

# Communication Activity

## Instructor's Handout

### 1 Educational Objectives

- To help kids understand how the SPHERES communicate with each other and with the beacons

### 2 Preparation

- Before this activity, make sure there is a large enough space for the kids to sit in a circle for a telephone game.

### 3 Activity Overview

- Have the kids sit in a circle.
- First, have them play a normal game of telephone.
  - Let one or two people pick a phrase so that the game can be played normally a couple times at first.
  - Have one person whisper her chosen phrase to the student sitting to the left.
  - Compare the original phrase with the phrase that the last student understands and note the accuracy.
- Next, tell the kids they all get to choose their own phrase and tell them them all to whisper that phrase to the student sitting to the left at the same time.
- Tell the students that their goal should be to have their own phrase make it around the circle successfully.

### 4 Notes

- Since there will be as many phrases as kids in the second part of the activity and since all the phrases will be traveling at the same time, it is very likely that none of the phrases will make it all the way around. When the kids realize how difficult it is to have many people trying to communicate at once (after a few minutes of attempting the second part of the activity), make the point about how the SPHERES communicate and relate it to what they're experiencing:
  - Remind the kids that when one person talks at a time, the message gets across a lot easier and with quite a bit more accuracy than when everyone tries to talk at once.
  - Relate this to SPHERES by explaining that only one beacon or computer can communicate with the satellite at any given time. If it is receiving many signals at once, it is not be able to process the instructions or information being communicated, so it will not act as expected.