

## TOP 15

### GOALS AND MEASURES IN MIDDLE SCHOOL

Meeting with experts to discuss the goals and measures of success in middle school in light of national and international indicators

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The proposed roadmap we present for discussion includes an ambitious goal: to strengthen the basis of excellence in mathematics and science studies in middle school. “Excellence” is used in this context as it was articulated by the “5P2” Collective Impact Initiative. This definition of excellence in mathematics and science studies is based on the PISA research definition of the levels of excellence and on an analysis of curricula in Israel and several other countries.

As a mid-term performance indicator, the proposed roadmap aspires to reaching a point where 40% of ninth grade graduates have successfully completed their studies in the highest mathematics ability grouping and in one of the special science tracks. The outcome measures for 2024 target three levels of learning: knowledge, skills, and specializations. These levels of learning are measured in national and international tests on an incremental basis, starting from 8<sup>th</sup> grade (knowledge), via 9<sup>th</sup>-10<sup>th</sup> grade (skills) up to 11<sup>th</sup>-12<sup>th</sup> grade (specializations).

**A. The basis of knowledge** – On the MEITZAV test we expect a continuation of the trend of improvement and upsurge in the average raw score to rise by 15 points (70 in mathematics and 56 in science), while narrowing the gap due to socioeconomic background from about 100 to about 70 points in mathematics and from about 70 to about 50 in science.

On the TIMSS research, we expect to return to the trend of improvement and to place Israel among the top 15 countries in mathematics and science (an average of about 520), while narrowing the spread of the scores (from about 330 to 300 and below), and the gaps due to socioeconomic background (from about 130 points to a level of 100).

**B. Skill levels** – On the PISA test, we are aiming for an improvement of 25 points in mathematics achievements (from 470 to 495), which will bring Israel into the group of the top 25 countries. An improvement in the rate of outstanding students to 12.5% will bring us to 15th place. A climb of 10 rungs in science, from 40th to the 30th place (from an average score of 467 to 493), will raise Israel to the OECD average.

**C. Specializations** – We expect stabilization and continuation of the rate of no less than 16% of students in mathematics and 12% in physics who successfully complete the matriculation exams in 12th grade at the five-unit level.

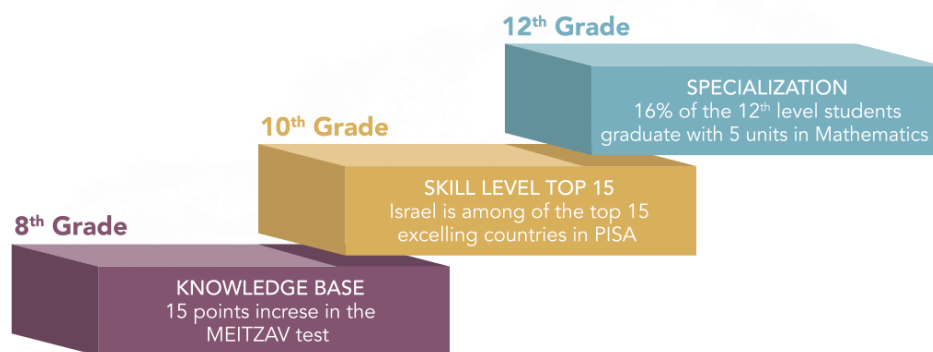
### QUESTIONS FOR DISCUSSION

1. In your opinion, is strengthening the basis of excellence in mathematics and science studies in middle school a worthy and necessary goal? Would you recommend that the foundation and its partners adopt this as a main objective of their activities in the coming years?

2. Is the foundation's working assumption correct – which is, that there are enough tests in the system already and there is no need for more? Since all these tests are low-stakes and sample-based, is there still a need for an individual diagnostic test and if so, when and how?
3. Are the indicators proposed by the foundation consistent with the targets it set and with the activities it intends to engage in? Are these indicators sufficiently ambitious, and on the other hand, are they even achievable by 2024?

As **background** to the discussion, we recommend reading the following:

- A. [Working Paper for Consultation with Partners: Choosing Excellence in Middle School Mathematics and Science Studies – Philanthropic Roadmap 2019-2024](#) (with an emphasis on paragraph “Indicators of Success: Top 15”, p. 11-13) ([B&W printable version](#))
- B. [League Charts](#)



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