

## Home and School:

Learning Center – Students can use an app as part of their independent or partner work after being given guidelines for learning center work. One student or a pair of students can keep track of progress by checking off activities on their copies of a Mastery Checklist. For most children, working with a partner on meeting specific goals is a powerful way to increase attention, interest, and learning, but it is important that an adult be involved for modelling and check-ins, especially as students begin doing center work. Adults can encourage students' carefulness and use of proper procedures and also observe and offer suggestions for areas in which children may need help. Manipulatives, pencil and paper or whiteboards and marker pens should be available for students to show their work in other ways. Teachers can also ask students, even at early ages, to make a note of problems they run into.

Game Day -- A wonderful suggestion in Tools for Teaching by Fred Jones is game day: using Friday or part of Friday for games and individual projects pursued by students that let students practice and apply knowledge and skills.

### **Some suggestions and questions to think about for *Firedrake's Gems*:**

Ask students to give each other directions. How important is a clear direction? Do coordinates help us to give clear directions?

Look at many different kinds of maps and compare the kinds of information they can give us.

Compare coordinate graphs with maps. Do we always have to use numbers to locate places and things?

Learn about GPS systems. Are GPS systems more similar to coordinate graphs or to maps?

Compare other games that use coordinates, such as Battleship, with *Firedrake's Gems*. How are they the same? How are they different? Do you need the same skills? How much is skill involved in each kind of game? How much is luck involved in each kind of game?

Older students may find stories from Dava Sobel's Longitude captivating. Even a 6 year-old friend of mine was fascinated by the wounded dog and powder of sympathy theory suggested in 1687 as a way to measure longitude, although she didn't understand all of the details.

Think about different kinds of dimensional space. If we know something is hidden in a room, can we give the location by using some form of x and y coordinates? What would a z coordinate be? Would it be helpful to have a z coordinate sometimes?

Encourage students to make up their own games using other story backgrounds and materials.