



# SYNERGISTIC SYSTEMS

A DIVISION OF PITSCO, INC.

# PARENT BRIEFING

## Module

# Engineering Bridges

- Use a worksheet to create and illustrate a specific design for a bridge and manufacture individual structural members.
- Assemble a bridge according to the design.
- Recognize and observe the relationship between design and bridge strength by testing the finished bridge on a Synergistic testing device.

## Session Focus

**1** Designing Your Bridge

**2** Bridge Construction

**3** Bridge Construction

**4** Bridge Construction

**5** Bridge Construction

**6** Assembling Your Bridge

**7** Final Assembly

### Dear Parent,

As parents and teachers, we realize it can be hard to get a child to discuss what he or she is learning in school. We hope the information provided on this page will assist you in communicating with your child about what he or she is learning.

For the next few days, your child will be learning about designing and building bridges while completing the *Engineering Bridges* Module. As your child's best teacher, your participation in the learning process is extremely important.

### Words students will learn in this Module include:

- abutment
- keystone
- tension
- span
- arch
- compression
- truss
- substructure
- civil engineer
- suspension structure
- superstructure

### Questions for discussion

During the course of this Module, your child will be assessed on key concepts and activities. You might want to discuss these concepts with your child.

He or she will be asked to:

- Define brainstorming. (*Brainstorming is when two or more people provide ideas or suggestions for possible solutions to a problem.*)
- Recall at least one of the two factors used to determine bridge strength. (*Original design and construction.*)
- Describe at least one way in which your bridge design could be improved. (*Reevaluate the substructure design or improve the superstructure.*)
- Defend why the chosen bridge design is the one he or she selected. (*Have your child sketch his or her bridge design and explain why that design was chosen.*)



Instructor: \_\_\_\_\_