

PDIG FINAL REPORT – GRADE 9 MATH STUDENT WORKBOOK

1. Project Description

Our overall goal was to improve / re-create the grade 9 math workbook. We used release time to work on chapters individually but met regularly as a team during PD time to brainstorm ideas, develop common goals, and gather feedback on completed material. We managed to re-create all 10 chapters for the workbook but fell short on time to finish details such as an updated table of contents and improved practice tests.

What went well:

- Completed updated versions of all 10 chapters
- Included notes / reference material (e.g. formulas) for each section
- Included more balanced question sets
- Improved formatting (e.g. workspace) and quality (e.g. diagrams) for all question sets
- Updated word problems to include more inclusive pronouns

What proved to be a challenge:

- Ran out of time to complete table of contents / collate all sections / improve practice tests
- Formatting sections took a lot of time (and took time away from improving content)
- Collating separate chapters into a single document may be challenging (e.g. formatting inconsistencies)
- Unifying individual pedagogical approaches into a common resource was challenging

2. Project Goals

Within the context of improving / re-creating our grade 9 math workbook, we were able to identify the following goals as having been met:

- Opportunity to reflect on best practices: both teachers participating in this project noticed that re-visiting individual workbook chapters allowed them to reflect on the best way to teach / present material from every section of the course, particularly areas where students struggle.
- A more user-friendly product: both teachers and students will appreciate the improved formatting of the new workbook, including notes / reference material in each section, better practice questions, improved layout, and an improved sequence of topics.
- Updating questions to be more inclusive: both teachers involved in this project updated material throughout the workbook to include more inclusive pronouns (past version exclusively included binary he / she pronouns throughout).
- Reducing environmental footprint: by including notes / reference material and updated question sets, we should see a reduction in the amount of grade 9 math teacher photocopying in subsequent years.

3. Project Outcomes

The following gains have been noted by participating teachers because of this project:

- Deeper understanding of course content: both teachers participating in this project noticed that re-visiting individual workbook chapters allowed them to gain a deeper appreciation and understanding of course content and reflect on how to best improve sections where students have historically struggled.
- Teacher organization: all grade 9 math teachers will inherently be more organized in future years with a superior student resource that includes notes and better practice questions.
- Teacher focus on improved student understanding / achievement: using a new student resource next year will allow teachers to track improvements in student understanding and achievement (formative assessment / observation, direct year-over-year achievement comparisons).
- Improved collaboration within department: creating a common resource has allowed our math department to become more collaborative and unified in our pedagogical approaches and strategies.

4. Reinvestment

The updated grade 9 workbook (new chapters are included with this report) should benefit the educational community at D'Arcy McGee high school for many years to come. This workbook will be the primary teacher / student resource for the grade 9 math program. Having all course material in one common resource will allow students to be better organized (e.g. no need to keep organized binder of notes) and allow teachers to deliver a more unified program.

After completing the final product (table of contents, practice tests, and final collation) we will share the resource with WQSB math consultant Jeff Harvey so that he can offer it to other schools in our board, and share it with math consultants from other English school boards. While we are not sure how widely our workbook will be adopted elsewhere, it will have the potential to help students across the province.

We would highly encourage other teams considering a similar endeavor. The process of creating a common student resource as a school team has been a great opportunity for professional growth and collaboration, and we anticipate it will have a lasting positive impact on future students who use the improved resource.