

Pollution Tag (10-30 minutes)

Tolerance Game Instructions

Purpose:

1. To help students better understand tolerance levels
2. To teach students about pollution and its effect on wildlife
3. To give students a chance to be active and move

Materials:

- Wide Open Space (preferably a field, but can be done in a classroom with desks pushed out of the way)
- Cones or ropes to mark off start and finish lines
- Printed out cards (Print multiple copies of the third page and cut individual tags for each student)
- Someone to play "Pollution" (You can have a student or two do this or a teacher and/or parent chaperone)

Procedure:

Instructions (2-5 minutes)

-Have students line up on one side of the field or room, behind the rope or cones and tell them that this will be the starting line

-Hand out an invertebrate card to each student

-Allow each student to read his or her cards, and explain that they are only allowed to travel by the method the card says under "Moves" (i.e. if it says "Moves: Skip", then the student must skip to get to the other side; they are not allowed to do anything else than what it says on the card)

-Get the Pollution person(s) positioned (typically in the middle of the field or room, between the start and finish line) and explain to students that this is pollution; if you are tagged by pollution then you become pollution too, and can tag other invertebrates

-Make a point of the boundaries and the goal to get to the other side and survive (marked off by cones or rope) without being affected by pollution

-Explain that they need to be careful and watch out for other organisms!

Game (5-20 Minutes)

-Play the game a few times

-After each round ask students to raise a hand if they were part of the Tolerant/ High Tolerance group. Have them refer to their cards for their tolerance level. Then ask students to keep their hands up if they made it all the way across without being tagged by pollution (repeat this for Facultative/Medium tolerance and for Intolerant/Low Tolerance)

-Remind students to remember the outcomes of the rounds for review later

-If time allows have students switch cards and become a new invertebrate or allow someone new to play pollution

Wrap up (2-5 Minutes)

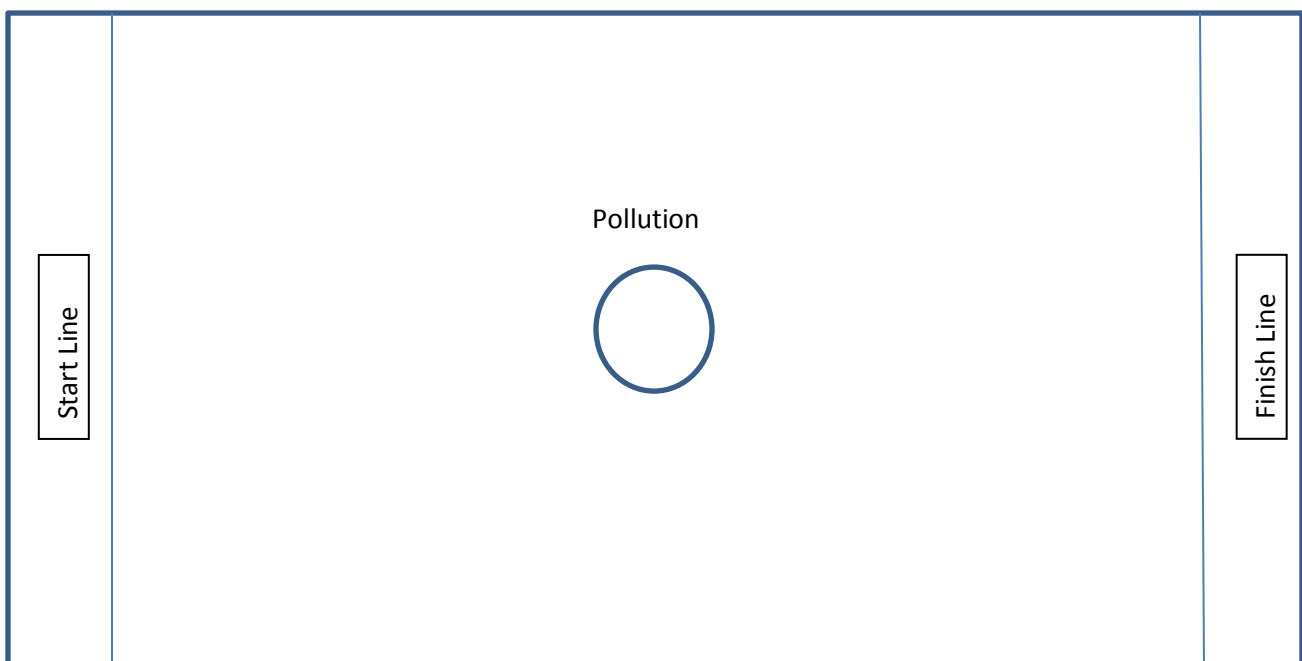
-Have students keep cards for reference

-Return to the classroom to review the game

-Ask students questions:

1. Which tolerance group had the most people that made it across?
2. Which tolerance group had the least people that made it across?
3. Why did the Intolerant group have so much trouble getting across?
4. Why is it important to prevent pollution in our waterways?
5. How can we prevent pollution from entering our waterways?

-Collect back the cards





Invertebrate: Dragonfly Larvae

Pollution Tolerance: Facultative/Medium

Moves: Move sideways



Invertebrate: Crane fly Larvae

Pollution Tolerance: Facultative/Tolerant

Moves: Skip



Invertebrate: Dobsonfly Larvae

Pollution Tolerance: Low/Intolerant

Moves: Lie on stomach and roll



Invertebrate: Leech

Pollution Tolerance: High/Tolerant

Moves: Run



Invertebrate: Damselfly Larvae

Pollution Tolerance: Facultative/Medium

Moves: Do a jumping jack every 5 steps



Invertebrate: Scud

Pollution Tolerance: Facultative/Medium

Moves: Do a push up every ten steps



Invertebrate: Rat-tailed Maggot

Pollution Tolerance: High/Tolerant

Moves: Sprint



Invertebrate: Pouch Snail

Pollution Tolerance: High/tolerant

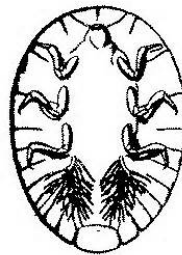
Moves: Jog



Invertebrate: Stonefly Larvae

Pollution Tolerance: Low/Intolerant

Moves: Spin in circles



Invertebrate: Water Penny

Pollution Tolerance: Low/Intolerant

Moves: Army Crawl