Name: _____   Date: _____   Hour: _____

Vector Walk Lab

Anything that has a value (magnitude) and direction is considered a vector. Velocity and displacement are types of vectors. The vector that we will be working with today is displacement or how far and in what direction away from your original position you are. We will be walking around the school and using vectors to determine our displacement.
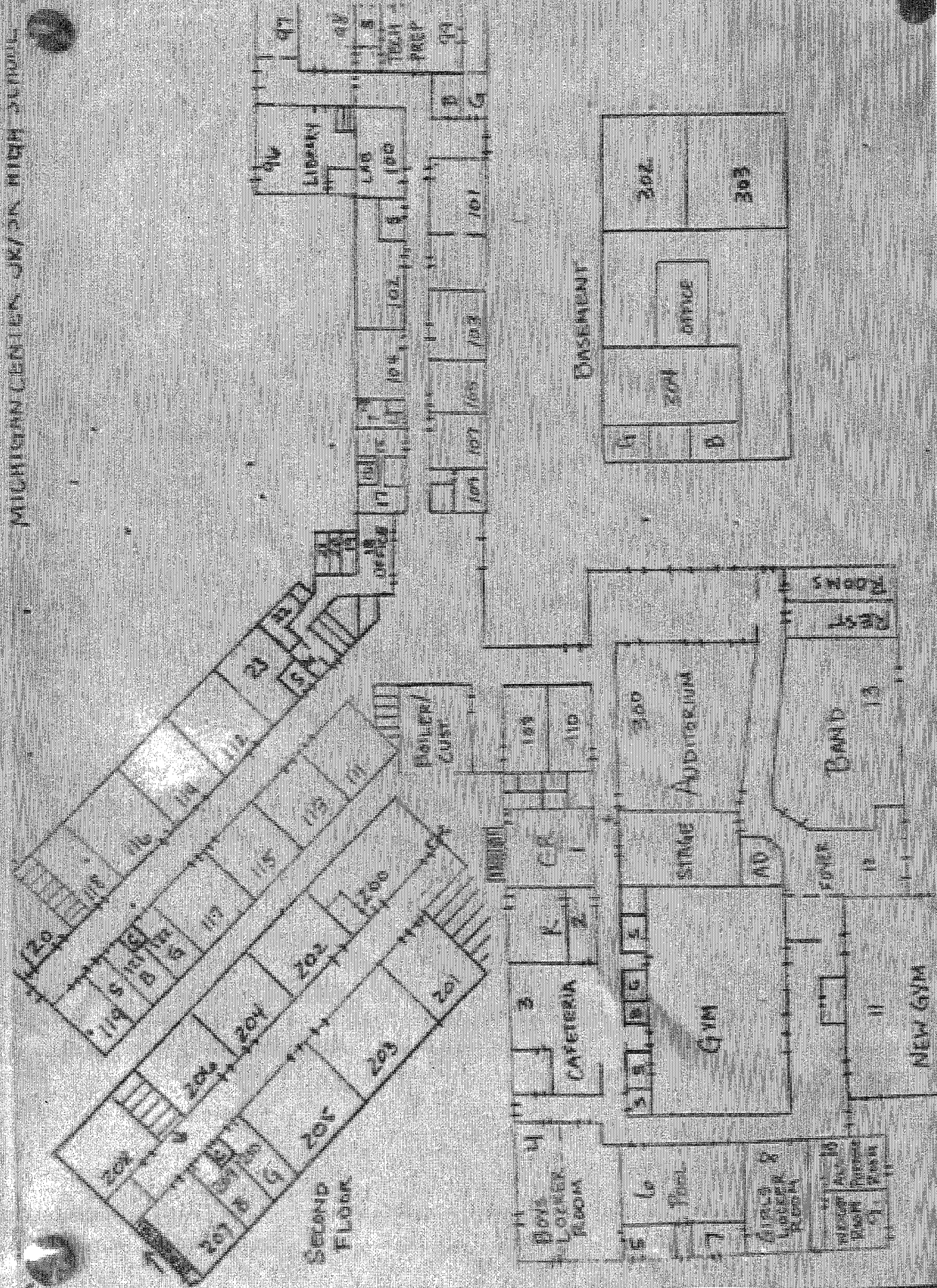
First figure out where you will start and where you will end. Both locations should be on the same level or floor of the school. You need to <u>make at least two right angle turns</u> to get to your destination. Be careful not to make the two places too close or too far from each other. On the map, write down where you plan to start and finish.

Now you need to use 2m long string to measure out the distance that you cover and record the direction because vectors require both pieces of information. Only make right angle turns!

Using your map and a marker or highlighter, sketch the path of your trip with distances listed. Each vector should be its own distance and direction so every vector or arrow should be a maximum of 2m (the length of the string) but scaled down on your map.

Using a different color highlighter or marker determine the resultant vector, directly from start to finish. This represents your displacement.

1. What was the total distance that you traveled through the hallways?

2. What was your displacement (the distance and direction from the starting point)? Show your work!

3. How are distance and displacement different from each other?

4. Which value is the most direct, distance or displacement and why did you select this?

MICHIGAN CENTER JR/SR HIGH SCHOOL

BASEMENT

302

303

OFFICE

304

H

D

Second Floor

202

204

206

203

201

200

117

115

113

111

120

SCIENCE

119

114

REST ROOMS

BRAND 13

AUDITORIUM 300

STAGE

AD

FOYER

CR 1

195

110

BOILER / CUST

GYM

CAFETERIA 3

NEW GYM 11

BOYS LOCKER ROOM

GIRLS LOCKER ROOM

97

96

LIBRARY

LAB

FOOD PREP

101

102

103

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OFFICE