



# EDUCATOR'S GUIDE

## ANIMATIONLAND AND BUILDING BUDDIES

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EDUCATOR RESOURCES

FIELD TRIP ACTIVITIES:  
BEFORE AND DURING

CURRICULUM  
STANDARDS





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## About

This guide is a resource to enrich your and your students' experience before, during, and after your visit to Discovery Lab.

### ***Main Hall: Animationland***

*Animationland* is a 2,000-square-foot, highly-interactive traveling exhibition that brings together art, math, science, and technology by exploring the exciting world of animation. Through a series of hands-on exhibits, graphics, and videos, visitors explore the process of animation. The exhibition features original characters and worlds throughout in colorful illustrations, animation, and larger-than-life graphics.

The exhibition invites the visitor to become the animator, thus creating a unique and highly personalized experience for visitors of all ages. As they bring their own creations to life, visitors have the chance to experiment with a variety of animation tools and techniques, such as storyboarding, character design, drawing techniques, stop-motion animation, movement, timing and sound effects.

### ***Featured Hall: Building Buddies***

*Building Buddies* is an interactive, engineering based exhibit centered on planning, repairing, renovating, and building. The exhibit is made of different stations where you can take on different roles, including designer, painter, and brick layer. The purpose of *Building Buddies* is to promote creativity, collaboration, and problem solving in a way that fosters community and allows children the opportunity to be independent or work as members of a community.



## Process Skills Framework

These process skills are adapted from Institute of Museum & Library Services 21st Century Skills. Discovery Lab's original exhibits and educational curriculum are based on these six areas—giving children skills for life-long learning in addition to content knowledge.

### CRITICAL THINKING and PROBLEM SOLVING

- Ask questions
- Reason effectively
- Test ideas and hunches
- Gather more precise information
- Link actions and effects
- Work out possible solutions
- Draw conclusions

### COLLABORATION and COMMUNICATION

- Share objects and ideas
- Work toward a common goal
- Stay on task
- Listen and talk
- Build on the work of others

### CREATIVITY and INNOVATION

- Imagine
- Generate ideas
- Make unusual connections
- Try another approach
- Apply information to new situations
- Experience materials/objects in varied ways



## Connecting with the Classroom

Build background knowledge with your students before your trip to Discovery Lab.

### PRE-TRIP ACTIVITIES

Activate your students' prior knowledge by asking them the following questions and reviewing the vocabulary words.

#### *Animationland*

##### DISCUSSION QUESTIONS

- What is animation?
- What do you see animation used in real life?
- Can you explain how sound effects are made in movies or television shows?
- How would you use animation to create a video?

##### VOCABULARY

Low	Medium	High
Animation	Frame rate	Mutoscope
Frame	Stop-Motion	Pixilation

##### HELPFUL LINKS

Animation World Network  
<https://www.awn.com>

Brickfilms.com  
<https://brickfilms.com>

Flipbook!  
<http://www.benettonplay.com/toys/flipbookdeluxe/guest.php>

##### Student Ready Slides

Before your visit, be sure to go through the Student Ready Slides with your class to prepare them for what to expect at Discovery Lab.

#### *Building Buddies*

##### DISCUSSION QUESTIONS

- What do you know about people who build houses?
- How hard do you think it would be to lay bricks and build a structure? Why?
- Can you think about the steps it takes to build something?
- What kind of jobs/careers are needed to build your school?

##### VOCABULARY

Low	Medium	High
Wheelbarrow	Scaffolding	Geometric
Design	Engineering	Conveyor Belt
Construction		

##### HELPFUL LINKS

OETA's Building Big  
<http://www.pbs.org/wgbh/buildingbig/>

Engineering, Go For It!  
<http://students.egfi-k12.org/>

Architecture Adventure: Crash Course Kids #47.2  
<https://www.youtube.com/watch?v=DkJLbCCI6Zs>

[CLICK TO DOWNLOAD](#)

## Animationland Content Knowledge

Developed and produced by the Oregon Museum of Science and Industry (OSMI), *Animationland* offers a fully immersive, interactive exhibit where students learn to incorporate animation skills into the creation process. Animation is a way to engage visitors with STEAM (science, technology, engineering, art, and math) learning. The exhibition's main message is "I can use animation to tell my stories."

### STORYBOARD

Animators often use storyboards to develop their story, and import elements in the animation process. A story board is a series of drawings that is meant for pre-visualizing the shorts of a movie. This is an essential tool to get a sense of the way the movie is going to look and feel. Visitors will be able to place storyboard cards in any order and press the PLAY button to see an animation reflecting the chosen cards.

### STOP-MOTION

Stop-motion animation is a film making technique that makes inanimate objects appear to move on their own. This is done by placing an object in front of a camera and snapping a photo. Pixilation is another stop-motion technique that uses people instead of physical objects. Then you move the object a tiny bit and snap another photo. A playback of the sequence is done in a rapid progression which causes the object to appear to be moving fluidly across the screen. Visitors will be able to create their own stop-motion animation using lots of props, cameras, and screens. Monitors above will allow the others to watch the fun.

### FOLEY ARTIST

Foley is the art of creating sound effects. Jack Foley was a sound-effects artist that made sound effect for a live radio broadcast. He focused on creating realistic sounds with tools around him rather than using generic sounds made from other programs. The sounds can include footsteps, clothes rustling, clinking, paper folding, doors opening and slamming, punches, glass breaking, etc. Foley artist can clearly see a screen that displays the footage they are adding sound to, and they perform their sound effects while watching this screen for timing. Visitors will be able to go into a Foley room that has creative noisemaking devices to add sound to an animation clip.



## *Building Buddies Content Knowledge*

This exhibit was designed and built by the Oklahoma Museum Network, and contains everything needed to get your students working together to complete fun, construction-based projects. These projects include many every-day tasks that allow students to use their imagination and creativity.

### **Design**

In this exhibit, design is an arrangement of lines or shapes created to form a pattern or decoration. Creating and observing patterns can help children learn sequencing, make predictions which leads to mathematical skills, learn logic structure in algebra, and establish order in life. Some components of this exhibit simply ask students to design something using specific materials. For example, in one area, a garden path needs to be laid using different colored squares. Another asks guests to tile a floor using different shapes. These components are creativity based, as there is no right or wrong way to do them; however, it can be beneficial to point out any patterns made either intentionally or by accident. As there is a less specific goal, these exhibit pieces may require further prompting. Examples of these include laying the garden path to spell out your initials or making a pattern with the tiles on the floor.



### **Engineer**

Engineering is the branch of science that deals with designing, building, and using various objects. In Building Buddies, engineering concepts can be found everywhere. There are two components that require guests to gather bricks and build a structure. These structures can be free-standing or attached to another structure or scaffolding. When preparing for these tasks, students should create a plan, determine the needed supplies, and then start building. Help students think through this process as needed and ensure they have plenty of friends to help! Some extension activities for these components may include only using one size brick, timing how quickly a task can be completed, or testing the sturdiness of the structure.



### **Materials**

Building Buddies has different materials to be used in the different areas. For example, the roofing for the dog house cannot also be used as siding on the house. While this may cause some frustration for younger guests, it is important for children to learn limits and structure. By only allowing the current materials to be placed in the project, you can help your students understand these limits and structure. To go back to the earlier example, the siding for the house is magnetic, while the roofing materials are not. Helping students understand why some materials are better suited for some projects will help build a foundation for them to make decisions as they grow.





## Curriculum Standards

### *Animationland*

Grade	Science	Mathematics	ELA	Computer Science
Pre-K		PK.GM.1.1, PK.2.1, PK.GM.2.2	PK.2.W, PK.3.W	
Kinder		K.HM.1.1, K.GM.2.1	K.2.W.1, K.2.W.2	K.IC.C.01
1st	1-PS4-1	1.A.1.1	1.3.W.1	1.IC.C.01
2nd		2.GM.1.2	2.3.W.1	2.IC.C.01
3rd	3-PS2-2	3.A.1.3	3.3.W.1	3.IC.C.01
4th		4.GM.1.2	4.3.W.1	4.IC.C.01
5th		5.GM.1.1	5.3.W.1	5.IC.C.01
6th			6.3.W.1	6.CS.HS.01

### *Building Buddies*

Grade	Science	Mathematics	ELA	Computer Science
Pre-K		PK.N.2	PK.1.R.4	
Kinder	K-PS2-1	K.N.1.2	K.1.R.4	K.DA.IM.01
1st		1.GM.1.2	1.1.R.2	
2nd	2-PS1-2	2.A.1.2	2.1.R.2	
3rd	3-PS2-1	3.GM.1.1	3.6.R.3	
4th	4-ESS3-2	4.GM.1.1	4.1.R.2	
5th	5-PS1-3	5.GM.1	5.1.R.2	
6th	MS-PS3-1	6.GM.2.1		