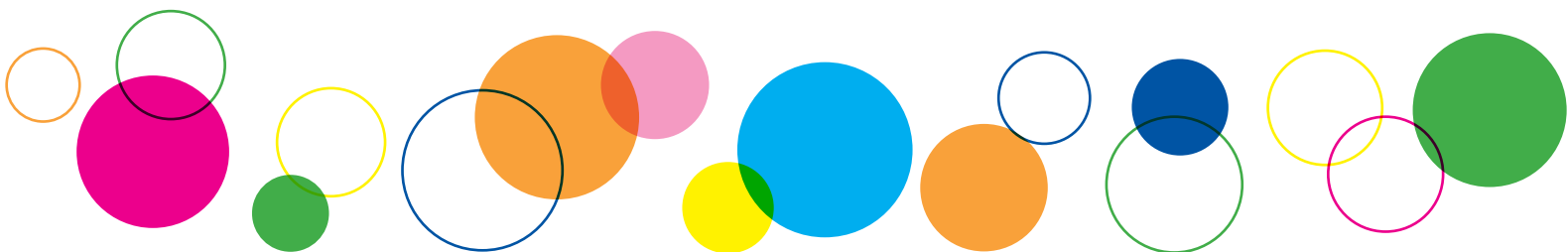




EDUCATOR'S GUIDE
2015-2016



Dear Educators,

Please visit Hands On! Regional Museum and let us do the teaching for you! A group tour is a wonderful way to help students make real-world connections between education content and concrete examples. Our Education and Exhibits committees and departments are dedicated to making your visit meet your core content needs. All programs and exhibits are designed on standards-based curriculum.

Hands On! Regional Museum is committed to supporting educators in actively fostering thinking in students. Field trips are a time honored tradition that allow students the opportunity to make the sciences, arts, and humanities come to life by providing hands-on learning experiences that are extensions of your classroom and help reinforce standards.

Can't make it to us? Hands On! Regional Museum outreach programs bring the sciences, arts, and humanities to you through portable programs. We provide the program, supplies, and a lead educator to teach the programs. All you need to provide is a space to host the program and the students.

Best wishes for a great school year!

Sincerely,
Heather Watson
Education Manager

The mission of Hands On! Regional Museum is to create a dynamic, educational, fun environment which stimulates discovery, thought and understanding through interactive exhibits, programs and events in the arts, sciences and humanities.

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INFORMATION

HOURS

Mondays

Closed September - February, April, May

Open March, June, July, August 9 a.m. to 5 p.m.

Tuesday-Friday 9 a.m. to 5 p.m.

Extended 9 a.m. to 6 p.m. during June & July

Saturday 9 a.m. to 6 p.m.

Sunday 1 p.m. to 5 p.m.

Groups by reservation only.

PRICES

Hands On! also has grant funding available to reduce or eliminate your admission costs. When you make your reservation, be sure to ask if your school qualifies.

Adults \$8.00

Children 3 & older \$8.00

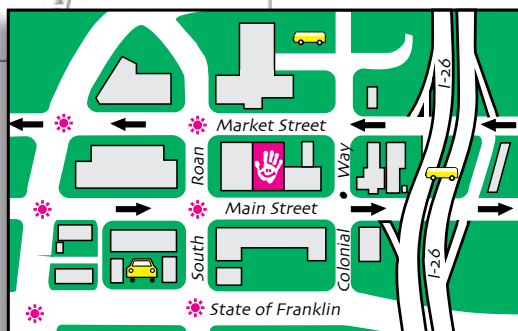
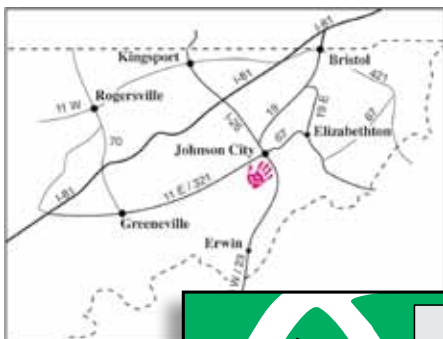
Children 2 & under FREE

Group rate \$6.00

(Groups of 10 or more require a reservation.)

LOCATION

Hands On! Regional Museum is located at 315 East Main Street in downtown Johnson City, Tennessee. Take exit 23 off Interstate 26 in Johnson City. Hands On! is located one block west between Main and Market Streets. There is on street parking for cars and vans. Car parking 🚗 and Bus parking 🚌 are located nearby. Please see maps.



Arrows indicate direction of one-way traffic.



COMMITMENT

Hands On! is committed to providing learning experiences which are developmentally appropriate, intellectually stimulating, and creatively enriching for youth and their families.

EDUCATION AND EXHIBITS

The Education and Exhibits committee of the Hands On! Board of Directors ensures the Tennessee state curriculum standards as well as the standards of educational excellence in youth museum programming and exhibits are met.

AFFILIATIONS

Hands On! is a member of the following organizations:

- Association of Science-Technology Centers
- Tennessee Association of Museums
- Northeast Tennessee Museum Association



EXHIBITS - UPSTAIRS

EASTMAN DISCOVERY LAB

The Eastman Discovery Lab offers programming for all age groups, from the young to the young at heart. Visitors can participate in a variety of science based programs and activities such as making silly putty, assisting in a volcanic eruption, experiencing the power of air pressure, and more. Physical, Chemical, Earth, and Life science topics are covered in this unique space.



TVA WATER PLAY DAM

Originating at the 1982 World's Fair in Knoxville, TN, the Water Play Dam has been a favorite of visitors since the museum opened in 1987. Learn about hydro-power and electricity, historical use of waterways in for commerce and travel, lock systems, and more. Test out your lock system skills with our play boats while watching the model train circle around the dam.

FUNDERGROUND

Discover the world under your feet. Explore the secret underground habitats of animals and the important role of root systems. Crawl through a log and use a Wentzscope to view underground plants and animals.

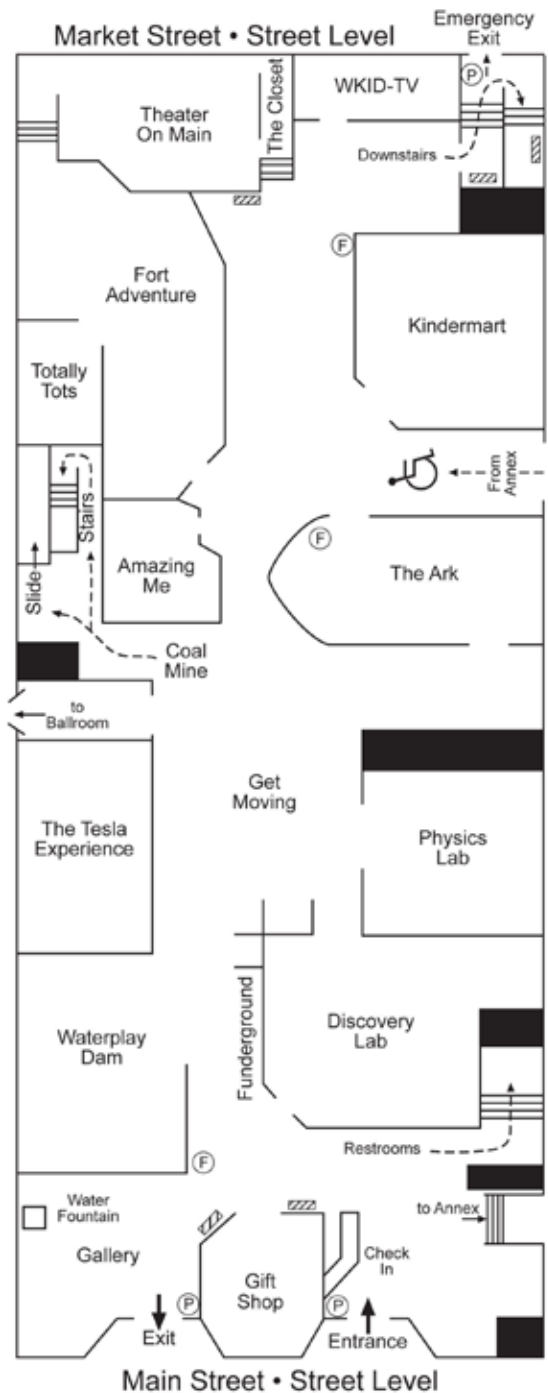
GET MOVING

Check out a 1996 Saturn cut-away car in our Get Moving! Exhibit. This exhibit helps display the mechanics and engineering of a vehicle, controlled explosions and energy, and even safety features.



THE ARK

Get an up close look at nearly 100 different types of taxidermied wild animals from around the globe. A Kodiak bear, African lion, an American alligator, and more greet you as you approach the Ark exhibit. Learn about habitats, endangerment and extinction, diversity, consumption, and more. Be on the lookout for a polar bear peeking from above and enjoy touching a variety of animal pelts inside the Ark.



AMAZING ME

In the Amazing Me! exhibit, a number of activities are offered including:

- Hygiene – A giant magnifying lens gives visitors an up close view of what is on their hands - fingerprints, hair, freckles, maybe even some dirt! Practice brushing a giant set of teeth with a giant toothbrush and learn the importance of dental hygiene.
- Operation table - Role play as a surgeon while learning about different organs in the body with this super-sized version of the popular child's game.
- Ophelia the bionic skeleton – Hands On! is the home of one of only three bionic skeletons in the world. These real human skeletons display a variety of mechanical replacement parts that can be surgically added to the human body.



THEATRE ON MAIN

Explore the performing arts on our Theatre on Main stage. Dance and sing along with children's tunes, use our assortment of costumes to create your own play, participate in a hula hooping contest, and more!

TOTALLY TOTS

Our tiniest explorers will enjoy playing, climbing, and crawling on the large brightly colored soft playscapes. This exhibit was created to develop gross motor skills for visitors ages 3 and younger.



KINDERMART

Calling all shoppers! Explore the KinderMart with your kid-sized shopping cart, discover a variety of healthy foods, develop mathematics skills with functioning cash registers, learn about the importance of healthy eating choices with the My Plate initiative, and more!



FORT ADVENTURE

Children are encouraged to explore, climb, crawl, and play in our Fort Adventure exhibit which includes a slide, tunnels, climbing towers, stepping stones, and more!



WKID-TV

Get a "behind the scenes" view of a news station while anchoring on a real TV monitor. See a miniature tornado form in the tornado tunnel machine and use our large magnetic map to forecast the upcoming weather.

The Tennessee Curriculum standards met by each exhibit can be found at:
<http://handsonmuseum.org/plan-your-visit/tennessee-curriculum/>

EXHIBITS - DOWNSTAIRS

HANDS ON! HARBOR

Pretend to be the captain of a miniature boat and visit our Kissing Fish and Guppy aquariums. Also, learn about metamorphosis and camouflage by visiting our Cuban tree frogs.



DIG!

Become a paleontologist and unearth fossils and much more in this new permanent exhibit!

KIDS BANK AND CREDIT UNION

The Kids Bank and Credit Union includes an ATM, a teller window, safety deposit boxes, a penny press, a display that allows you to measure your height in coins, and a One in a Million exhibit that allows you the chance to beat the odds by searching for a lone yellow bead.



DOWN ON THE FARM

Take a ride on the Hands On! tractor, harvest fruits and vegetables, and visit with Dolly the Cow while learning about agriculture.

BUBBLE TABLES

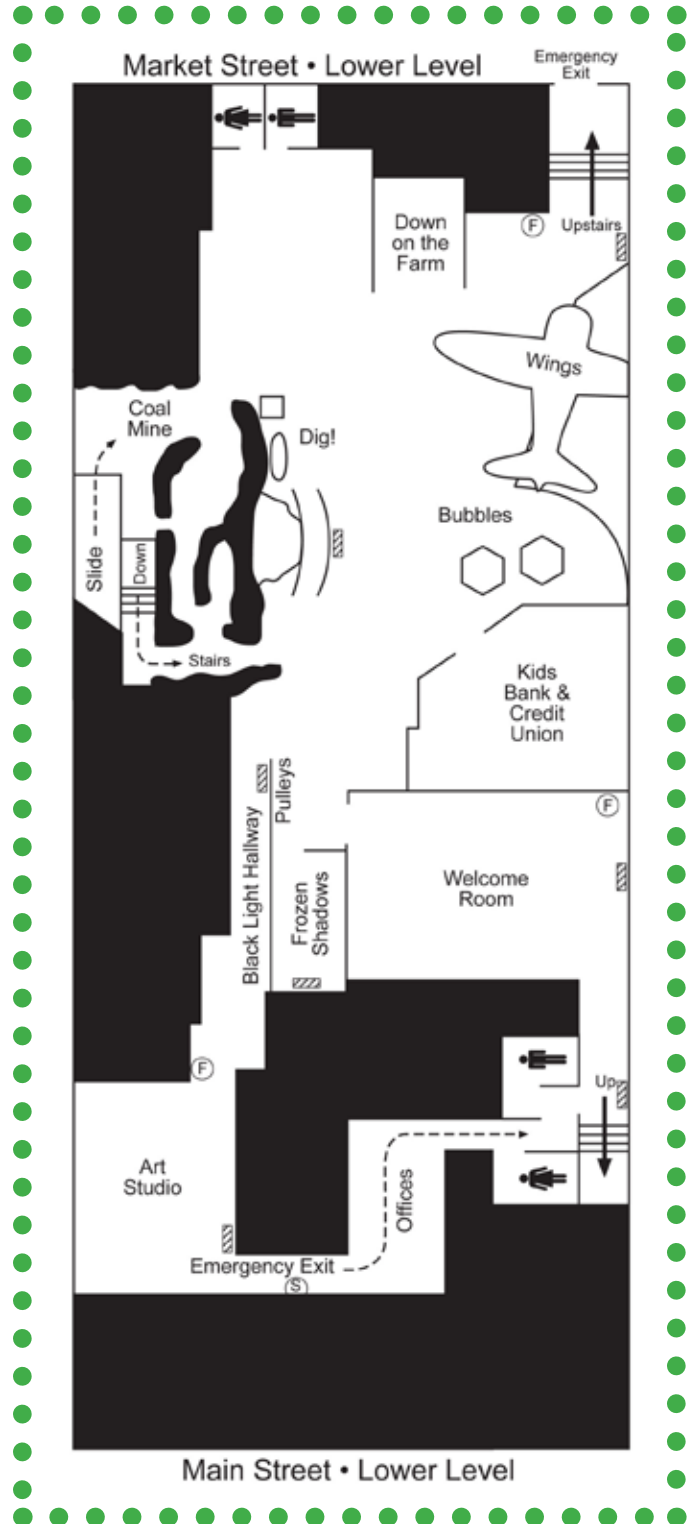
Enjoy two tables full of bubbly fun! What is the biggest bubble you can make? And opening 2015 - more bubbles! Enjoy making even bigger bubbles, including one you can stand inside!

WINGS

The Wings Airplane is a full size Cessna 150 airplane where guests can watch a flight simulation video while adjusting the flaps to prepare for a landing. "Soar" above the clouds while learning about lift, drag, gravity, and thrust.

KATIE ELLEN COAL MINE

Take the slide to the bottom of the Katie Ellen Coal Mine and explore the mining tunnels. Learn about the stages of coal and get a close up look at mining gear of past and present.



FEATURE EXHIBITS

CLOSING:
NOVEMBER 1, 2015

BULBS AND BATTERIES

Use our circuitry maps to create a path with wires and complete a circuit!

PULLEYS

Try your hand with a variety of pulleys and experience how simple machines can help make work easier. Learn about forces, motion, and friction while getting a firsthand look at how pulleys are single mechanical devices that can help people work faster, easier, and more efficiently.



FROZEN SHADOWS

Freeze your shadow on the wall in Frozen Shadows and learn the science behind the magic. Phosphorus paint covers the wall and absorbs the light from a flashing bulb. By standing in front of the wall, you keep the light from getting through to the phosphorus paint, and thereby "freeze" your shadow.



ART STUDIO

Take a stroll down the black light hallway into the Art Studio. Visitors can participate in a variety of self-led monthly programs that showcase different artists and their art styles, create something on their own, or design something new.



OUR BODY

THE UNIVERSE WITHIN

Actual Human Bodies

Go "under the skin" to see the mysteries of the human anatomy! Examine the human body as a whole. Then, journey through each of the body's major systems to see how they function and relate to other systems.

Actual human bodies and organ specimens have been preserved so they can be viewed in a dignified, educational way, identical to their pre-preservation state.



PROGRAMS AVAILABLE

Program Title	Pre-K	Kinder- garten	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade
Cha-Ching (Financial Literacy)		X	X	X	X	X	X
* Can You Hear Me Now? (Sound)		X	X	X	X	X	X
* Do You See What EYE See? (Optics)		X	X	X	X	X	X
Eruption! (Volcanos)		X	X	X	X	X	X
* Give Me 5! (The 5 Senses)	X	X	X	X	X	X	X
* Magnetic Attraction (Magnets)		X	X	X	X	X	X
Mr. Stufflee's Lunch (Digestion)		X	X	X	X	X	X
Mr. Stufflee Eats a Rainbow! (Nutrition)	X	X	X	X	X	X	X
Say Cheese! (Dental Health)	X	X	X	X	X	X	X
Splendiferous Surface Tension! (Surface Tension of Water)		X	X			X	X
Think Like an Egyptian (Simple Machines)		X	X	X	X	X	X

*Program is also available as an Outreach Program. For more information, please see the Outreach section of this guide on page .

Cha-Ching! (Financial literacy)

Join us in the Kid's Bank and Credit Union for some financial fun! Discover coins and bills, learn about budgeting, use coins as a means to measure height, and test out the new financial skills gained during the program.

(K) GLE 0006.1.1, GLE 0006.1.4, GLE 0006.1.7, GLE 0006.2.2, GLE 0006.5.1

(1) GLE 0106.1.1, GLE 0106.1.4, GLE 0106.1.7, GLE 0106.1.8, 0106.1.4

(2) GLE 0206.1.1, GLE 0206.1.4, GLE 0206.1.7, GLE 0206.1.8, 0206.1.5

(3) GLE 0306.1.1, GLE 0306.1.4, GLE 0306.1.7, GLE 0306.1.8, 0306.1.2, 0306.1.3, SPI 0306.1.3

(4) GLE 0406.1.1, GLE 0406.1.4, GLE 0406.1.7, GLE 0406.1.8, 0406.1.3

(5) GLE 0506.1.1, GLE 0506.1.4, GLE 0506.1.7, GLE 0506.1.8





Can You Hear Me Now? (Sound)

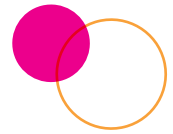
Investigate some of the smallest bones in the human body – the ones in the ear! Learn about sound waves and how the brain works with the ear through the auditory cortex. Play our palm pipes, listen to our singing crystal water glasses, and even try out our Boomwhackers!

- (K) GLE 0007.Inq.1, GLE 0007.Inq.2, GLE 0007.Inq.3, GLE 0007.2.2
- (1) GLE 0107.Inq.1, GLE 0107.Inq.2, GLE 0107.Inq.3
- (2) GLE 0207.Inq.1, GLE 0207.Inq.2, GLE 0207.Inq.3, GLE 0207.11.1, GLE 0207.11.2
- (3) GLE 0307.Inq.2, GLE 0307.11.3
- (4) GLE 0407.Inq.1, GLE 0407.Inq.2
- (5) GLE 0507.Inq.1, GLE 0507.Inq.2

Do You See What "Eye" See? (Optics)

Discover the inner workings of the eye by exploring the 6 key parts. Learn what role the brain has in vision and enjoy a variety of optical illusions.

- (K) GLE 0007.Inq.1, GLE 0007.Inq.2, GLE 0007.Inq.3, GLE 0007.2.2
- (1) GLE 0107.Inq.1, GLE 0107.Inq.2, GLE 0107.Inq.3
- (2) GLE 0307.Inq.2, GLE 0207.Inq.1, GLE 0207.Inq.2, GLE 0207.Inq.3
- (4) GLE 0407.Inq.1, GLE 0407.Inq.2
- (5) GLE 0507.Inq.1, GLE 0507.Inq.2



Eruption! (Volcanoes)

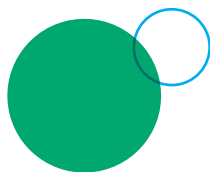
Unearth what the inside of a volcano looks like, learn about the multiple layers of Earth, discover what causes volcanic eruptions, and assist in a volcanic eruption!

- (K) GLE 0007.Inq.2, GLE 0007.Inq.3
- (1) GLE 0107.7.1
- (2) GLE 0207.7.1, GLE 0207.7.2
- (3) GLE 0307.Inq.2, GLE 0307.7.1, GLE 0307.7.2
- (4) GLE 0407.Inq.1, GLE 0407.Inq.2, GLE 0407.7.1
- (5) GLE 0507.Inq.1, GLE 0507.Inq.2, GLE 0507.7.1, GLE 0507.8.1

Give Me 5! (The 5 Senses)

Explore the 5 senses- sight, hearing, smell, touch and taste through a variety of experiments. Try out the jelly bean challenge, test out some optical illusions, reach into the mystery touch tank, and more! (**Allergy Information: this program may contain traces of nuts or soy.)

- (K) GLE 0007.Inq.1, GLE 0007.Inq.2, GLE 0007.Inq.3, GLE 0007.2.2
- (1) GLE 0107.Inq.1, GLE 0107.Inq.2, GLE 0107.Inq.3
- (2) GLE 0207.Inq.1, GLE 0207.Inq.2, GLE 0207.Inq.3, GLE 0207.11.1
- (3) GLE 0307.Inq.2
- (4) GLE 0407.Inq.1, GLE 0407.Inq.2
- (5) GLE 0507.Inq.1, GLE 0507.Inq.2



Magnetic Attraction (Magnets)

Experience the power of magnets and where they come from, learn about forces of magnetism-repel and attract, and discover why Earth is considered a giant magnet. Test various items for magnetism and play with some magnetic gadgets including neodymium magnets. (***)Please note that this program contains neodymium magnets which may inhibit the proper function of pacemakers.)

(K) GLE 0007.11.1

(1) GLE 0107.T/E.1, GLE 0107.12.1, GLE 0107.11.1

(2) GLE 0207.T/E.1, GLE 0207.12.1

(3) GLE 0307.Inq.2, GLE 0307.11.1, GLE 0307.12.1

(4) GLE 0407.Inq.1, GLE 0407.Inq.2, GLE 0407.12.1

(5) GLE 0507.Inq.1, GLE 0507.Inq.2

Mr. Stuffee's Lunch (Digestion)

Discover the process of digestion by getting a hands-on super-sized look at Mr. Stuffee's digestive system. Meet our giant, stuffed, blue haired friend, Mr. Stuffee, and explore how his organs work together in the digestive process by unzipping him and removing his soft, stuffed organs.

(K-2) HPE 3.1, 3.2, 3.3

(3-5) HPE 3.1, 3.2, 3.3

Mr. Stuffee Eats a Rainbow (Nutrition)

Find out the meaning behind the phrase, "You are what you eat" in this super-sized program. Meet our giant, stuffed, blue haired friend, Mr. Stuffee, get a hands-on look at his gigantic soft, stuffed lunch, and learn about appropriate food choices with the My Plate initiative.

(K-2) HPE 1.1, 1.3, 1.4, 3.3, 5.1, 5.2, 5.3

(3-5) HPE 1.1, 1.3, 1.4, 3.3, 5.1, 5.2, 5.3

Say Cheese!(Dental Health)

Learn about the different types of teeth in the human mouth, explore dental health, and use Styrofoam to make dental impressions.

(Pre-K-2) HPE 1.4, 2.1, 2.2, 2.3, 2.4, 5.3

(3-5) HPE 1.2, 1.5, 2.1, 2.2, 2.3, 2.4, 5.1, 5.2

Splendiferous Surface Tension (Surface Tension of Water)

Discover the seemingly "magical" bond of water molecules. Investigate with the Penny Drop, Swimming Fish, and Magic Handkerchief experiments.

(K) GLE 0007.Inq.2, GLE 0007.Inq.3

(1) GLE 0107.Inq.2, GLE 0107.Inq.3

(4) GLE 0407.Inq.1, GLE 0407.Inq.2

(5) GLE 0507.Inq.1, GLE 0507.Inq.2

Think Like an Egyptian (Simple Machines)

Explore the science behind ancient Egypt, discover theories related to how Egyptians used simple machines to build their architecture, and learn about the wedge and lever families of simple machines.

(K)GLE 0007.T/E.1, GLE 0007.T/E.2

(1) GLE 0107.T/E.1, GLE 0107.T/E.2, GLE 0107.11.1

(2) GLE 0207.T/E.1, GLE 0207.T/E.2

(3) GLE 0307.Inq.2, GLE 0307.T/E.1, GLE 0307.T/E.2, GLE 0307.T/E.3, GLE 0307.T/E.4 GLE 0307.11.1

(4) GLE 0407.Inq.1, GLE 0407.Inq.2, GLE 0407.T/E.1, GLE 0407.T/E.2, GLE 0407.T/E.3, GLE 0407.T/E.4

(5) GLE 0507.Inq.1, GLE 0507.Inq.2, GLE 0507.T/E.1, GLE 0507.T/E.2, GLE 0507.T/E.3, GLE 0507.T/E.4

PLAN YOUR VISIT

PLAN YOUR FIELD TRIP!

1. **Make a choice**

Select the program you would like from the Choose Your Program chart and also pick two possible dates your group would potentially be interested in visiting the museum. Please keep in mind that group tours are 1 ½ hours long. Longer tours may be available upon request. The Museum has a space available for picnic style eating available on a first come, first serve basis. Please let us know when you make your reservation if you would like to reserve this area. There is an additional charge for this service.

2. **Make a count**

Estimate the total number of students, teachers, and chaperones will be visiting. (One adult chaperone is required for every 5 students.) If applicable, please estimate the number of extra individuals that may accompany your group. A reservation is required for all groups of ten or more. Groups of 25 or more are required to visit the museum in a structured tour format, smaller groups may be self-guided, if desired. Reservations must be made in order to receive a group discount.

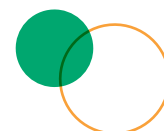
3. **Make a call or email**

Call (423) 928-6508, (423) 928-6509, or (423) 434-HAND ext. 100 between the hours of 9:30 a.m. and 4:30 p.m. or submit your information via email to reservations@handsonmuseum.org between the hours of 9:00 a.m. and 4:30 p.m., Monday through Friday, at least 3 weeks in advance. A confirmation date will be sent to the contact by email or letter.



VISITOR TIPS

- Having specific students assigned to each adult will make it easier to divide into smaller groups for different activities in the museum. The adults are an integral part of the field trip experience and are expected to be active participants. Another good idea is to use the “buddy system.” By partnering older and younger children together each partner can help their “buddy” have fun.
- To get the most out of your visit we suggest you visit our web site, www.handsonmuseum.org. It may help you prepare your students for their field trip experience.
- You may want to have your students write stories or draw pictures after their visit, and have them look for specific things while they are in the Museum to aid in the learning process.
- If you would like to preview the Museum before you bring your group, let us know. Educators are eligible for a free pre-visit to the museum.



OUTREACH PROGRAMS

CAN'T COME TO US? WE CAN COME TO YOU!

Outreach programs are the perfect way to add hands-on fun and learning to your classroom, festival, ministry, home school co-op, or special event. Ask about available grant opportunities and special offers that may get you a FREE outreach!

Programs Available for Pre-School through 8th Grade include:

Pre-K - 1st Grade

Rainbow Science (Art)
Movin' & Groovin' (Music)
Give Me 5 (Health and Anatomy)
Inside Out (Health and Anatomy)

K - 5th Grade

Can You Hear Me Now? (Health and Anatomy)
Marvelous Magnets (Physical Science)
Polymers & Putty (Chemical and Physical Science)
Art Around the World (Art)

2nd - 5th Grade

Do You See What EYE See? (Health and Anatomy)
Can You Feel the Pressure? (Physical Science)

3rd - 6th Grade

Go With the Flow (Earth Science)
Wacky Weather (Earth Science)
Come Fly With Me (Physical Science)
Do You See What EYE See? (Health and Anatomy)
Animal Dissections (Available programs: owl pellets, squid, frog, shark, pig/sheep heart, or fetal pig)

4th - 8th Grade

Bio Fuels Investigations (Earth, Chemical, and Physical Science)
Forensics Challenge (Chemical and Physical Science and Anatomy)
Entertain Your Brain (Health and Anatomy)
Heart Smart (Health and Anatomy)
Can You Feel the Pressure? (Physical Science)
Animal Dissections (Available programs: owl pellets, squid, frog, shark, pig/sheep heart, or fetal pig)



Outreach programs range in cost from \$30 – \$75, excluding dissections. All prices are indicated in the program description on our webpage at <http://handsonmuseum.org/play-learn/outreach-programs/>. Mileage charge is \$0.25 per roundtrip mile within a 30-mile radius, outside of 30-miles the mileage charge is \$0.50 per mile. Help us to cut costs and protect the environment: book multiple programs for the same day in different classrooms or neighboring schools. To book an outreach program please contact:

Outreach Team
outreach@handsonmuseum.org
(423) 434-HAND ext. 104

CONNECT WITH US

Regular Mail:

Hands On! Regional Museum
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Johnson City, TN 37601

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(423) 434-HAND (4263)
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(423) 928-6509

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Education Manager:
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ext. 107

Outreach Team:
outreach@handsonmuseum.org
ext. 104

Social Media:



Facebook:
www.facebook.com/handsonmuseum.org



Twitter:
#HandsOnMuseumJC



YouTube:
<http://www.youtube.com/user/handsonregmuseum>



Instagram:
#HandsOnMuseumJC