



## High School Admissions Decision Detail for Applicant Families

October 23, 2023

This document describes Ingenuity’s selection process and provides examples of how this process worked for a few representative applicants for 2023-24. Ingenuity’s citywide admissions process seeks to ensure equity and access to our rigorous and effective STEM curriculum for the best and brightest young people from all communities across Baltimore City.

### 1. Ingenuity Admission Scores are Calculated.

The Ingenuity Admission Score is a measurement of how well an applicant did *relative to all of the other applicants to Ingenuity this year* on required testing<sup>1</sup> and on their recent report cards<sup>2</sup>. A complete mathematical description of how admission scores are calculated can be found at the end of this document. *The Ingenuity Admission Score is different from the City Schools Composite Score.* For HS applicants to 2023-24, the Ingenuity Admission Scores of applicants with complete data ranged from 8.9 to 98.6. The average Ingenuity Admission Score for applicants who were given initial offers was 65.8.

### 2. ZIP Quartiles are Determined.

To ensure geographic and economic diversity in our program, every applicant is assigned to a ZIP code quartile, based on the median household income of the ZIP code in which they live. For more detail you can view a [chart showing which Baltimore City ZIP codes are in each quartile](#), or review the supporting [2020 US Census data](#). This method essentially splits our applicant pool into four economic groups. Applicants are then ranked by admission score *within their ZIP quartile group* to determine their ZIP quartile rank.

### 3. School Groups are Determined.

Each applicant is placed in a school group depending on which school they are currently attending. The six school groups are Ingenuity’s middle school programs (Hamilton, James McHenry, Mount Royal, Roland Park), other City Schools, and non-City Schools. Applicants are then ranked by admission score *within their school group* to determine their school group rank.

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<sup>1</sup> For 2024-25 admissions, these are the MCAP Math and Reading assessments administered by City Schools in the spring of 2023 and the Ingenuity-administered NWEA MAP Algebra 1 testing that will occur during the winter.

<sup>2</sup> An unweighted average of 7<sup>th</sup> grade final grades and 8<sup>th</sup> grade first term grades in math, ELA, social studies, and science.



3. **Applicants are Ranked by Admission Score Within their School Groups and ZIP Quartiles.**

Each applicant will be ranked by Ingenuity Admission Score separately within their ZIP code quartile group AND within their school group.

4. **Applicants Near the Top of Their ZIP Quartile AND/OR School Group are Assigned Offers.**

Applicants ranking near the top of applicants in EITHER their ZIP quartile group OR their school group (or both) will receive placement offers to Poly. In 2023-24, “near the top” included the highest-scoring 33% in each group. That value (33%) was the same for all<sup>3</sup> school groups and ZIP quartiles. It is adjusted to produce an appropriate number of offers, with the goal of producing an incoming 9<sup>th</sup> grade class of approximately 90 students. Therefore, that percentage may grow (if the applicant pool is smaller) or shrink (if the applicant pool is larger) for 2024-25.

5. **Waitlist Management.**

Applicants not scoring highly enough within their school group or ZIP quartile group to be given an offer of placement initially will be maintained on a waitlist. The waitlist will be used to fill placements that may become available. Offers to applicants on the waitlist are given by admission score rank only, without regard to school group or ZIP code quartile. Applicants who did not complete Ingenuity’s required testing and/or failed to gain admission to Poly (a separate process conducted by City Schools’ Office of School Choice) are removed from the waitlist.





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<sup>3</sup> Only the non-City Schools school group may have a lower offer rate.



### **Application Outcome Examples from 2023-24**

The illustration below demonstrates how this process played out for four actual applicants to Ingenuity’s 9<sup>th</sup> grade cohort of 2023-24. Only their names have been changed.

				
	Minnie	Mickey	Donald	Daisy
Ingenuity Admission Score	82.6	65.6	47.9	60.8
School Group	Roland Park	Non-BCPSS	BCPSS	Non-BCPSS
ZIP Quartile	4	4	3	1
Top X% of School Group?	Yes	No	Yes	No
Top X% of ZIP Quartile Group?	Yes	No	No	Yes
Initial Placement Offer	Ingenuity Poly	Waitlist	Ingenuity Poly	Ingenuity Poly

Minnie is an example of a student for which an admission decision was an easy “accept.” Minnie’s admission score is within the top third [for 2023-24, X% = 33] in both her school group and her ZIP code quartile. She is one of the top 64 applicants by admission score, all of whom earned placement offers, and would have received offers no matter which school groups or ZIP quartiles they were in . High-scoring applicants, like Minnie, represented 51% of initial offers in 2023-24.

Mickey was the highest-scoring applicant who was not initially given a placement offer. He is a part of BOTH of the groups for which admission scores are generally the highest: ZIP quartile 4 (MHI > \$74,430), and the non-BCPSS (i.e. independent/private) school group. Mickey would have been the first to receive an offer from the waitlist, because offers from the waitlist only use the Ingenuity Admissions Score rank and do not consider ZIP quartile or school group.

Donald did not qualify for an offer in his ZIP quartile group (3), but he did qualify for one from within his school group – other BCPSS (the non-Ingenuity middle schools of City Schools). Therefore, Donald is an example of how the “either/or” method of offer distribution helps to ensure that a geographically and economically diverse set of applicants are given placement offers. If offers were given only by ZIP quartile rank, Donald would not have received an offer to Ingenuity at Poly.

Daisy is the opposite of Donald, in that she received an offer because she scored highly enough among her ZIP quartile peers to earn an offer, even though she did not qualify for one within her school group. Daisy is an example of how this admissions model allows highly qualified students applying from very competitive school groups to earn a placement offer for Ingenuity at Poly, even if they are not among the top applicants from their school group.



## CALCULATION OF ADMISSION SCORE

1. **Components**: For applications to 2024-25, Ingenuity HS admission scores are expected to use four major components: MCAP math, MCAP reading, a report card grade average, and the Ingenuity-administered NWEA MAP Algebra 1 assessment. The report card grade average is a simple average of an applicant's 7<sup>th</sup> grade final grades and 8<sup>th</sup> grade 1<sup>st</sup> marking period grades in math, ELA, social studies, and science.
2. **Conversion to Percent of Range**: Each of the four components will be converted into a percentage of the range of the distribution of scores in the applicant pool. These calculations use the upper bound (highest) and lower bound (lowest) score in the set of all applicants to determine the range of scores. Each applicant's score is then converted into a percentage of that range. The formula for this process is the same for all four components of Ingenuity's Admission Score. This conversion is applied to ensure that sets of score components with relatively larger standard deviations do not have an inappropriately larger effect on admission score as compared to those components with less variation.

### **Definitions:**

$$S_{\%} = [(S - S_{LB}) / (S_{UB} - S_{LB})] * 100\%$$

$S$  = applicant's score

$S_{\%}$  = score percent of range

$S_{LB}$  = applicant pool lower bound

$S_{UB}$  = applicant pool upper bound

3. **Component Weights**: Each of the score component percents of range are then multiplied by a cofactor ("weight") to produce a weighted percent of range. For 2023-24, these cofactors were 0.2 for MAP math, 0.4 for MAP reading, 0.3 for the Ingenuity Algebra Assessment, and 0.1 for report card grade average. Because different assessments of math and reading are being used (MCAP) for 2024-25 applications, these cofactors may change slightly.
4. **Combined Formula**: To produce a combined formula, each of the score component percents of range is multiplied by its cofactor and then summed:

$$\text{Admission Score} = [0.2(m\text{MCAP} - m\text{MCAP}_{LB}) / (m\text{MCAP}_{UB} - m\text{MCAP}_{LB}) + 0.4(r\text{MCAP} - r\text{MCAP}_{LB}) / (r\text{MCAP}_{UB} - r\text{MCAP}_{LB}) + 0.3(m\text{MAP} - m\text{MAP}_{LB}) / (m\text{MAP}_{UB} - m\text{MAP}_{LB}) + 0.1(\text{RCA} - \text{RCA}_{LB}) / (\text{RCA}_{UB} - \text{RCA}_{LB})] * 100$$

Where mMCAP = MCAP math scaled score, rMCAP = MCAP reading scaled score, mMAP = NWEA MAP Algebra scaled score, and RCA = report card grade average.







### HS Applicant Pool Data for 2023-24 Placement

Ingenuity Admission Score Component	Lower Bound (Lowest Score in Pool)	Upper Bound (Highest Score in Pool)	Average Score of Students who Received Initial Offers
Report Card Average	66.75	102.25	94.6
MAP Math*	213	286	246.0 (82 <sup>nd</sup> %ile)
MAP Reading*	208 <sup>4</sup>	262	233.9 (78 <sup>th</sup> %ile)
Ingenuity Algebra Assessment*	3	100	77.7

\* These assessments will be replaced by MCAP math, MCAP ELA, and NWEA MAP algebra for 2024-25

### Individual Data for Example HS Applicants to 2023-24

				
	Minnie	Mickey	Donald	Daisy
Ingenuity Admission Score	82.6	65.6	47.9	60.8
Report Card Average	100	97	95.25	102.25
MAP Math	266 (97 <sup>th</sup> %ile)	252 (89 <sup>th</sup> %ile)	243 (77 <sup>th</sup> %ile)	261 (95 <sup>th</sup> %ile)
MAP Reading	252 (97 <sup>th</sup> %ile)	232 (75 <sup>th</sup> %ile)	239 (86 <sup>th</sup> %ile)	230 (71 <sup>st</sup> %ile)
Ingenuity Algebra	88	97	33	72

### Ingenuity Admission Score Example Calculations

$$\begin{aligned}
 \text{Minnie} &= [0.2(266 - 213)/(286 - 213) + 0.4(252 - 208)/(262 - 208) + 0.3(88 - 3)/(100 - 3) + 0.1(100 - 75)/(102.25 - 75)] * 100 \\
 &= (0.145 + 0.326 + 0.263 + 0.092) * 100 \\
 &= 82.6
 \end{aligned}$$

$$\begin{aligned}
 \text{Donald} &= [0.2(243 - 213)/(286 - 213) + 0.4(239 - 208)/(262 - 208) + 0.3(33 - 3)/(100 - 3) + 0.1(95.25 - 75)/(102.25 - 75)] * 100 \\
 &= (0.082 + 0.230 + 0.093 + 0.074) * 100 \\
 &= 47.9
 \end{aligned}$$

<sup>4</sup> A lower-bound outlier (189) was not used.