

Catch As Catch Can



Objective

Students simulate fishing techniques and explore processes that result in bycatch. They visually express their catch in the form of a graph

Materials

- multicolored fruit ring cereal
- large tub, bowl, or shoebox (one per each group of four or five students)
- jumbo-size paper clips (one per student)
- ladles or small (home aquarium-size) fish nets (one per each group of four or five students)

Background

Fishing nets like purse seines and driftnets make it easy to catch lots of fish. But they've also introduced new problems: the nets catch everything that can't swim through the mesh, regardless of species. When the nets are hauled in, fishers try to toss back nontarget species (the bycatch), but most of these animals die anyway. According to the Center for Marine Conservation, the number of sharks killed incidentally in fishing operations equals or exceeds those taken intentionally.

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Action

1. Discuss two different methods of fishing: hook-and-line and net fishing. Tell students that in this activity they will pretend to be fishermen, and they will try both fishing methods.
2. To each group, distribute a large tub, bowl, or shoebox filled with fruit ring cereal. (Cereal should be about 3" deep.)
3. Give each student a jumbo-size paper clip. Show them how to bend their paper clip into the shape of a hook. (Or pre-bend hooks for younger students.)

ROUND ONE:

4. First students will try hook-and-line fishing. Set a timer for one minute and have students hook as many "fish" (fruit rings) as they can. Students count their catch. Next, students try net fishing. Each student in the group takes a turn scooping a net (or ladle) through the tub of fruit rings, "catching" as many as possible. Students count their catch. Discuss the two methods students used to catch their fish:

Which method works best for fishermen?

Which method is better for fish populations?

If they were fishermen, would they choose net fishing or hook-and-line fishing?

ROUND TWO:

5. For the second round of play, choose one color of "fish" that you will be fishing for. (Any other color of fruit rings students catch incidentally are bycatch.) For one minute, students use their paper-clip hooks to catch as many "fish" (of the pre-decided color) as they can. Students count their catch. Next, students use the net (or ladle) to scoop fish. Remind them that they are trying to catch only one color of fish, but that in the course of fishing operations there is normally some bycatch. Students count their catch. Discuss the two methods students used to catch their fish:

Which method works best for fishermen?

Which method is better for fish populations?

If they were fishermen, would they choose net fishing or hook-and-line fishing?

6. Students create a bar graph to show how many fish of different species (colors) they caught in the net. On a piece of white construction paper, students line up their fruit rings by color, and glue them to the paper.
7. Discuss what happens to fish that are bycatch. (Some are tossed back to sea and survive; others die.) Explain that sharks are common bycatch fish, and they usually don't survive. As a result, some shark populations have been severely depleted. Encourage a discussion of how people can manage ocean resources.