Rival for Survival Game Instructions

Materials
- Game board
- Movable pieces
- Game cards
- Score paper
- Die
- Pen or pencil

Number of Players
- 2–5

Objective
To have the **most points** when all players have reached the “Finish” position, at the Great Lakes.

Directions
1. Each player rolls the die, and the player with the highest number goes first.
2. Player 1 rolls the die and moves the playing piece the number of spaces shown on the die. Player 1 chooses a question card and hands it to the player on the left, who reads the question aloud. Player 1 chooses the best answer.
3. Points received are based on the player’s answer and are recorded on the score sheet.
4. When landing on a space that requires the player to move ahead or backward, the player moves the game piece before picking a question card.
5. Some answers will cause a player to lose points. If the player has no points, however, he or she cannot go below zero, even if told to subtract a point.
6. Play continues in a clockwise direction until all players reach the Great Lakes region or the time limit is reached. The player with the **most points** is the winner—not the player who reaches the Great Lakes first. Finishing first may not necessarily be a good thing in this game!
Your aquarium is no longer functioning. You decide to get rid of the fish. You should
a. flush them.
b. find them a new home in another aquarium.
c. drop them in the local pond.

Bringing in natural predators may be the way to handle exotic species such as purple loosestrife. Choose a potential problem with the above idea.
a. Purple loosestrife would decrease.
b. Predators may not die out after plants are gone.
c. Native plants would repopulate area.

To prevent the transfer of exotic species from one lake to another, you should
a. pull your boat quickly from one lake to another.
b. inspect your boat trailer and equipment.
c. wash your boat in cold water.

How many of these species are exotic: goldfish, purple loosestrife, sea lamprey, starling?
a. one
b. three
c. four

Some exotic species can be a nuisance. How many of these are nuisance species: carp, alewife, purple loosestrife, zebra mussels, sea lamprey?
a. two
b. three
c. five

The role an organism has in its environment is its niche. Exotic species
a. try to take over the niche of another organism in an ecosystem.
b. have no niche in an ecosystem.
c. are not organisms.

How could you gain information about exotic species in your area of the country?
a. Contact the Wildlife Service.
b. Complete an Internet search on the topic.
c. Both a and b.

Zebra mussels each filter about
a. 0.25 liter of water per day.
b. 0.50 liter of water per day.
c. 1.0 liter of water per day.

The sea lamprey is an exotic species in Lake Erie. Why is it so damaging to other fish?
a. It eats their eggs.
b. It carries a large number of diseases.
c. It sucks out the blood and body tissues of other fish through its suckerlike mouth.

Exotic species are
a. rare organisms.
b. organisms brought into an environment not their own.
c. worth a lot of money.
A  a = 0 pts. No! You might transfer species from one body of water to another.
   b = 3 pts. Good decision! You ensure there are no organisms transported on your boat.
   c = 1 pt. You’re trying to remove all organisms—use 140°F water.

A  a = 0 pts. This is what we would want to happen!
   b = 3 pts. Could be a very real problem. You’d just be trading one exotic species for another.
   c = 0 pts. This is a positive effect of introducing a natural predator; the question asked for negative effect.

A  a = 3 pts. Correct! You can enjoy the plant without damaging it or carrying it into an ecosystem not its own.
   b = –1 pt. Take a point away. You risk creating an invader species that could damage the ecosystem back home.
   c = 0 pts. This could damage the plant.

A  a = 0 pts. Not right!
   b = 0 pts. Closer, but still not right.
   c = 3 pts. You got the right answer!

A  a = 0 pts. Not true.
   b = 0 pts. Not the problem.
   c = 3 pts. Gross, but true.

A  a = 0 pts. Have new competition for and usually get less.
   b = 0 pts. No! If there are more organisms trying to eat the same food, they won’t get as much.
   c = 3 pts. Correct, because there are more species competing for the resources.

A  a = 0 pts. Not a good choice!
   b = 3 pts. This is the best thing to do.
   c = –1 pt. Take a point away. You could be introducing a new species to the pond and upsetting the ecosystem!

A  a = 1 pt.
   b = 2 pts.
   All four are exotic!

A  a = 1 pt. True, but not the best food answer.
   b = 2 pts. You are getting closer.
   c = 3 pts. This is right! All are nuisances!

A  a = 3 pts. They try to do this.
   b = 0 pts. No.
   c = 0 pts. All living things are organisms.
### Game Cards—Front b

<table>
<thead>
<tr>
<th>Q You find some zebra mussels on a beach. You should</th>
<th>Q Exotic species are</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. leave them where they are.</td>
<td>a. plants.</td>
</tr>
<tr>
<td>b. take them home.</td>
<td>b. animals.</td>
</tr>
<tr>
<td>c. put them in a pond near your home.</td>
<td>c. both.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q Zebra mussels are believed to have entered the Great Lakes</th>
<th>Q Purple loosestrife was brought into the United States to</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. by traveling in the ballast water of commercial freighters.</td>
<td>a. beautify wetlands.</td>
</tr>
<tr>
<td>b. by attaching to large fish.</td>
<td>b. be used in landscaping.</td>
</tr>
<tr>
<td>c. because people brought them here to increase the mussel population.</td>
<td>c. feed large herbivores.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q While traveling through another part of the country, you encounter a small tortoise. Do you</th>
<th>Q Purple loosestrife is an exotic species that is invading North American</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. put it in your aquarium?</td>
<td>a. deserts.</td>
</tr>
<tr>
<td>b. sell it to a pet store?</td>
<td>b. forests.</td>
</tr>
<tr>
<td>c. leave it alone?</td>
<td>c. wetlands.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q Indigenous plants and animals are those</th>
<th>Q Exotic species</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. that are naturally found in an ecosystem.</td>
<td>a. are good for the environment they enter.</td>
</tr>
<tr>
<td>b. are imported into an ecosystem.</td>
<td>b. are bad for the environment they enter.</td>
</tr>
<tr>
<td>c. make you sick if you eat them.</td>
<td>c. can be either good or bad, and some have no effect.</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Q The effect zebra mussels have on water intake pipes is to</th>
<th>Q Round gobies can eat up to</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. help rebuild them.</td>
<td>a. five sea lampreys per day.</td>
</tr>
<tr>
<td>b. clog them.</td>
<td>b. 1 pound of purple loosestrife per day.</td>
</tr>
<tr>
<td>c. clean them.</td>
<td>c. 78 zebra mussels per day.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q How are yellow perch affected by aquatic invaders?</th>
<th>Q The fishhook flea keeps from being eaten because</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. The round goby eats yellow perch eggs.</td>
<td>a. its long tail, shaped like a fishhook, makes it difficult for larger fish to swallow.</td>
</tr>
<tr>
<td>b. The fishhook flea competes for the same food as the yellow perch.</td>
<td>b. it latches on to fishhooks and escapes when fishermen pull their poles out of the water.</td>
</tr>
<tr>
<td>c. The yellow perch swallows zebra mussels that get stuck in its digestive system.</td>
<td>c. it stays away from fishhooks and thus is not eaten by fish.</td>
</tr>
</tbody>
</table>
Game Cards—Back b

A  a = 1 pt. True, but not the best choice.
   b = 1 pt. Also true, but not the best choice.
   c = 3 pts. Exotic species can be plants or animals.

A  a = 0 pts. Not true.
   b = 3 pts. This was why people brought purple loosestrife into the United States.
   c = 0 pts. Purple loosestrife has no natural enemies in the United States.

A  a = 0 pts. Wrong.
   b = 0 pts. Wrong.
   c = 3 pts. Purple loosestrife is a wetland plant.

A  a = 1 pt. Might be true, but unlikely.
   b = 1 pt. True often, but not always.
   c = 3 pts. This is the best choice.

A  a = 0 pts. This would be helpful, but it is not true.
   b = 0 pts. This is also incorrect.
   c = 3 pts. This is correct.

A  a = 3 pts. Exactly! This is why it is called the fishhook flea.
   b = 0 pts. Sorry, this is incorrect.
   c = 0 pts. This is also a wrong answer.
Boaters or anglers can prevent the spread of zebra mussels by
a. wearing gloves while they are fishing.
b. emptying their bait buckets on land only.
c. washing their boat, tackle, trailer, and other equipment in 104°F water.

How might a native brown trout be killed by an aquatic invader?

a. Round gobies could eat eggs of the brown trout.
b. A sea lamprey could carve a hole in the side of the brown trout and suck out its bodily fluids.
c. The brown trout could try to swallow a fishhook flea and get it stuck in its digestive system.

A sea lamprey can grow
a. up to 6 inches long.
b. up to 36 inches long.
c. up to 18 inches long.

The fishhook flea most likely traveled to the United States
a. attached to other fish migrating toward the United States.
b. because it got lost.
c. in the ballast water of freighters.

What do round gobies do to make fishermen angry?

a. They eat all the eggs of the native fish, leaving no more fish to catch.
b. They tease them that they can’t catch fish.
c. They aggressively take bait from hooks used by fishermen.
Game Cards—Back c

A a = 0 pts. Sea lampreys can get bigger than that!
   b = 0 pts. Wow, that would be one giant sea lamprey.
   c = 3 pts. That is correct!

A a = 2 pts. This is close. Round gobies eat the eggs of the lake trout.
   b = 3 pts. Exactly, this is why the sea lamprey is so dangerous!
   c = 1 pt. This might be possible.

A a = 1 pt. This is a possibility.
   b = 0 pts. This is unlikely.
   c = 3 pts. That’s right!

A a = 0 pts. Unfortunately, wearing gloves has nothing to do with it.
   b = 3 pts. Good job! This will help prevent the spread of zebra mussels.
   c = 3 pts. This too will aid in the prevention of zebra mussel infestation.

A a = 0 pts. No, it is the sea lamprey that attaches to fish.
   b = 0 pts. This is incorrect.
   c = 3 pts. You got it!

A a = 0 pts. This isn’t even close.
   b = 1 pt. This is getting closer.
   c = 3 pts. Yes, this is correct.