

1978

## The Metric "Indy"

Janice Brandt

Daniel Yates

Follow this and additional works at: <https://scholarworks.uni.edu/istj>



Part of the Science and Mathematics Education Commons

*Let us know how access to this document benefits you*

Copyright © Copyright 1978 by the Iowa Academy of Science

---

### Recommended Citation

Brandt, Janice and Yates, Daniel (1978) "The Metric "Indy";" *Iowa Science Teachers Journal*: Vol. 15: No. 3, Article 11.

Available at: <https://scholarworks.uni.edu/istj/vol15/iss3/11>

This Article is brought to you for free and open access by the IAS Journals & Newsletters at UNI ScholarWorks. It has been accepted for inclusion in Iowa Science Teachers Journal by an authorized editor of UNI ScholarWorks. For more information, please contact [scholarworks@uni.edu](mailto:scholarworks@uni.edu).

**Offensive Materials Statement:** Materials located in UNI ScholarWorks come from a broad range of sources and time periods. Some of these materials may contain offensive stereotypes, ideas, visuals, or language.

# THE METRIC "INDY"

Janice Brandt and Daniel Yates  
Math. & Science Center  
Glenn Allen, Virginia 23060

## Introduction

The following is a game designed to provide practice with basic metric units of linear measurement. Students turn up cards to advance their "race cars" along a centimeter track. The race cars can be made of white cuisenaire rods, centicubes or similar objects. This game is suitable for grades 3-8.

## Materials

Materials needed will be:

1. Cardboard race track, with six lanes
2. Six race cars
3. 45 instruction cards (9.5 cm by 5.5 cm). (Figs. 1, 2, 3, and 4)

<b>METRIC RACE TRACK</b> The following is a game designed to provide practice with the basic metric units of linear measurement. Students turn up cards to advance their "race cars" along a centimeter track. The race cars can be white cuisenaire rods, centicubes, or similar objects. Materials needed will be ___ cardboard racetrack ___ about 6 race cars ___ at least 20 instruction cards This game is suitable for grades 3-8.	<b>Cheat Card</b> 10 millimeters = 1 centimeter 10 centimeters = 1 decimeter 10 decimeters = 1 meter 1000 meters = 1 kilometer	Out of Gas  No Go
<b>RACE TRACK CONSTRUCTION</b> Cut and then glue together pieces of cardboard or poster board to make a race track about 150 cm long and 30 cm wide. Draw a line every 5 cm to establish 6 racing lanes. Now draw lines at 1 cm increments down the track with the words "START" and "FINISH" at the ends of the track. You may want to color each lane a different color, and/or cover the race track, front and back with contact.	Got Out of Oil Slick  Move 20 centimeters	Mechanic Fell Asleep  Lose This Turn
<b>DIRECTIONS</b> 1. Each player places his car in one lane. If the cars are longer than 1 cm, then the front of each car will be used as a guide. 2. Each player draws a card from the stack, and the longest length goes first. 3. Players take turns drawing cards from the stack and moving their cars the number of indicated spaces. 4. The first car to reach the finish line wins the game.	Quick Reactions  Move 40 millimeters	Dirt in Carbeurator  Don't Move This Turn

Fig. 1.

Fast Gear Change 80 millimeters	Pit Stop Go Back 10 millimeters	Brake f Advance 10 millimeters Only
Dead Battery Move Back 20 millimeters	Flat Tire Go Back 30 millimeters	Icy Roads Move Back 50 millimeters
Caution: Oil Stick Move 1 centimeter	Brake f Advance 1 centimeter Only	New Tire Move 2 centimeters
New Airfoil Move 2 decimeters	Missed Curve Move Back 1 $\frac{1}{2}$ decimeters	Supercharger Installed Move $\frac{1}{2}$ of a meter

**Fig. 2.**

Loose Steering Causes Wreck Go Back 2 centimeters	Passed Car Move 1/10 of a decimeter	Finished With Pit Stop Move 1/5 of a decimeter
Radiator Is Fixed Move 4/5 of a decimeter	Quick Reactions Move 6/10 of a decimeter	Straight-a-way f Go Ahead 1 decimeter
Superb Driving Move 1 decimeter	New Transmission Move 2 decimeter	New Tires Move 1 decimeter
Drafting Move 50 millimeters	Slip Stream By Slow Car Move 60 millimeters	Take The Inside Lane Move 70 millimeters

**Fig. 3.**

Cleaned Windshield Move 10 millimeters	Leaky Muffler Fouls Engine Move Only 10 millimeters	You Have Just Hit An Oil Slick Move Only 20 millimeters
Tricky Curve Slow to 10 millimeters	Quick Gear Change Move 30 millimeters	Tailgate Faster Car and Miss Curve Move Only 10 millimeters
Quick Reactions Move 40 millimeters	Slow Pit Work Move Only 20 millimeters	Drafting Move 40 millimeters
Advance 5 centimeters	Going Good Move 10 centimeters	

Fig. 4.

## Race Track Construction

Cut, and then glue together, pieces of cardboard or poster board to make a race track about 1500 cm long and 30 cm wide. Draw a line every 5 cm to establish six racing lanes. Next, draw lines at 1 cm increments down the track with the words "START" and "FINISH" at the ends of the track. You may wish to color each lane a different color, and/or cover the front and back of the race track with contact.

### Directions

1. Each player places his/her car in one lane. If the cars are longer than 1 cm, then the front of each car will be used as a guide.
2. Each player draws a card from the stack and the card indicating the longest move goes first.
3. Players take turns drawing cards from the stack and move their cars the number of spaces indicated.
4. The first car to reach the finish line wins the game.

### Conclusion

In conducting metric workshops for teachers and students, a series of metric activity centers were set up so that participants could

participate in some kind of metric measuring activity. One of the activities was this game, which was one of the most popular, particularly with students. Some students have designed very interesting and sophisticated tracks on which to play the game. Innovations are limited only by the imaginations of those playing the game. The game provides drill and practice using metric units under psychological conditions that reduce boredom.

\* \* \*

### When You've Reached the Last Straw

Flatten one end of a drinking straw. With scissors, trim the flattened end into the shape shown in Figure 1. Put the flattened, trimmed end into your mouth and blow hard. With a few tries you should become proficient in producing a loud squawk. Then, while continuously producing sound, quickly clip one-centimeter sections off the end of the tube with scissors. The results demonstrate the relation between the length of a resonating air column and the pitch of a sound. If this becomes a popular activity at school you may end up grasping for the last straw.



Fig. 1.

Adapted from *The Colorado Science Teachers Association Newsletter*.

\* \* \*

### New Scientist

*New Scientist* is an interesting magazine concerning new discoveries in science having large social, environmental and technological impact written in a popular style. For further information write J. Watts, Subscription Editor, King's Reach Tower, Stamford Street, London SE 19LS.

\* \* \*

### Free Films

The Canadian Consulate has a series of excellent science films available to educators on a free loan basis. For instructions on how to obtain these films write: Canadian Consulate General, Film Library, 310 South Michigan Ave., Chicago, Illinois 60604. Films of interest are:

*The Spruce Bog*, 20 min., color.

*Life of the Sockeye Salmon*, 25 min., color.

*Continental Drift*, 10 min., color.

*Castleguard Cave*, 54 min., color.