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A DESK TOP MAPPING GAME

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Anyone using a map for the first time must cope with several unfamiliar tasks. Among these are orientation of the map, interpretation of symbols, and measurement. This mapping game provides practice with map skills by involving its participants in making and reading simple maps of familiar things. The game is played on desk tops or other flat, rectangular areas (chair seats, place mats, for example). It is adaptable to any child old enough to understand the directions because it does not require that the players know how to read and write. The directions for play given below are in terms that are generally appropriate for a class of younger elementary students. However, the game can be played by just two people, and slight variations that increase the complexity of the map make it appropriate for older students. Supplies needed are items from students' desks and newspapers to cover desks in the classroom. Because the mapping game is conceived as a learning game, a discussion section follows the directions for play.

Directions for Play: Divide the class into pairs of students who sit side by side or one behind the other. Tell the students to take the same three or four things from their desks and lay them on top (specify, for example, crayon box, pencil, eraser, ruler).

Instruct one person in each pair to arrange the four objects on one desk in any pattern he chooses. Tell the same person to set up the other desk in exactly the same way.

Have the second person in the pair take a sheet of paper and draw a picture of one of the desk tops and the four objects on it. Tell him to draw it carefully so that the picture shows exactly where the things are on the desk. Tell the students, also, that they must use pictures only, not words.

When the picture is finished, tell the students to take the objects off one desk and lay them on the seat with the picture. Tell them to leave the second set of objects on the other desk just as they were placed but to cover them with a newspaper so that the objects are hidden. (This second desk is the "model.") Tell the students that the pictures they have made are *maps*.

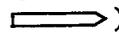
Now send each pair to the desks set up by another pair. Tell them to take the objects from the desk seat and place them on the empty desk top just as the map on the seat shows them placed. Tell them no peeking is allowed at the objects under the newspaper (the model).

After every pair has completed its arrangements, let the two pairs of students who have worked on the same desks "judge" each other's work. Tell them to uncover each model arrangement and compare it with the new arrangement. Ask them to decide which arrangement is most like the model and which map is the better picture. At this time, the students can be encouraged to measure the closeness of objects to other objects or the desk sides. (You might suggest, for example, using finger lengths, rulers, eraser widths, or whatever tools they can manipulate easily.)

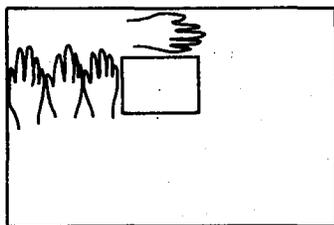
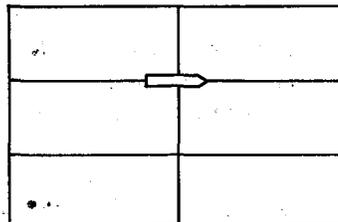
Play the game several times to allow everyone to map and set up and learn the game. The emphasis should be on enjoying the game and letting people work out their own solutions to the game's problems.

Discussion: After the students have played the game a time or two, they will have coped with several kinds of map reading and mapping problems. Some discussion may be needed when the problems are encountered, but it is well to let the students develop some solutions first, along the way, before having a general discussion of these points:

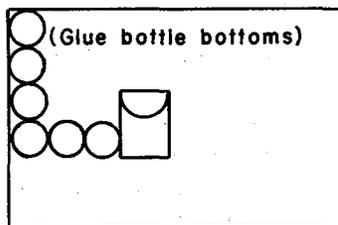
1. Map Orientation: Which side of the map is "up" or "front" or "north"? Some may have turned the map around and read it upside down or sideways. Discussion centers on the problem of how to know when the desk on the drawing is turned the same way as the desk itself. What can be drawn on the map to show how it is oriented? List the solutions suggested and encourage the students to use those they consider to be most clear.

2. Map Symbols: Drawings of some of the objects will not identify them or show which way they are turned; i.e., for any of a number of reasons the picture (or symbol) may display equivocal or insufficient data. A rectangle that represents the crayon box on some maps, for example, might be mistaken for the symbol for a book. Discussion may suggest that the class create a uniform set of symbols (simple pictures that represent an object) and that the symbols contain orienting devices. This symbol for pencil () is simple and also indicates which way the pencil lies.

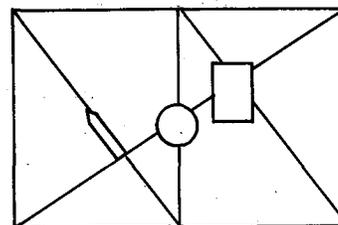
3. Map Measurements: How well the map can be read and the accuracy of symbol placement will be issues in the game, and the players will tend to move naturally from placing objects by eye to placing them by measurement. Discussions and play must allow the trial and use of *all* experimental measuring and coordinate systems. (A rectangular coordinate system will be useful for later studies but is not essential for the game at this time, even though it might be understood and used.) The maps can show proportions and placement by means of dividing lines sketched at right angles to each other. In the sketch at the right, for example, the pencil is on the intersection of the central up-down (vertical) line and the first left-right (horizontal) line from the top. Ruler, body, and object measurements from two sides (see sketches) can be used to establish location on the map. There may be other solutions—such as using the intersection of lines bisecting the rectangle—but in any case, it will be clear that *both the method of measurement and the measurements that locate objects must be shown on the map*. How involved to make the measuring problems depends on the capacity of the students and intensity of their interest in the game. Concentration on symbol and orientation may be enough for the youngest students.



Hand measurement



Object measurement



Intersecting lines