GROUPING

The central problem of *Alien Rescue* is complex; this complexity encourages students to rely on their classmates as sources of support. Seeing students spontaneously engaging in scientific discussion and debate can be one of the most gratifying aspects of the program for you as their teacher. To facilitate collaboration, you can either assign students to groups or allow them to initiate the collaboration themselves.

TEACHER-DIRECTED GROUPING

Some teachers prefer to assign students to pairs or small groups to work together throughout the program. To facilitate this, you can assign two students to share a computer or assign students at neighboring computers to work together. You can either assign them to divide up work in a certain way, or can suggest that they divide the work and leave it to the students to determine how.

STUDENT-DIRECTED COLLABORATION

Alien Rescue offers an excellent opportunity for giving control over collaboration to your students. To facilitate this, do not assign students teammates. Instead, try these three tactics:

1. Early in the program, ask students to stop and look around the classroom. Tell them to find someone who is looking at a screen they haven't seen yet and ask that person to show them where they found it.
2. When students get stuck on something, encourage them to ask their neighbors rather than giving them help yourself. Even if the other students don't know the answer, it will get them talking and relying on each other.
3. Some students will naturally start working together. Ask them to share their reasons for doing so during class discussions, and continue to stress the benefits of collaboration.

PHYSICAL ARRANGEMENTS

The lesson plans provided depend on two physical configurations of the class during *Alien Rescue*: "class discussion" and "at computers."

CLASS DISCUSSION

This applies to those times when the class gathers to share and reflect on information. If possible, provide some means by which students can record information they discover and want to share with the class. A white board, a chalkboard, or large piece of bulletin board paper tacked to the wall or laid out on a table will all work well. If you are using *Alien Rescue* with multiple classes, you may want to use bulletin board paper so that each class can make its own records. Students should be away from their computers and close enough to the white board to see the information recorded there.

AT COMPUTERS

In the second configuration, students are working at their computers. Computers should be placed in close enough proximity that teams can easily discuss their work and provide support for each other. If there are headphones available, you may want to allow students to use them, but be sure to talk to them about taking them off when they are not listening to the opening scenario. Headphones can isolate students and discourage collaboration.