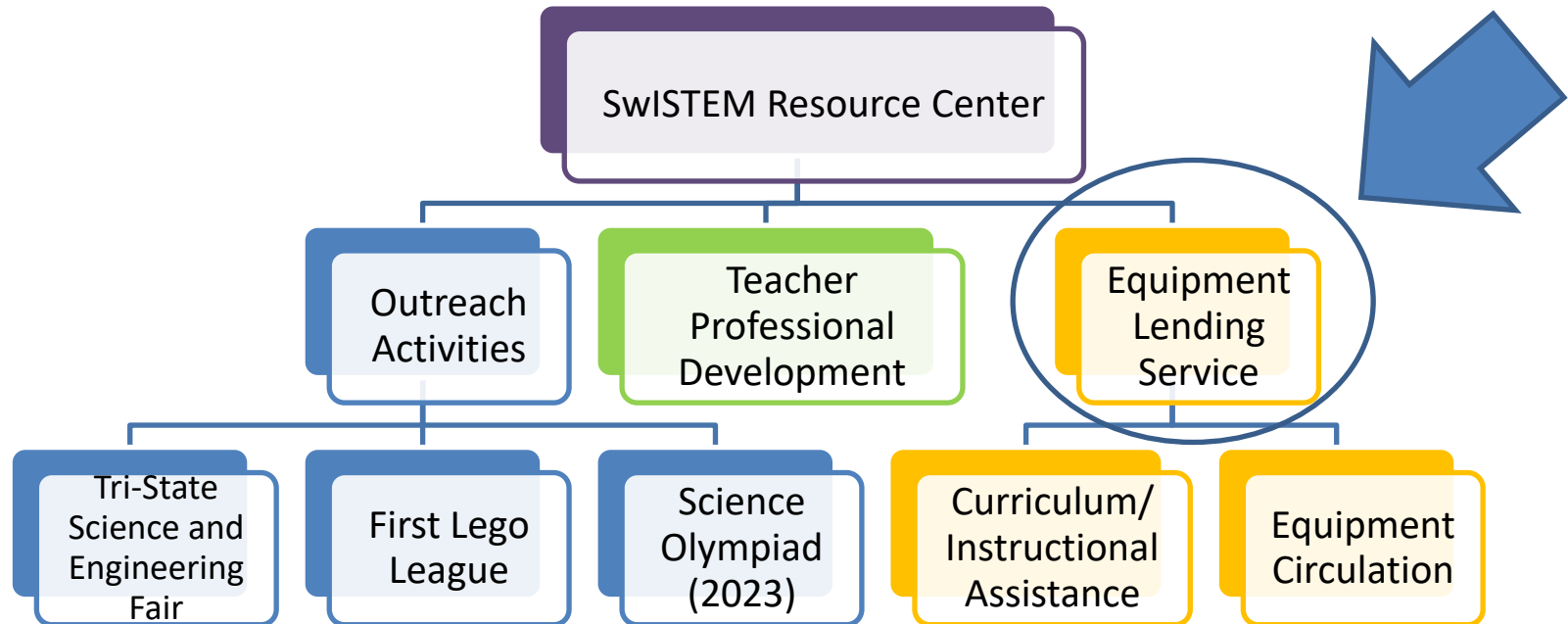


Welcome to the Southwest Indiana STEM Resource Center Virtual Presentation!

We invite you to click through the presentation to learn more about this one-of-a-kind resource. The first part of the presentation gives you some background... but keep clicking to see examples of the over 1,000 pieces of STEM equipment available to you. We have been expanding our **Elementary School resources**, and we think you will love what you see.





The Equipment Lending Service arm of the Resource Center has over 1,000 pieces of equipment that we lend... and we deliver and pick-up right to your school... all for FREE! If you have questions about other activities at the Resource Center, let us know.

SwISTEM Equipment Lending Service

The Equipment Lending Service offers delivery to all schools in a 12-county area including Vanderburgh, Warrick, Posey, White, and Henderson counties. All items are loaned for 2-week periods, and most come with a curriculum or user's guide. We are a completely **FREE** service funded by the University of Southern Indiana.

The STEM items we loan were all recommended by educators. It's a fun and easy way to teach STEM concepts... we truly believe that hands-on STEM tools help students love Science! And we make it easy for you!



SwISTEM Equipment Lending Service



We have many materials **designed** for elementary (including pre-K) students.

The following slides highlight some of our most popular items for Elementary School
To go directly to our searchable equipment database, click here:

[SwISTEM Equipment Database](#)

[Paper List of Available Equipment](#)



SwiSTEM Equipment Lending Service

K-Nex Introduction to Bridges

This kit contains 207 pieces, including rods, stems, and connectors. Build 13 fully-functioning replicas of real-life bridges. These models help educate builders about bridge infrastructure by demonstrating key bridge types, such as truss, arch, cantilever, beam, suspension, movable/bascule, and cable-stayed. Building instructions and a teacher's guide on a CD are included. Best for late Elementary or Middle School. More info:

[Introduction to Bridges Teacher Guide](#)



Hot Wheels Speedometry Set

Our most popular Elementary School Item! Teaches about forces, motion, speed, and velocity with an issue to use curriculum. Has enough cars, tracks, and loops for a whole classroom. Perfect for all elementary grades, it comes with a Kindergarten and 4th grade curriculum easily adapted to any grade.

[Kindergarten Curriculum](#)

[4th Grade Curriculum](#)



SwISTEM Equipment Lending Service

Snap Circuit Jr. and Snap Circuit Electricity Kits

- [Snap Circuits® Junior kits](#) make learning about circuits easy and fun! Each student works with a partner– and each set comes with a workbook. We have 20 of these kits available!
- You can also borrow our homemade Snap Circuit Electricity kits. They have on 20 pieces and focus only on circuits.
- To see the easy-to-use curriculum for the Snap Circuit Electricity kits: [Snap Circuit Curriculum](#)



Straw Rocket Launchers

Each students receives their own straw to turn into a rocket! Our kit has all the supplies they need to create one... and then they are “launched” using our gentle rocket launcher (can be used in your classroom). Great way to teach graphing, precision/ accuracy, or basic engineering design. Very popular wherever they go! This quick video shows them in action: [Straw Rocket Launchers](#)



SwiSTEM Equipment Lending Service

Keva Planks

Recommended by a local teacher, there is nothing that these planks cannot teach... and they can be used to meet almost any of the Engineering Design standards.

Each set has 800 planks (enough for a whole class) and comes with an excellent [Educator's Guide](#), and for more ideas: [Keva YouTube Channel](#)



Indi Cars

- [Indi](#) Cars by Sphero is a classroom set of cars to teach coding basic. No screen needed! Easy to use and fun! For a quick overview of Indi: [Indi class pack video](#) or see the [Teacher Guide](#)



SwISTEM Equipment Lending Service

Lego We-Do Robotics Kits

- Lego We-Do kits are perfect for teaching about coding
- Each kit contains over 200 Legos as well as motors and sensors
- Students also learn about building and following directions
- We can loan up to 7 kits including I-Pads with the software downloaded; designed for 3rd-5th grades
- Easy to use– most teachers tell us that the students were able to do the activities with minimal supervision



[Lego We-Do Lessons](#)

Simple Machine Model Sets

Precision-made wooden models demonstrate basic principles of work, force, and energy. Through hands-on exploration, students learn how machines can change the direction of a force, reduce work, or turn potential energy into kinetic energy. Each model is approximately 7" x 16". Example booklet (each model has a booklet):

[Pulley](#)

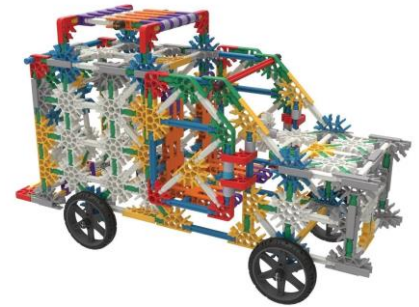


SwiSTEM Equipment Lending Service

K-Nex Maker Kits

This kit contains 863 pieces, including rods, stems, and connectors. Students can free build or use the booklet to build structures like the Eiffel tower, cars, trucks, Ferris wheels, and more! Great for challenge activities (who can build the tallest structure? Who can make the best helicopter?)

[Maker Building Booklet](#)



Lego BricQ Essentials

New to our inventory, these are a great way to teach basic building concepts and have a great time building with Legos. Students pair up to build a project using a building guide, and then try to optimize their design through experimentation. Curriculums for lower elementary as well as upper elementary. No tech needed!

[Watch a quick video overview](#)



SwISTEM Equipment Lending Service

Measurement Equipment

We have several pieces of equipment that make teaching about measurement a piece of cake... okay, at least easier and more hands-on...

- Meter Sticks
- Measuring Tapes
- Graduated Cylinders
- Scales/ Balances
 - Triple Beam Balances
 - Elementary Balances (pictured)
 - Digital Balances
- Measuring Cups/ Tablespoons/ Teaspoons
- Gallon Measurement Set (pictured)
- Liter Measurement Set
- Thermometers

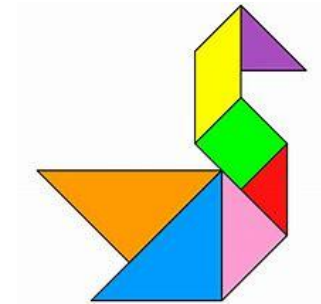
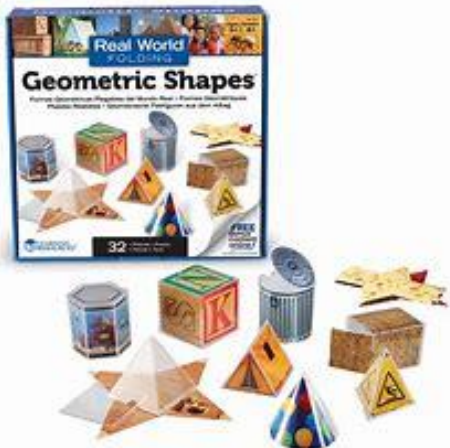
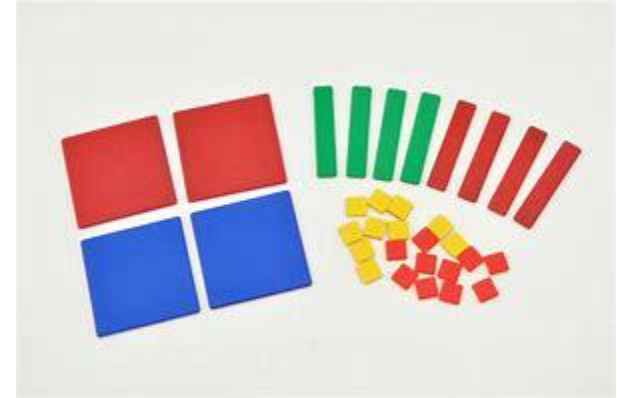


SwiSTEM Equipment Lending Service

Math

We have many math manipulatives to make math more magnificent!

- Algebra Tiles
- Tangrams
- Fraction Squares/ Circles
- Folding Geometric Shapes
- Clock Sets



SwI STEM Equipment Lending Service

Earth Science

We have many different pieces of equipment designed to rock your Earth Science unit!

- [Volcano Models](#) include recipe for lava!
- [Introduction to Rocks](#)
- [Introduction to Minerals](#)
 - Request the Exploration Kit which includes Scratch Plates, Magnifying Lenses, and more
- [Fossil Sets](#)
- [Geology Demonstration Kit](#)
- To let students see geology at a microscopic level, teachers also add [Microslide Viewer](#) Sets like:
 - [Rock and Forming Minerals](#)
 - [Minerals and Crystal Systems](#)

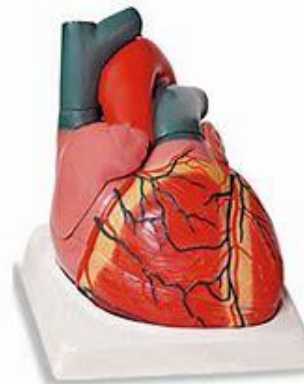


SwISTEM Equipment Lending Service

Biology

Introduce students to cells, human anatomy, and more!

- [3D Plant](#) and [Animal Cell](#) Models
- Giant Anatomy Models
 - Lungs, Heart, Brain, Skin, Eye
- Microscopes with [Slide Sets](#)
- [Microslide Viewers](#) are microscopes without the hassle. Sets in our inventory include:
 - Life in a Pond (link not available)
 - [Egg to Tadpole to Frog](#)
 - [Cells of Plants and Animals](#)



SwiSTEM Equipment Lending Service

Lego Learn to Learn

Our most popular resource for lower elementary grades:

- Each child has their own identical Lego container with 65 pieces
- Can be used to teach colors, counting, shapes, symmetry
- Excellent curriculum guide has activities for every subject from math to language arts

[Lego Learn to Learn Curriculum Guide](#)



● LANGUAGE ARTS COMMUNICATION

Scene Builders

Objective: The students will build an important scene from a story that they have read or an original story that they create.

Activity Steps

1. Discuss the important elements of stories, like setting, characters, and plot.
2. Have students use their LearnToLearn Sets to build a scene from a story. Students may build an important scene from a story that they have read recently or from an original story that they create.
3. If students have built a scene from a story that they have read, ask them to write a description of the scene and compare their description with the story. If students have built a scene from an original story, ask them to write about the scene.
4. Ask students to share what they have written with the student next to them or with the whole class, if time allows.

Discussion Questions

- How did you show the setting (time and place), plot, staging, and so forth using your bricks?
- Why did you feel this was an important scene?
- What details did you include to make your scene clear to other students?

Extension

Have students create a "good books to read" bulletin board with the completed written summaries on display in order to encourage other students to read the books.



30–45 min.

Grade Level Modifications

Lower Grades:
Students may focus on one element, such as settings or characters. When writing, students may write words or simple sentences.

Upper Grades:
Discuss more complex elements of stories with students, such as mood and conflict. When writing, students may write a paragraph or more.



Solution Example: A scene from "The Princess and the Pea" constructed by Eleanor, Denmark.



Solution Example: A campfire scene from an original story constructed by Emilie, Australia.



SwiSTEM Equipment Lending Service

Pre-School Items

Most of the items in previous slides can be used with pre-school students, but we have a few items designed specially for the pre-school crowd!

- [Lego Tubes](#) were recommended by a pre-school teacher and are a fun and educational way to teach building skills.
- [Indi](#) by Sphero is a classroom set of cars to teach pre-schoolers the basics of coding. No screen needed. Easy to use and fun! For a quick overview of Indi: [Indi class pack video](#)
- [Lego Coding Express](#) is set best for a group of 6-8 students (many teachers use this as a station). Teaches basic coding as well as building and problem solving!



SwISTEM Equipment Lending Service

Ready to Request Some Materials?

Go to our web site at www.usi.edu/STEM and click on the “Reserve” Button

OR just click here:

[Reserve Materials](#)

Still Have Questions?

We love to talk to customers. We are a small service, so we know how our materials are used by other educators and can help you pick the perfect materials for whatever STEM topic you are teaching!

So please... don't hesitate to call or e-mail!!!

Paige: 812-205-5501

pdwalling@usi.edu