



Your complimentary
use period has ended.
Thank you for using
PDF Complete.

[Click Here to upgrade to
Unlimited Pages and Expanded Features](#)

Children's Museum of Houston Best Classroom Activities

The Cat, the Mouse, and the Magic Beans

Rationale

Think Tank encourages children to use higher level thinking skills by using an array of lively and interactive components and activities. Four child characters serve as the gallery guides, spreading the message that thinking and problem solving is fun, hip, and the thing to do. This lesson introduces children to higher level thinking skills and provides practice of processes and tools used in problem solving.

TEKS Objectives (Mathematics)

4.14C, 5.14C: Select or develop an appropriate problem-solving plan or strategy, including drawing a picture, looking for a pattern, systematic guessing and checking, acting it out, making a table, working a simpler problem, or working backwards to solve a problem.

Background

Many children will begin to solve this problem by using a guess and check strategy. Encourage them to find a way to record the way they solve the problem to share with the class later. This puts their strategies in the front of their minds and also gives a starting point for discussion about strategies. Once they begin to examine strategies, they can develop more advanced strategies. In this lesson, children plan a strategy to get three items across the river safely.

Vocabulary

Strategy ó a plan of action

Materials

- Models or pictures of: Cat, Mouse, Bag of magic beans, Boat, Stream
- Paper
- Markers

Procedure

Set Up: Copy the pictures the ahead of time.

1. Have the children work on solving the following problem.
 - a. You have a cat, a mouse, and a bag of magic beans that you need to carry across the river. You have a very small row boat and you can only carry one item plus yourself in the boat at a time.
 - b. You also have to be very careful because if you leave the cat alone with the mouse, the cat might chase the mouse.

alone with the magic beans it may get hungry and eat

magic beans it will grow so large that it won't fit in the boat

across the river?

3. Ask the children to find the best (or most efficient way) to get everything across the river. Perhaps it costs a toll to cross the river each time.
4. Have the children prepare a poster or other written explanation of what they did to solve the problem.
5. Share the strategies.

Questions to ask

- Try the problem another way to see if you can shorten the number of trips you have to take.
- What is the least number of times you have to cross the river to get everything across?
- What strategy worked the best in solving this problem?

Extensions

This is a common logic problem story found in several cultural traditions. The items change, but the general problem remains and needs to be solved using the same kind of logic. Have the children create their own story problem following this model. You may also choose to use the scenario below.

Imagine that there is also a dog that scares the cat so they can't be alone together. What would be the least number of trips it would take to get all four items across the river? Imagine that you have a bigger boat and you can bring two items in the boat with you at a time. But you have to be very careful because while you are rowing the boat you can't keep the mouse from eating the magic beans, or the cat from eating the mouse, or the dog from scaring the cat away. What is the least number of trips it will take to get everything across the river?

Resources

Mr. Gumpy's Outing. Book by John Burningham (Sagebrush Education Resources, 1990). This fun book is available through Houston Public Library and on the internet. Read about how Mr. Gumpy accepts more and more riders on his boat until the inevitable occurs.

Play similar games on the web at <http://pbskids.org/cyberchase/games.html>

