public,

San Francisco is beautiful, but much colder than I expected. It also has a lot of hills. I expected California to be hot with flat beaches. From the beach I can see Alcatraz and I hope to go there tomorrow. I hear they do night tours that are creepy but cool. Going in an old prison at night might be scary!

PLACE STAMP HERE

Practice Postcard Three

PLACE STAMP HERE

Dear Friend,

We've moooooved! As you can see from this public art, our new city is the proud home of the Durham Bulls. Don't worry; the colorful, crocheted clothing it's sporting is not from you. The lovely blanket you knit keeps us warm at home. Hope you can come visit sooooon!

_____

_____

_____

_____

Name _____

Signage: Observe, Rate, Re-Write

What differences do you **observe** between the original and rewritten signs?
Jot down positive examples from the slideshow of signs that followed each writing tip.

- Short:
- Clear:
- Readable:
- Relatable:
- Memorable:

How would you **rate** the sign you selected based on the label writing pointers you know?
What problems do you see with the sign?

Use the space below to **write** a better sign.
When you have the words just right, use the back of this page to sketch your final design.

How do you travel around town? In the Philippines the tricycle which carries three other people is a popular way to travel short distances. They are usually painted with colorful designs and covered with decorative objects. They are usually privately owned by the driver. Sometimes the owner hires someone to drive the vehicle. People Travel longer distances By *Jeepney* (a decorated jeep with passengers bench seats) bus, or car. The roads are paved in the city, while in the provinces they may be a combination of paved and dirt. **Where do you need to go today?**

What kind of house would you build in a hot tropical climate? You can find a variety of houses in the Philippines because of the materials available and the weather. In the provinces you may find a Nipa (palm) Hut, made from bamboo, wood, rope, grasses and palm leaves, which is elevated on stilts to keep it dry from the wet ground. It would be common to find a chicken coop under the house! Other types of house are wooden or concrete. **Take a look around this urban house just outside Manila! What materials do you think were used to make this house?**

Do you see the vending machine outside this shop? These machines are located every few blocks all over Japan. They sell everything from soft drinks, coffee, magazines, cakes, cooked foods, ice cream, batteries to cigarettes and liquor. Most of the prices are "50 yen", "100 yen", and "150 yen" or $.50, $1.00 or $1.50. There is a 50 yen coin and a 100 yen coin so that people can use exact change. **What would you like to buy from this vending machine?**

MARMOT

Can you see the marmot living in these holes? The marmot, a species of woodchuck, can be found in the western part of North America from Alaska to California. Marmots have large curved powerful front teeth and can weigh as much as 20 pounds. There are two main types of marmots, the hoary and the yellow-bellied marmot.

Marmots are found in free open spaces like rock slides, glacial moraines and rocky points. They make their den in burrows under large rocks where they hibernate in the winter. The female marmot gives birth soon after hibernation ends, usually bearing three to five young. The young marmots remain in the same area all summer and usually hibernate near their home den during their first winter. In the spring and summer, you can see marmots feeding on plants.

Marmots warn each other of the presence of enemies like bears, wolves, and lynxes by their loud and shrill whistle.

TREE OF TREES

When you walk through the forest you will see many kinds of trees and plants. Compare their needles, leaves, bark, flowers, and cones. See how they are similar and how they are different. Trees grow outward and upward. Tree bark protects the inner wood from damage and harsh weather conditions just as your skin protects your insides from disease and injury. When a tree is injured sap leaks out to seal the wound. Native Americans used the sap from some kinds of trees to seal canoes to keep them from leaking.

The trunk provided support of the branches. The trunk and branches contain the tree's tubes (xylem or sapwood, and phloem) that transport water and nutrients to the leaves. They also contain the growing layer of the tree (the cambium) that makes the trunk, branches, and roots of the tree thicker each year. Every growth season, a tree adds a new layer of wood to its trunk called the growth ring. If the ring is wide, it means the tree experiences a lot of rain and grew a lot.

WATERFALL

The water you see here is constantly being recycled. In the mountain forest, water is stored in the trees, plants and soil. The rest of the water travels down hills, underground through the forest until it reaches a spring, lake or river. Then it may flow into larger rivers and lakes and eventually to the ocean. At any point in the forest, water may be given off by the plants or evaporated into the air and then cycled back into the atmosphere. The water cycle is a system by which water is collected, purified and distributed from the natural environment to living things and back to the environment.

Meet Your Audience: Teacher's Guide

Assign each student an object and one of the corresponding identities from the list below. If you have some sticky name tags, write the identities on those and pass them out to your students. Bringing in the physical objects, if available, would be great too.

Give your students some time to think about the identity. Then, ask your students to write about their assigned object from the perspective of their fake identity. How might that person describe the object?

Set up each object with its descriptions and let the students walk around and read them. Discuss the differences in perspective. How might people react to an object differently in an exhibit? How could the label you write offend, anger, or connect with people? How might knowing your audience be useful?

Object A: Birthday Card

- Hello my name is: Post Man
- Hello my name is: Birthday Party Planner
- Hello my name is: Hallmark Company CEO
- Hello my name is: Stamp Collector
- Hello my name is: Handwriting Analyst

Object B: Baseball Bat

- Hello my name is: Retired Baseball Coach
- Hello my name is: Young Ball-boy
- Hello my name is: Baseball Umpire
- Hello my name is: Woodworker
- Hello my name is: Singer of The National Anthem at sporting events

Object C: Chalk

- Hello my name is: Teacher
- Hello my name is: Student from 2032
- Hello my name is: Sidewalk artist
- Hello my name is: Janitor
- Hello my name is: SmartBoard Salesman

Object D: Tissue Box

- Hello my name is: Person with Allergies
- Hello my name is: Environmentalist
- Hello my name is: Lumberjack
- Hello my name is: Doctor
- Hello my name is: Representative from Kleenex

Object E: Coin

- Hello my name is: Tooth Fairy
- Hello my name is: Coin Collector
- Hello my name is: Banker
- Hello my name is: Foreign Traveler
- Hello my name is: Arcade Game Player

Object F: Feather

- Hello my name is: Birdwatcher
- Hello my name is: Chef
- Hello my name is: Hunter
- Hello my name is: Pillow Maker
- Hello my name is: Costume Designer

Name _____

Meet Your Audience

You have a secret identity. Don't show it to anyone yet!
Write a label for the museum object you have been assigned
from the perspective of your fake identity.

Object _____

Which objects seemed to draw out the most conflicting perspectives?

Think about these objects in an exhibit.
How could the label you write offend, anger, or connect with people?

Museology Lesson Six: Labels Part II

Museology Lesson Six
Labels Part II

Summary/Objective

This lesson provides students a context in which to practice the art of label writing. Students will **apply** the label writing standards they **identified** in Part I to **create** labels for toys that have been inducted into the Toy Hall of Fame. Each student will read and **paraphrase** the information provided about one toy. Then students will **compose** toy labels that demonstrate their knowledge of effective label writing.

Additionally, students are asked to carefully **examine** a stick and to imagine how the stick might be **described** on labels from different types of museums (science vs. history). By **comparing** potential labels about a single object, students will recognize the power of labels and the importance of the story behind the object.

Bloom's Taxonomy of Thinking Skills

Knowledge - Identified
Comprehension- Paraphrase, Described
Application- Apply
Analysis- Examine
Synthesis- Create, Compose
Evaluation - Comparing

Contents:

Materials:

Sticks, one per group

Extensions:

1) Museum Madness: Label Challenge
   This additional creative thinking activity provides students an additional higher-level thinking opportunity. Suggested use: homework, extra credit, bell work

2) Discussion: More than Toys
   Four additional Toy Hall of Fame Info Cards have been included for older audiences. These four toys reflect societal changes in various ways. Discussing social issues is difficult, but some museums are displaying exhibits or hosting forums that address such topics. Even toys can spark conversations about gender equality, immigration, and civil rights.

Lesson Six: Labels Part II
Sample Teacher Script

Have stick on each table with the question "Is a stick an artifact?" Prompt students to discuss.

A stick, very similar to that stick on your table, is in a museum. It is behind glass, labeled, and cared for by the collections department. Now think of the stick on your table as an artifact and complete the modified STORY chart.

Note: STORY charts can be an individual or group task. The chart works both as a writing activity or talking guide.

Let me know when you are ready for the 'R' and I'll give you the caption.

Stick

The stick may be the world's oldest toy. Animals play with sticks, and we use them to play fetch with our dogs. Children find sticks an endless source of make-believe fun. Sticks can turn into swords, magic wands, majorette batons, fishing poles, and light sabers. When children pretend with sticks, they cultivate their creativity and develop their imagination. They explore as they search outdoors for just the right one. Children build with sticks, bat balls with them, and walk with them. They are the original building blocks for creative play. Sticks also promote free play—the freedom to invent and discover. They encourage playing outside instead of inside. Sticks are all around us; they are natural and free. And playing with sticks isn't just for children and animals. Adult artists, crafters, decorators, and architects all make use of sticks in sculptures, wreaths, furniture, and building design. Few adults or children can resist simple play with sticks—from drawing in the sand on the beach, to building a campfire and then toasting marshmallows. Sticks are not only possibly the oldest toy, they're possibly the best!

In what type of museum do you think the stick with this story is displayed?

The Strong Museum of Play in Rochester NY contains the Toy Hall of Fame.
In 2008 the stick was inducted into the hall of fame.
[Article available at: http://www.usatoday.com/news/2008-11-07-3791182869_x.htm]

In what other contexts might a stick be part of a museum exhibit?

A stick isn't always a toy. What other museums might have a sick on display, and why?
What other stories can a stick help tell?

How would the story change if a different museum owned the stick?

Type of Museum	**Focus of Story**
Children's Museum	Stick as a toy
Natural History Museum	Stick as a tool
Science Museum	Stick as prototype for an invention
Arboretum	Stick as a specimen
Art Museum	Stick as a statement or medium
History Museum	Stick as a personal item

Toy Hall of Fame points to new addition: the stick

Posted 11/7/2008 12:16 AM

In this photo released by The Strong National Museum of Play, Chris Bensch, curator of collections, holds a stick in front of a toy showcase at the Museum in Rochester, N.Y., Thursday Nov. 6, 2008. The stick was inducted into the Toy Hall of Fame on Thursday. (AP Photo/ Strong National Museum of Play)

By Ben Dobbin, Associated Press Writer

ROCHESTER, N.Y. — A magic wand, a fishing rod or a royal scepter?

The lowly stick, a universal plaything powered by a child's imagination, landed in the National Toy Hall of Fame on Thursday along with the Baby Doll and the skateboard.

The three were chosen to join the Strong National Museum of Play's lineup of 38 classics ranging from the bicycle, the kite and Mr. Potato Head to Crayola crayons, marbles and the Atari 2600 video game system.

Curators said the stick was a special addition in the spirit of a 2005 inductee, the cardboard box. They praised its all-purpose, no-cost, recreational qualities, noting its ability to serve either as raw material or an appendage transformed in myriad ways by a child's creativity.

"It's very open-ended, all-natural, the perfect price -- there aren't any rules or instructions for its use," said Christopher Bensch, the museum's curator of collections. "It can be a Wild West horse, a medieval knight's sword, a boat on a stream or a slingshot with a rubber band. ... No snowman is complete without a couple of stick arms, and every campfire needs a stick for toasting marshmallows.

"This toy is so fantastic that it's not just for humans anymore. You can find otters, chimps and dogs -- especially dogs -- playing with it."

Longevity is a key criterion for getting into the hall, which the museum acquired in 2002 from A.C. Gilbert's Discovery Village in Salem, Ore. Each toy must not only be widely recognized and foster learning, creativity or discovery through play, but also endure in popularity over generations.

While dolls have been around since ancient times, the Baby Doll with its realistic newborn features emerged in the late 18th century and has been through hundreds of incarnations. Today's models can crawl, drink and even talk via voice-activated commands.
"It is generally thought of as lovable and cuddly, even if it can doze off or cry during play," said Susan Asbury, an associate curator. "Toy designers have spent decades making it ever more lifelike and true to form. ... It promotes imaginative play and brings out the nurturing side in all of us."

The first skateboarders in the 1950s cruised walkways on California beaches trying to match the speed, turns and tricks performed by surfers they watched offshore.
Apart from being fun, practicing ollies, grinds and primos "promotes individualism ... artistic expression and it's also very athletic," skateboard icon Tony Hawk said in a video message played at the induction ceremony.

Writing Labels
Writing labels is tricky, but also a lot of fun. When you write a label it's like you're treasure hunting. You are digging up facts and looking for the most interesting details to share. It is amazing how fascinating and full of stories objects can be.

Toy Labels
This is a new style of writing and will take some practice. Though we have looked at a lot of labels, this is still going to be a bit of a jump, but it should be fun! Remember, you get to write about Hall of Fame Toys.

Have students read the Press Release to add to their knowledge of the Toy Hall of Fame. The complete list of 1998-2010 inductees can be printed on the back. You may elect to assign your students to a toy or have your students choose a toy for label practice. It might be helpful to note that info cards are included for toys that are underlined. One toy a year from 1998-2008 was selected. A few 'extra' info cards have been included if you wish to use those. Toys on the list followed by a plus sign (+) indicate items found in the popular 'extras' set.

Though they are likely anxious to jump in, modeling one toy label for your students should really improve the quality of work produced. Included is The Three Bears' sample to be printed double-sided with the student Toy Label worksheet.

You will each get a Toy Hall of Fame Info Card. This information is from the Strong Museum of Play's Toy Hall of Fame collections website. While all of the information is interesting, museum research shows that visitors typically do not stay at one item long enough to read any more that 50 words. In fact, even reading 50 is a lot. That is why good label writers focus on one powerful point in just a few sentences. You will have to choose your words carefully.

Thomas Jefferson, the primary author of the Declaration of Independence is thought to have said, "The most valuable of all talents is that of never using two words when one will do." That is precisely your task.

Let's look at the page titled "Three Bears" together. You'll see, just at a distance that the top information is too long, the middle definition is too short, and hopefully, the label there is …. just right! Just right does not mean perfect. There are many ways to write good labels.

After having time to read and write, pair students up for some peer editing. As your classroom space/time allows provide a venue to share labels. This might be a "gallery walk" where students freely walk around the room and read those labels displayed on tables, or it could be volunteer presentations.

Museum Madness: Label Challenge is included for those students or classes that want to have a bit more creative practice. This exercise could be done for homework or extra credit, during spare time or bell work.

An Artifact's STORY

S See	T touch	O opinions	R read	Y your story
Look at the artifact and describe in detail what you see. (Include a drawing)	Now that you have the artifact in your hand, expand on your description.	Imagine how, when, and why this object may have been used. Share your opinions.	Read the caption for your artifact and summarize the facts below.	Compare what you read to your original ideas. Does this information match your story? What museum might own this object?

Name _____

The Stick

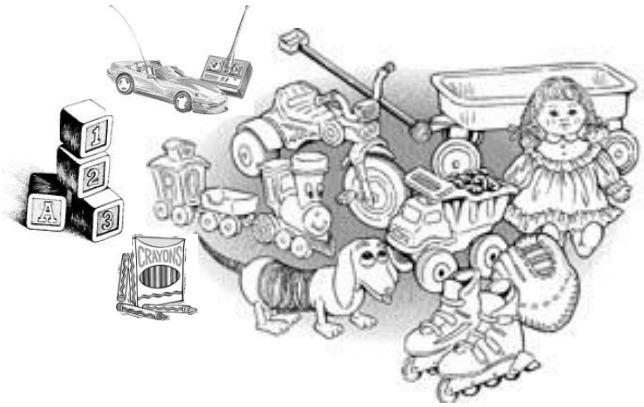
Stick Caption from Museum

The stick may be the world's oldest toy. Animals play with sticks, and we use them to play fetch with our dogs. Children find sticks an endless source of make-believe fun. Sticks can turn into swords, magic wands, majorette batons, fishing poles, and light sabers. When children pretend with sticks, they cultivate their creativity and develop their imagination. They explore as they search outdoors for just the right one. Children build with sticks, bat balls with them, and walk with them. They are the original building blocks for creative play. Sticks also promote free play—the freedom to invent and discover. They encourage playing outside instead of inside. Sticks are all around us; they are natural and free. And playing with sticks isn't just for children and animals. Adult artists, crafters, decorators, and architects all make use of sticks in sculptures, wreaths, furniture, and building design. Few adults or children can resist simple play with sticks—from drawing in the sand on the beach, to building a campfire and then toasting marshmallows. Sticks are not only possibly the oldest toy, they're possibly the best!

In what type of museum do you think the stick with this story is displayed?

A stick isn't always a toy. What other museums might have a sick on display, and why? What other stories can a stick tell?

Type of Museum	**Focus of Story**
Children's Museum	
Natural History Museum	
Science Museum	
Arboretum	
Art Museum	
History Museum	



Press Release

October 1, 2010

National Toy Hall of Fame® 12 Final Nominees Announced in Rochester, NY
2010 Inductees to Be Named November 4

ROCHESTER, New York—Which of America's most beloved toys will make it into the hallowed halls of the National Toy Hall of Fame at the Strong this year? Will the Pogo Stick jump high above its competitors? Can Lite Brite® outshine the others? Will the Game of Life® find a path to success?

The National Toy Hall of Fame at the Strong in Rochester, New York, today announced the 12 final nominees for induction into the hall: Cabbage Patch Kids®, Chess, Dollhouse, Dominoes, Dungeons & Dragons®, The Game of Life®, Hot Wheels,®, Lite Brite®, Magic 8 Ball®, Playing Cards, Pogo Stick, and Rubik's Cube®. Only two of the 12 finalists will make it into the prestigious hall, joining such toy luminaries as Barbie®, Mr. Potato Head®, and the Atari® 2600 Game System.

The National Toy Hall of Fame receives thousands of nominations via mail and email annually. **The final 2010 toy inductees, to be chosen by a national selection committee, will be announced at the National Toy Hall of Fame on Thursday, November 4, at 10:30 a.m. and a major weekend public celebration will follow at the Strong's National Museum of Play on Saturday, November 6 and Sunday, November 7.**

The National Toy Hall of Fame at the Strong recognizes toys that have engaged and delighted multiple generations, inspiring them to learn, create, and discover through play. Criteria for induction include: *Icon-status* (the toy is widely recognized, respected, and remembered); *Longevity* (the toy is more than a passing fad and has enjoyed popularity over multiple generations); *Discovery* (the toy fosters learning, creativity, or discovery through play); and *Innovation* (the toy profoundly changed play or toy design).

To date, the following 44 toys have made it into the National Toy Hall of Fame: Alphabet Blocks, Atari® 2600 Game System, Barbie®, Baby Doll, Ball, Bicycle, Big Wheel, Nintendo Game Boy®, Candy Land®, Cardboard Box, Checkers, Crayola® Crayons, Duncan® Yo-Yo, Easy-Bake® Oven, Erector® Set, Etch A Sketch®, Frisbee®, G.I. Joe™, Hula Hoop®, Jack-in-the-Box, Jacks, Jigsaw Puzzle, Jump Rope, Kite, LEGO®, Lincoln Logs®, Lionel® Trains, Marbles, Monopoly®, Mr. Potato Head®, Play-Doh®, Radio Flyer® Wagon, Raggedy Ann & Andy™, Rocking Horse, Roller Skates, Scrabble®, Silly Putty®, Skateboard, Slinky®, Stick, Teddy Bear, Tinkertoy®, Tonka® Trucks, and View-Master®.

Anyone can nominate a toy for induction into the National Toy Hall of Fame. An internal museum advisory committee comprised of curators, educators, and historians reviews the submitted nominations and determines which toys meet the criteria for selection. A national selection committee then reviews the list of toys that meet the criteria. Each national selection committee member votes for his or her top toy picks for induction. The votes are then tallied, with the toys receiving the most votes making the cut for induction into the National Toy Hall of Fame.

For more information on the National Toy Hall of Fame at the Strong visit www.toyhalloffame.org.

National Toy Hall of Fame

Inducted Toys: by Year Inducted

To date, the following 46 toys have made it into the National Toy Hall of Fame®. Select a toy from this list to reveal its history or learn more by browsing the online National Toy Hall of Fame collection.

2010
- Playing Cards
- The Game of Life

2009
- Ball+
- Big Wheel
- Nintendo Game Boy

2008
- Baby Doll
- Skateboard+
- Stick

2007
- Atari 2600 Game System
- Kite
- Raggedy Andy

2006
- Cardboard Box
- Easy-Bake Oven+
- Lionel Trains

2005
- Candy Land
- Jack-in-the-Box

2004
- G.I. Joe
- Rocking Horse
- SCRABBLE

2003
- Alphabet Blocks
- Checkers

2002
- Jigsaw Puzzle
- Raggedy Ann

2001
- Silly Putty
- Tonka Trucks

2000
- Bicycle
- Jacks
- Jump Rope
- Mr. Potato Head
- Slinky

1999
- Duncan Yo-Yo+
- Hula Hoop
- Lincoln Logs
- Radio Flyer Wagon
- Roller Skates
- View-Master

1998
- Barbie
- Crayola Crayons
- Erector Set
- Etch A Sketch
- Frisbee
- LEGO+
- Marbles
- Monopoly
- Play-Doh+
- Teddy Bear
- Tinkertoy

The Three Bears

Teddy Bear
Inducted 1998

In 1902, on an unsuccessful hunting trip, President Theodore Roosevelt refused to shoot a bear that expedition trackers had caught and tied to a tree. The incident struck a chord with the American sense of fair play. Political cartoonist Clifford Berryman immortalized the incident in "Drawing the Line in Mississippi." Tugging at American heartstrings, Berryman drew the old, injured female bear as a helpless cub. With Roosevelt's permission, Morris Mictom, a Russian immigrant and Brooklyn toy-shop owner, sewed a cuddly stuffed toy and dubbed it Teddy's Bear. With its big head and ears, and eyes as appealing as the future Mickey Mouse, the bear became a hit. German toy manufacturer Margarete Steiff created a stuffed bear, too, and began mass-producing copies in 1903. The stuffed bears became a hit with adults and children. Visitors who flocked to the boardwalks in New Jersey's seaside resorts took home teddy bears as prizes and souvenirs. Women's magazines featured ads for bear accessories and offered up-to-date patterns for sewing bear clothes. Books, songs, and even a 1907 feature film marked the rising popularity of teddy bears. This fascination has persisted ever since, making Teddy Bears the most popular plush toy in history.

Teddy Bear
A bear-shaped toy, usually made of fabric and stuffed

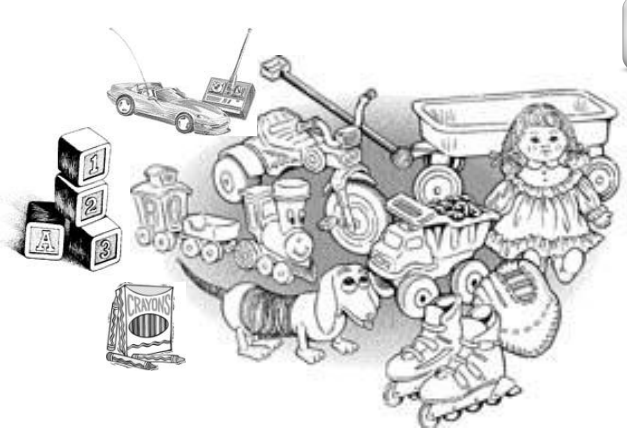
Word Count ____

Teddy Bear

1998 Toy Hall of Fame Inductee

This plush, big-eyed guy is a President's namesake. Russian born Brooklyn toy-shop owner, Morris Mictom sewed "teddy's bears" after Theodore Roosevelt refused to kill a trapped bear. In 1903 German manufacturer Margarete Steiff began mass-producing stuffed bears. Soon, teddy bears were in books, songs, movies, and cuddled in children's arms across America.

Toy Label



Tips: Short, Clear, Readable, Relatable, Memorable

Practice space:

Word Count ____

Toy Hall of Fame Info Card

National TOY Hall of Fame

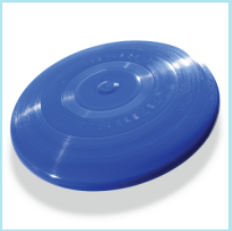
About | Inducted Toys | Things to See & Do | Nominate

Toys Alphabetically
Toys by Year
Online Collections
Book

Home › Inducted Toys ›

Frisbee

Inducted 1998



The Frisbee story starts in college. Late 19th-century students at Yale and other New England universities played catch with pie plates (some say it was cookie tin lids) made by the nearby Frisbie Baking Company of Bridgeport, Connecticut. They yelled "Frisbie!" to warn passersby away from the spinning discs. In 1948, Walter Morrison and his partner Warren Franscioni created a plastic version to sell at county fairs. The airfoil at the outer edge, called the Morrison slope, gives the toy its lift in flight. Hoping to cash in on the fascination with UFOs after the 1947 sightings in Roswell, New Mexico, Morrison called his creation the "Flying Saucer," then the "Pluto Platter." Wham-O founders Arthur "Spud" Melin and Richard Knerr (creators of the Hula Hoop) bought rights to the toy in 1955, and renamed it "Frisbee" in 1958. Sales soared, reaching 100 million before Mattel bought out Wham-O. Early in the 1960s, people treated the flying disc as a counterculture sport. Wham-O's first "professional" Frisbee followed in 1964. Enthusiasts founded the International Frisbee Association in 1967, and the next year, the Frisbee Golf Tournament began in California. New Jersey teen-agers later invented Ultimate Frisbee, a game played enthusiastically today.

SEE ALSO

Frisbee in Online Collections

National TOY Hall of Fame

About | Inducted Toys | Things to See & Do | Nominate

Toys Alphabetically
Toys by Year
Online Collections
Book

Home › Inducted Toys ›

Lincoln Logs

Inducted 1999

The idea for Lincoln Logs struck John Lloyd Wright as he watched workers build one of his father's designs—an earthquake-proof building in Japan. The construction toy he created came with logs notched at both ends so kids could build structures sturdy enough to stand up to rough play. Good timing and a good "hook" made for success. Lincoln Logs appeared in 1924, just as parents were discovering the value of construction toys. Wright use the storied past of the American frontier to sell his creation, naming the toy after President Abraham Lincoln's fabled childhood cabin. Kids could be as resourceful and self-reliant as their pioneer forerunners who rose from humble origins to become, well, President, in at least one case. Bucking advertisers' requests to picture the toy on the box, Wright's packaging featured a simple drawing of a log cabin, a small portrait of President Lincoln, and the slogan, "Interesting playthings typifying the spirit of America." Television shows like Pioneer Playhouse and Davy Crockett featured Lincoln Logs advertisements, boosting sales enormously in the early 1950s. Lincoln Logs are still sold today, three-quarters of a century after they first appeared.

SEE ALSO

Lincoln Logs in Online Collections

Toy Hall of Fame Info Card

National TOY Hall of Fame

About | Inducted Toys | Things to See & Do | Nominate

- Toys Alphabetically
- Toys by Year
- Online Collections
- Book

Home › Inducted Toys ›

Slinky

Inducted 2000

Mechanical engineer Richard James invented the Slinky by accident. In 1943, he was working to devise springs that could keep sensitive ship equipment steady at sea. After accidentally knocking some samples off a shelf, he watched in amazement as they gracefully "walked" down instead of falling. Along with his wife Betty, James developed a plan to turn his invention into the next big novelty toy. Betty combed the dictionary for an appropriate name and came up with "Slinky." James designed a machine to coil 80-feet of wire into a two-inch spiral. The couple borrowed $500 to manufacture the first Slinkys. Initial sales proved sluggish but soared after Gimbels Department Store in Philadelphia allowed demonstrations for Christmas 1945. The first 400 Slinkys sold within minutes. An advertisement with a memorable jingle familiarized a national customer base. "What walks down stairs alone or in pairs/and make a slinkety sound? A spring a spring, a marvelous thing/Everyone knows it's Slinky!" Slinkys glided effortlessly down stairs on television, but alas most household steps proved too tall and wide for long descents. Still, at the end of the 20th century and 250 million Slinkys later, people continued to buy them.

SEE ALSO

Slinky in Online Collections

National TOY Hall of Fame

About | Inducted Toys | Things to See & Do | Nominate

- Toys Alphabetically
- Toys by Year
- Online Collections
- Book

Home › Inducted Toys ›

Silly Putty

Inducted 2001

When the Japanese invasion of Asia threatened America's rubber supply during World War II, chemists at General Electric began looking for a synthetic substitute. James Wright stumbled upon an odd concoction: a stretchy material that withstood decay and bounced 25 percent higher than rubber. When left untouched, this "solid liquid" flowed in slow motion and when struck sharply, it broke into pieces. Wright failed to find a wartime use for the goofy goo. Afterward, this "bouncing putty" or "nutty putty" amused guests at parties but did little else until toy marketer Peter Hodgson decided to list it as a novelty in his catalog. Hodgson hired Yale students to fill colorful plastic eggs with one-ounce blobs of "Silly Putty." These he sold for a dollar, just in time for Easter. After a New Yorker article featured Silly Putty in 1950, orders topped 250,000 in three days. Millions have sold every year since. More colors appeared in 1990, including a glow-in-the-dark version in 1991. Useless originally, people have since bounced it, used it to lift images off the comic pages, and cleaned typewriter keys with it. Astronauts even took it aboard Apollo 8 to stick down tools in zero gravity!

SEE ALSO

Silly Putty in Online Collections

Toy Hall of Fame Info Card

National TOY Hall of Fame

About | Inducted Toys | Things to See & Do | Nominate

Toys Alphabetically
Toys by Year
Online Collections
Book

Home › Inducted Toys ›

Jigsaw Puzzle

Inducted 2002

Around 1760, English mapmaker John Spilsbury pasted one of his maps to a board, cut around the borders, and created the first jigsaw puzzle. The idea caught on, and various British manufacturers created educational puzzles to teach geography, history, and Holy Scripture. Puzzles crossed the Atlantic slowly, however. The first American puzzles appeared around 1850, and, like their predecessors, they featured maps cut from wood. Following the Civil War (1861–1865), well-known game producers such as Milton Bradley and Parker Brothers offered puzzles that combined educational value with entertainment. In 1908, Parker Brothers introduced its Pastime Puzzles, featuring pieces cut as animals, letters, and geometric shapes. Other manufacturers introduced interlocking pieces about the same time. These easier puzzles created a small craze, but the real heyday of puzzles emerged in the 1930s. Manufacturers mass-produced die-cut cardboard puzzles and sold them cheaply enough for most Americans to afford, even in the midst of the Great Depression. Newsstands offered weekly jigsaw puzzles and magazines devoted to the pastime. The puzzle craze faded in the 1950s, as television increasingly dominated home entertainment. But even today, families still enjoy the challenge of a good puzzle.

SEE ALSO

Jigsaw Puzzle in Online Collections

National TOY Hall of Fame

About | Inducted Toys | Things to See & Do | Nominate

Toys Alphabetically
Toys by Year
Online Collections
Book

Home › Inducted Toys ›

Checkers

Inducted 2003

Simple rules. Straightforward play. Sociability. These hallmarks have kept checkers popular even in an age of complex video games and colorful board games. Checkers, or draughts as people elsewhere know it, dates back several centuries. By the 1600's, people purchased the first checkers' strategy book. Throughout its history, checkers' simple equipment has included pieces made of colored stones, dyed slices of corncob, or painted wood. Boards could be scratched on the ground, carved in wood, or printed on cardboard. Machine-made wooden pieces replaced hand-carved ones in the 19th century, and plastic sets dominated in the following century. Pressman Toys, perhaps the leading manufacturer of checker sets, estimates it has sold more than 25 million since its founding in 1922. Today, players can compete against computer programs, clown around with jumbo sets, or take small, magnetic travel sets on road trips. Checkers endures because it captures the essence of play: a chance for people to step away from their normal lives and the demands of the workday world to a space that rewards calculation and strategy on the board and wit and humor off it.

SEE ALSO

Checkers in Online Collections

Toy **Hall of Fame Info Card**

National TOY Hall of Fame

About | Inducted Toys | Things to See & Do | Nominate

Toys Alphabetically
Toys by Year
Online Collections
Book

Home › Inducted Toys ›

SCRABBLE

Inducted 2004

During the Great Depression, architect Alfred M. Butts had time on his hands and play on his mind. He devised a game of 100 lettered tiles used to form words on a square grid that looked like a crossword puzzle. Each letter carried a numerical value, and players scored points by tallying up the values of the letters in the words they laid down.

Butts was a better game creator than marketer. He called his game LEXIKO, then CRISSCROSS WORDS; but the names did little for sales. By 1948, Butts sold rights to James Brunot who refined the rules, changed the design, and offered another new name: SCRABBLE. Early sales were slow, but word of mouth created devotees. By 1954, when Selchow & Righter took over production, sales topped 4.5 million. The game's popularity hasn't flagged: present owner Hasbro, Inc. sells two million copies annually in the United States, millions more internationally.

Sales figures tell one story, but SCRABBLE's value doubles and triples when players rack their brains and stretch their vocabularies. SCRABBLE, little changed from its original form, proves that the best games let players play pleasantly, learn unconsciously, and socialize easily.

SEE ALSO

SCRABBLE in Online Collections

National TOY Hall of Fame

About | Inducted Toys | Things to See & Do | Nominate

Toys Alphabetically
Toys by Year
Online Collections
Book

Home › Inducted Toys ›

Candy Land

Inducted 2005

In the early 1940s, when the dreaded disease polio struck thousands of Americans, Eleanor Abbott, a victim of the disease, sought to invent pastimes for children who were recuperating. Her most successful idea became Candy Land®, a game many people remember fondly as the first board game they ever played.

On the advice of her friends, Abbott sent her creation to Milton Bradley, and the company introduced Candy Land in 1949. Eager players travel along the rainbow-colored trail, past the Peppermint Stick Forest and the Gumdrop Mountain, navigating impediments like the Molasses Swamp and the Ice Cream Floats. Delightful sweet treats decorate the playing board. Wooden playing pieces were used in the past, but today gingerbread men are the game's markers. Drawing simple color cards, players advance to squares of the same color, and the winner is the one who reaches the Candy Castle first. Although parents are often known to play it too, Candy Land is designed for preschoolers ages three to six. The game encourages socialization in playing with others, patience in waiting for one's turn, and practice in recognizing colors, learning rules, and following directions.

Milton Bradley, now Hasbro, has produced Candy Land for more than fifty years. Today, along with the standard edition, the game is available in CD ROM, as a hand-held electronic game, and in special character editions. It is also produced in a Step-a-Tune edition featuring an oversize board and audio contributions from Grandma Nut, Mr. Mint, and Princess Lolly.

SEE ALSO

Candy Land in Online Collections

Toy Hall of Fame Info Card

National TOY Hall of Fame

About | Inducted Toys | Things to See & Do | Nominate

Toys Alphabetically
Toys by Year
Online Collections
Book

Home › Inducted Toys ›

Cardboard Box

Inducted 2006

The Chinese invented cardboard in the 1600s. The English played off that invention and created the first commercial cardboard box in 1817. Pleated paper, an early form of corrugated board, initially served as lining for men's hats. By the 1870s, corrugated cardboard cushioned delicate glassware during shipment. Stronger, lined corrugated cardboard soon followed. American Robert Gair produced the first really efficient cardboard box in 1879. His die-cut and scored box could be stored flat and then easily folded for use. Refinements followed, enabling cardboard cartons to substitute for labor-intensive, space-consuming, and weighty wooden boxes and crates. Since then, cardboard boxes have been widely appreciated for being strong, light, inexpensive, and recyclable.

Over the years, children sensed the possibilities inherent in cardboard boxes, recycling them into innumerable playthings. The strength, light weight, and easy availability that make cardboard boxes successful with industry have made them endlessly adaptable by children for creative play. Shoe boxes serve as ideal settings for scenes and dioramas. Small boxes take on alternate roles as dollhouse furniture. Wheels drawn on the side turn a box into a car. Really large boxes—from washers, stoves, big-screen televisions, or refrigerators—can offer children even greater opportunity for creativity. With nothing more than a little imagination, those boxes can be transformed into forts or houses, spaceships or submarines, castles or caves. Inside a big cardboard box, a child is transported to a world of his or her own, one where anything is possible.

SEE ALSO

Cardboard Box in Online Collections

Toys Alphabetically
Toys by Year
Online Collections
Book

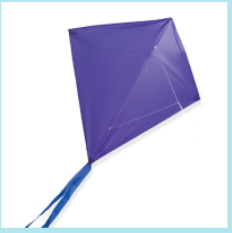
Home › Inducted Toys ›

Kite

Inducted 2007

According to tradition, kites made of silk and bamboo first appeared in China some 3,000 years ago, but the earliest written account of kite flying is about 200 BC. A Chinese general used a kite to determine the distance his troops needed to tunnel under a city's walls. Kite flying spread throughout Asia and became a national pastime in several countries. From Asia, kites continued to migrate to the rest of the world. In the English language, kites share their name with a graceful and colorful hawk.

Though the aerodynamics of kites remain the same, the materials, shapes, and uses of kites have multiplied throughout the centuries. Ancient Chinese kites have given way to kites of paper, polyester, and rip-stop nylon. Flat kites with diamond or geometric shapes share the skies with intricate box kites and other three-dimensional forms and inflatable spar-less airfoils. Over the years, kites have advanced science, meteorology, building construction, and photography. Modern enthusiasts use kites for sports like hang-gliding and competitive kite fighting, and in traditional and national festivals. Other people use kites just for fun. Nothing sends the human spirit soaring so well as a colorful kite aloft in a gentle breeze.



SEE ALSO

Kite in Online Collections

Yoy Hall of Fame Info Card: Extras

National TOY Hall of Fame

About | Inducted Toys | Things to See & Do | Nominate

Toys Alphabetically
Toys by Year
Online Collections
Book

Home › Inducted Toys ›

Ball

Inducted 2009

Rolling, throwing, kicking, catching, bouncing, and batting. The ball is nearly as old as civilization itself. History abounds with stories and evidence of ball play. The ancient Mesoamericans played ball in elaborately constructed ball courts. In Laura Ingalls Wilder's *Little House in the Big Woods* (1932), Laura and Mary Ingalls played ball with an inflated pig's bladder. Ancient Greek legends referred to ball play in Odysseus (Od.vi.100), and songwriters Norworth and Tilzer scored a hit with 1908's "Take Me Out to the Ball Game". Literature and culture are full of references to people playing with balls. And it is appropriate. Like few other playthings, the ball facilitates and promotes free play among people of all ages.

While baby's first toy may be a soft and safe cloth ball, many adults enjoy playing catch with a hardball. Ball play of every kind is pervasive. Children play with jacks and a ball. Kickball dominates a playground and dodge ball rules the gym class. The ball challenges the abilities of young people and develops physical skills. And from cricket to water polo, ball play encourages systematic understanding and teamwork among older individuals. Later in life, a businessperson's reward for a week's work may be a round of golf. Or, a group of friends may get together annually to watch the Super Bowl and rekindle their bonds of friendship. In all these ways and countless more, ball play is here to stay. Play ball!

SEE ALSO

Ball in Online Collections

National TOY Hall of Fame

About | Inducted Toys | Things to See & Do | Nominate

Toys Alphabetically
Toys by Year
Online Collections
Book

Home › Inducted Toys ›

LEGO

Inducted 1998

Named "Toy of the Century" in 2000 by both Fortune magazine and the British Association of Toy Retailers, LEGO blocks have delighted generations of kid and their parents. In 1949, Ole Christiansen, a Danish carpenter, created a set of interlocking red-and-white "Automatic Building Blocks"—LEGO bricks. In Danish, leg godt means "play well." Educational theorists and developmental psychologists, especially those who follow Jean Piaget, find LEGO bricks an ideal toy, one that proves how children are not simply passive sponges soaking up impressions. Rather, say the experts, children "construct," organize, and reconfigure experience into "knowledge structures"—portable theories that explain, provisionally, how the world works. In 1958, the LEGO company patented bricks with small interlocking studs and tubes that permitted two blocks to join in 24 different ways. Just six blocks could combine in 102,981,500 ways! Eventually, the original blocks evolved into 28 different "play systems" allowing children to incorporate small cars, street maps, trains, and more into their constructive play. Purists charged that these more specific LEGO toys left less creative room. Yet, LEGO toy sales increased. Over the last sixty years, the company has made more than 320 billion individual bricks. That equates to 52 for every person on the planet.

SEE ALSO

LEGO in Online Collections

Toy Hall of Fame Info Card: Extras

National TOY Hall of Fame

About | Inducted Toys | Things to See & Do | Nominate

- Toys Alphabetically
- Toys by Year
- Online Collections
- Book

Home › Inducted Toys ›

Skateboard

Inducted 2008

When it comes to the development of skateboarding, you could say that a calm sea is the mother of invention. Some historians report the first skateboarders were surfers who fitted wheels to boards and mimicked their surfing maneuvers. Skateboarding became something to do when the surf wasn't up. But those first boards were clumsy, and the skater had very little control over his ride. The first wave of enthusiasts seemed not to notice. Millions of kids took to skateboarding by the late 1960s.

Over the years, interest in skateboarding has ebbed and flowed. Improvements in board technology and safety gear and the development of skate parks and plazas and other venues encouraged kids to attempt more sophisticated tricks. Champions who perfected the McTwist (a 540-degrees turn on a ramp) and the 900 (a spin of 2.5 revolutions) inspired kids to push themselves to master a new maneuver. The skateboarding of today requires kids to develop strength, balance, creativity, and discipline and to make judgments about risks and rewards. Skateboarding is hard to master, but mastering it is so "rad."

SEE ALSO

Skateboard in Online Collections

National TOY Hall of Fame

About | Inducted Toys | Things to See & Do | Nominate

- Toys Alphabetically
- Toys by Year
- Online Collections
- Book

Home › Inducted Toys ›

Play-Doh

Inducted 1998

Play-Doh modeling compound started out as wallpaper cleaner. Joe McVicker learned from a teacher that kids usually found modeling clay too hard to manipulate. Discovering that the squishy cleaning product he manufactured could substitute, McVicker shipped some to the school. After teachers and kids raved, he offered to supply the product to all Cincinnati schools. More rave reviews followed. McVicker showcased the modeling clay at a national education convention in 1955, and word spread to Macy's and Marshall Field's. By 1956, the wallpaper cleaner had become Play-Doh. A year later, the manufacturer offered a softer Play-Doh in primary colors. Kids mixed these to make other colors, ending inevitably in brown. Captain Kangaroo endorsed Play-Doh, and so did Miss Frances from Ding Dong School. Play-Doh Pete appeared on product cans in 1960. The Fun Factory let kids extrude the material into interesting shapes, making mock hair, colorful spaghetti, and pretend ice cream that wouldn't melt. In the 1980s, Play-Doh expanded its palette to eight colors. Later versions sparkled with glitter, glowed in the dark, or smelled like shaving cream. Recent estimates say that kids have played with 700 million pounds of Play-Doh.

SEE ALSO

Play-Doh in Online Collections

Toy Hall of Fame Info Card: Extras

National TOY Hall of Fame

About | Inducted Toys | Things to See & Do | Nominate

- Toys Alphabetically
- Toys by Year
- Online Collections
- Book

Home › Inducted Toys ›

Easy-Bake Oven

Inducted 2006

What a bright idea! Power a real baking oven with an ordinary, household light bulb. The best part is that the play makes its own reward. Fifteen minutes in the oven and a slurpy, gooey, doughy concoction becomes a delicious—okay, edible—confection.

In the early 1960s, pretzel vendors on New York City streets inspired toy makers at Kenner, Inc. to make the Easy-Bake Oven. Anticipating parents' concerns about safety, Kenner substituted two 100-watt light bulbs for a heating element to minimize the possibility of burnt fingers. Accompanied by special cake and cookie mixes, a recipe book, utensils, and slide-thru bake pans, the oven debuted in fashionable turquoise and pale yellow. Through the years, the design of the oven has changed, but not its popularity. Since 1963, more than 23 million have been sold, and more than 140 million mixes have been baked into yummy, yummy treats.

SEE ALSO

Easy-Bake Oven in Online Collections

National TOY Hall of Fame

About | Inducted Toys | Things to See & Do | Nominate

- Toys Alphabetically
- Toys by Year
- Online Collections
- Book

Home › Inducted Toys ›

Duncan Yo-Yo

Inducted 1999

Versions of the yo-yo are said to have originated in ancient Greece or even earlier in China, but the first yo-yo craze seized Americans in the mid-19th century when several manufacturers patented improvements to the toy. At the beginning of the 20th century, Scientific American published directions for making yo-yos. But the story of the modern yo-yo began in the 1920s. Filipino bellhop Pedro Flores caught guests' attention by playing with the toy on his lunch breaks at a Southern California hotel. (Yo-yo means "come come" in a native Philippine language.) Flores saw a business opportunity and began manufacturing the toys. Donald F. Duncan—father of the Good Humor ice cream bar—first saw a yo-yo in California in 1928. A year later, he bought Flores out. Duncan's company generated millions of customers by staging contests where yo-yo "champions" could make the toy "walk the dog," "shoot the moon," "rock the cradle," and go "around the world." In the early 1960s, a national television campaign intoned the slogan, "if it isn't a Duncan, it isn't a yo-yo!" High expenses and a trademark protection lawsuit put Duncan personally out of business in 1965, but his manufacturer, Flambeau Products, continued making yo-yos.

SEE ALSO

Duncan Yo-Yo in Online Collections

Name_____

Museum Madness: Label Challenge

The chart below lists four types of museum and five artifacts.

1. Choose one artifact and imagine it is going to be on exhibit in two of the museums.
2. Write an exhibit label specific to the two museums which will be displaying the object.

	Baseball Bat	Bouquet of Flowers	Shell	Shoe	Butterfly Net
Sports Hall of Fame					
Children's Museum					
Science Center					
History Museum					

_____ on exhibit at the _____:

_____ on exhibit at the _____:

Hall of Fame Info Card: Extension Set for Optional Discussion

National TOY Hall of Fame

About | Inducted Toys | Things to See & Do | Nominate

Toys Alphabetically
Toys by Year
Online Collections
Book

Home › Inducted Toys ›

Radio Flyer Wagon

Inducted 1999

Sixteen-year-old Italian immigrant Antonio Pasin arrived in New York in 1914 carrying little else than the carpentry skills he had learned from his father and grandfather. His parents had sold the family mule to pay for passage. Working in Chicago as a manual laborer, Pasin bought used woodworking equipment and set up shop in a rented room. Building little red wagons at night and peddling them during the day, he saved enough money to found the Liberty Coaster Company in 1923, naming it after the statue he had admired in New York Harbor. In 1930, he began mass-producing the toys out of stamped metal. He called his new wagon the "Radio Flyer," another patriotic reference to his homeland, this one after a famous Italian invention, the radio. Intended "for every girl and boy," the wagons sold for less $3 each. Each in the depths of the Great Depression, they sold at the kids in 1950s, borrowed bright colors and slick tires from muscle cars in the 1970s, and even created an all-terrain version, the Quad Shock Wagon—to match the SUVs in the 1990s.

SEE ALSO

Radio Flyer Wagon in Online Collections

National TOY Hall of Fame

About | Inducted Toys | Things to See & Do | Nominate

Toys Alphabetically
Toys by Year
Online Collections
Book

Home › Inducted Toys ›

Crayola Crayons

Inducted 1998

In 1900, Binney & Smith, makers of familiar red barn-paint, ventured into the school supply business. Noting teachers' complaints of poor quality chalk, the firm imagined a new market. Adapting a black grease pencil used to mark containers, Barney & Smith created handy multicolored non-toxic wax sticks in black, brown, orange, violet, blue, green, red, and yellow. Alice Binney combined the French word for chalk craie, with olea, "oily" to make "Crayola," and Crayola Crayons entered the market in 1903. At a nickel a box, kids snapped them up. Over the years, appealing new colors tracked fashion trends and cultural change. Burnt Sienna and Salmon appeared after World War I. Aquamarine materialized in the 1960s. Atomic Tangerine and Laser Lemon launched in the 1970s and 80s. Macaroni and Cheese, Outer Space, Purple Heart, Tickle Me Pink, and Manatee surfaced in the 90s. Names changed too: Prussian Blue became Midnight Blue as people forgot the country. The color Flesh transformed into Peach in 1962 as the Civil Rights Movement helped open American eyes to diversity. Likewise, Indian Red became Chestnut in 1999. By 1996, the company had sold 100 billion crayons. Creative kids use up billions more throughout the world each year.

SEE ALSO

Crayola Crayons in Online Collections

Hall of Fame Info Card: Extension Set for Optional Discussion

National TOY Hall of Fame

About | Inducted Toys | Things to See & Do | Nominate

Toys Alphabetically
Toys by Year
Online Collections
Book

Home › Inducted Toys ›

Jump Rope

Inducted 2000

"Cinderella, dressed in yellow, went up stairs to kiss a fellow...." For generations, American girls have spent their childhoods jumping rope. But it really began as a boy's activity in the 17th century among Dutch settlers. Girls grabbed the rope handles in the 1800s even though most advice books cautioned against too much exertion. As leisure time increased over the course of the 19th century, girls took to jumping rope in increasing numbers. By the early 1900s, girls' games focused on social activities, while boys' games centered on competition. Jumping rope highlighted this change. Not only did girls tend to jump rope in groups, but they also accompanied their jump rope games with rhythmic songs. Some, such as "Teddy bear, teddy bear, turn around," emphasized acrobatic skills, requiring the girls to perform the various feats mentioned in the tune. Others, like "Cinderella," spoke directly of relationships, especially the prospects and perils of matrimony.

SEE ALSO

Jump Rope in Online Collections

National TOY Hall of Fame

About | Inducted Toys | Things to See & Do | Nominate

Toys Alphabetically
Toys by Year
Online Collections
Book

Home › Inducted Toys ›

Jacks

Inducted 2000

Whether called Iguni, Abhadho, Cincos Marias, or Huripapa, jacks is one of the oldest and most widespread games in the world. All jacks games share a strategy: toss a ball in the air and scoop up pieces before the ball bounces. In this game of skill, almost any collection of small objects will work—beans, rocks, stones, and even bones. Throughout history, kids in virtually every culture on the globe have sat cross-legged and played some version of the game. Cro-Magnon parents may have encouraged their children to play jacks on cave floors, to increase the eye-hand coordination vital to later success at hunting. Kids in ancient Egypt played "knucklebones" with sheep toe bones. The game of knucklebones led to dice games for boys, and jacks, usually played with a wooden ball, for girls. In modern times, kids followed a bouncing rubber ball. The game inspired popular children's songs such as "This Old Man" (he played one, he played two, and so on). Classic American versions of jacks include Eggs in the Basket, Pigs in the Pen, Jacks on the Rooftop, Five Finger, and Challenge.

SEE ALSO

Jacks in Online Collections