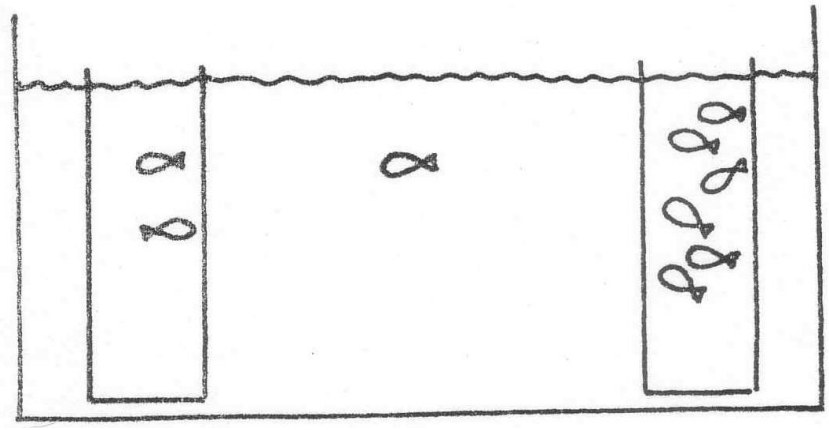
PROJECT 9-2 SCHOOLING BEHAVIOUR OF FISH

PROBLEM

Many small fish show a tendency to school but it is not always clear whether they are responding to each other or to a common external factor. You can test some of the factors that influence schooling using an aquarium.

INFORMATION

1. Place 2 jars in an aquarium and set up your alternative choices in them (r.g. one large and one small group). Place your test fish in the middle of the tank and observe its behaviour.



2. Although this sort of work has mainly been done using freshwater “tropical” fish, it is equally feasible to use coldwater, estuarine or marine fish – as long as they are small enough.

DESIGN OF EXPERIMENT

1. How will you make sure that the fish is responding to the two alternatives and does not just prefer one end of the tank to the other?

2. How will you measure the response of the fish?

3. Does the test fish prefer a large school or a small one?

4. Does the test fish prefer its own species to another species?

5. Does the test fish prefer a school of larger fish to one consisting of smaller fish?

6. Will you use the same test fish for all trials?

7. How many times will you repeat each set of alternatives?

REFERENCES

Shaw, E. (1962). The schooling of fishes. Scientific American 202 (6) : 128-38. Offprint 124.