

# Office of Shared Accountability

Applied Research and Evaluation

## DATA BRIEF

### 2021-2022 Data Summary of Selected KID Museum Programs at Montgomery County Public Schools

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# KID Museum Programs

2021–2022 Data Summary

## Purpose

The purpose of this data summary brief is to provide information about the students who participated in select KID Museum programs implemented in MCPS during the 2021-2022 school year.

## Background

Since 2017, Montgomery County Public Schools (MCPS) has partnered with KID Museum to provide a district-wide STEM initiative to broaden students' access to hands-on, project-based learning experiences. The major goals of the initiative are to develop the creative problem-solving, adaptability, and technical skills of students.

KID Museum provides a STEM program where students experience working through an iterative invention cycle: developing an idea, designing plans, making a physical prototype, and adapting when challenges arise (KID Museum, 2019).

## Research Questions

**RQ1:** How many MCPS elementary students participated in the **KID Inventors program** and what were their demographic characteristics?

**RQ2:** How many MCPS middle school students participated in the **Invent the Future program** and what were their demographic characteristics? By class and club format?

**RQ3:** How many MCPS middle school students participated in the **Invent the Future Elective pilot course** and what were their demographic characteristics?

**RQ4:** How many MCPS Grade 2-4 students participated in the **Make It Classroom** implemented during the 2021 **Extended Learning Opportunity (ELO) summer program** and what were their demographic characteristics?



## Programs Included

This data summary includes the following KID Museum programs:

- **KID Inventors:** Includes students in Grades 2-4 and was implemented during class at 4 Title I Elementary Schools.
- **Invent the Future:** Includes students in Grades 6-8 and was implemented in class or at an afterschool club at 15 Middle Schools.
- **Invent the Future Imagineering Technology Elective Pilot Course:** Includes students in Grades 6-8 and was implemented as a Middle School elective course at 2 Middle Schools.
- **Make It Classroom:** Includes students in Grades 2-4 and was implemented during the 2021 MCPS ELO Summer program for Title 1 schools.

# KID Inventors Elementary Program



RQ1: How many MCPS elementary students participated in the KID Inventors program and what were their demographic characteristics?

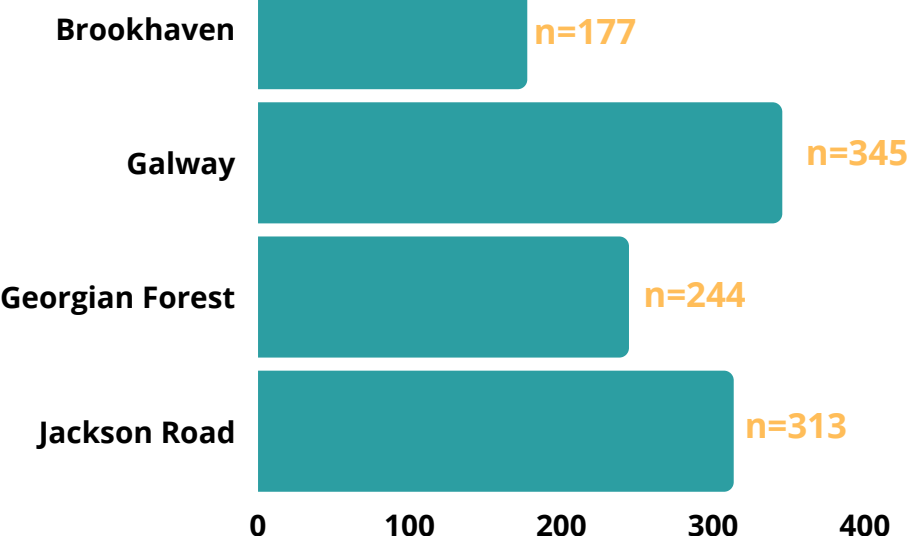


## 1,079



A total of 1,079 Grade 2-4 students from four Title I Elementary Schools participated in the KID Inventors program during class.

### Students



Grade 2 (n=367) 34%

Grade 3 (n=375) 34.8%

Grade 4 (n=337) 31.2%

### Gender

50%  
Female



50%  
Male

### Race/Ethnicity



### Services Received

Free and Reduced-Price Meals System (FARMS) 70%

Emerging Multilingual Learners (EML) 40%

Special Education 9%

# Middle School Invent the Future Program



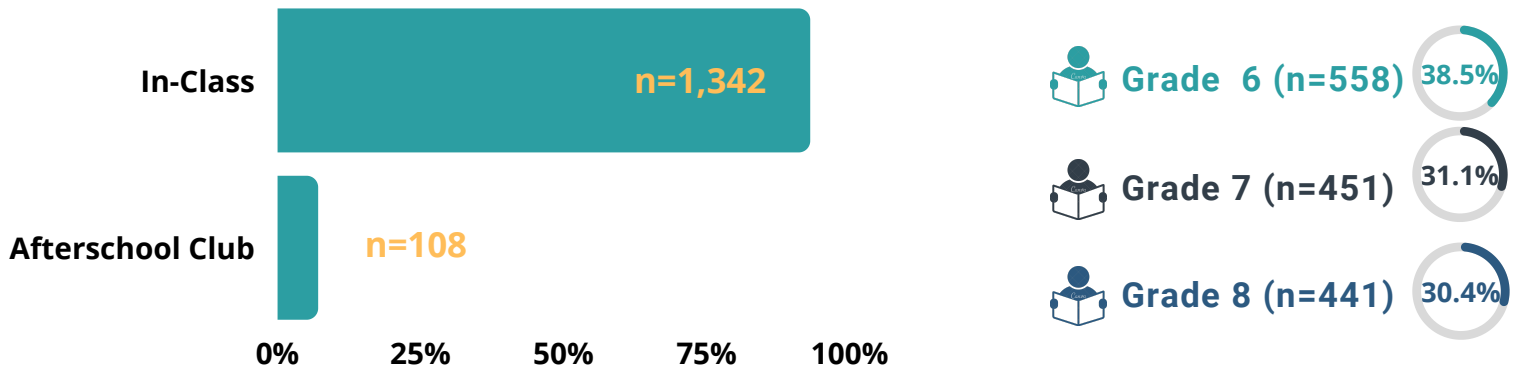
RQ2: How many MCPS middle school students participated in the Invent the Future program and what were their demographic characteristics? By class and club format?



## 1,450 Total

A total of 1,450 students from 15 middle schools participated in the Invent the Future Program.

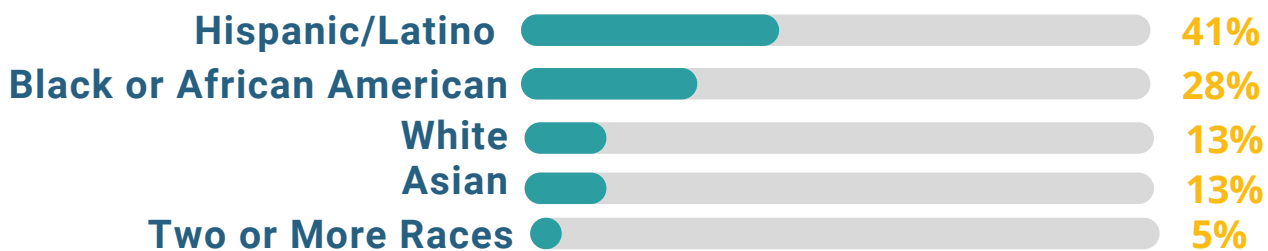
### Students



### Gender



### Race/Ethnicity




### Services Received







# Middle School Invent the Future Program


**In-Class**  
(1,342 students at 11 schools)


Grade 6 (n=512) 


Grade 7 (n=418) 

Grade 8 (n=412) 

**Afterschool Club**  
(108 students at 6 schools)

Grade 6 (n=46) 

Grade 7 (n=33) 

Grade 8 (n=29) 

## Invent the Future Schools by Class and/or Afterschool Club

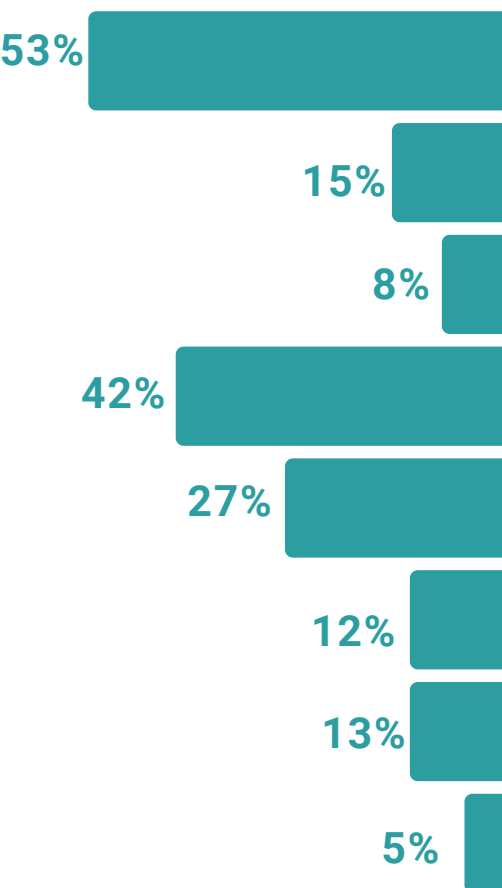
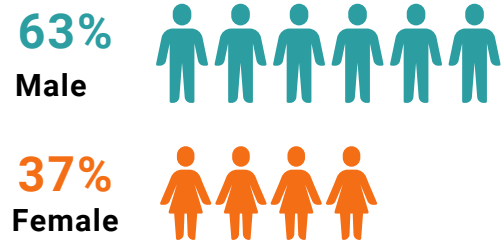
Middle School	Class	After-school	Middle School	Class	After-school
Argyle	X		Parkland	X	
Briggs Chaney	X		Roberto W Clemente	X	
Gaithersburg	X	X			
Key		X	Rosa Parks		X
Montgomery Village	X	X	Shady Grove		X
Neelsville	X		Silver Spring	X	
North Bethesda		X	White Oak	X	X
Odessa Shannon	X		William H. Faquar	X	



# Middle School Invent the Future Program

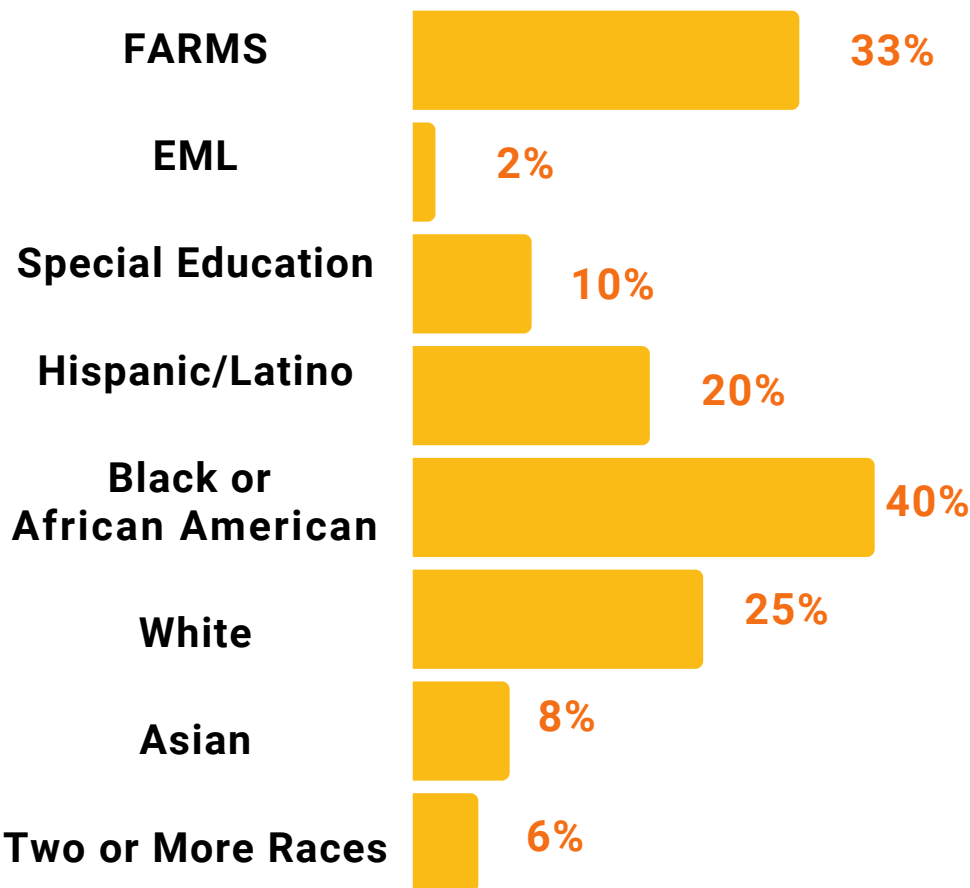
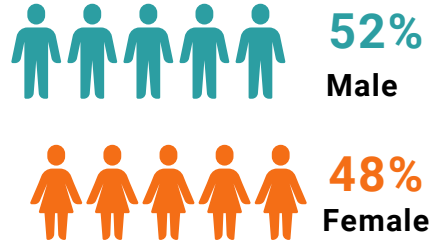
## In-Class (N=1,342)

### Gender



## Afterschool Club (N=108)

### Gender



# 2021 Make It Classroom (during ELO Summer Program)



RQ4: How many MCPS Grade 2-4 students participated in the Make it Classroom implemented during the 2021 ELO summer program and what were their demographic characteristics?



## 2,942

A total of 2,942 rising Grade 2-4 students participated in the virtual ELO summer program which implemented a KID Museum curriculum during class.



Grade 2 (n=1041)



Grade 3 (n=991)



Grade 4 (n=910)



## Gender

46%

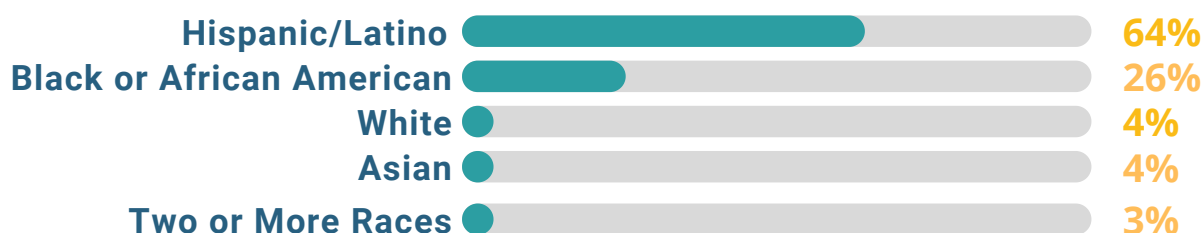
Female



54%

Male

## Race/Ethnicity



## Services Received

Free and Reduced-Price Meals System (FARMS)



78%

Emerging Multilingual Learners (EML)



54%

Special Education



14%





# Summary of Participants

## KID Inventors Studio Program

- 1,079 Grade 2-4 students at 4 Title 1 Elementary Schools
- 87% Hispanic/Latino or Black or African American students combined
- 70% received FARMS services
- 40% received EML services

## Invent the Future Program

- 1,450 Grade 6-8 students at 15 Middle Schools
- 93% of students participated during class vs. 7% afterschool club
- Majority of participants were male (62%)
- 69% Hispanic/Latino or Black or African American students combined
- Although the in-class program was mostly in different schools than the afterschool club program, the proportion of males (63% vs 52%), students receiving FARMS services (53% vs. 33%), EML services (15% vs. 2%), and Hispanic/Latino students (42% vs. 20%), was higher than the afterschool club program.
- The program during the afterschool club included 40% Black or African American students vs. 27% in the in-class program.

## Imagineering Technology pilot elective course

- 162 Grade 6-8 students at two Middle Schools
- Slightly higher percentage of male participants (57%)
- 71% Hispanic/Latino or Black or African American students combined
- 59% received FARMS services

## Summer Make It Classroom (during ELO summer program)

- 2,942 Grade 2-4 students
- Slightly higher percentage of male participants (54%)
- 90% Hispanic/Latino or Black or African American combined
- 78% received FARMS services
- 54% received EML services

