

Math

How the Subject Fits

Math is everywhere in the home building/home selling process, and therefore, it is an integral part of the program.

The Site – The Budget Watch keeps a running account of what students are spending from the moment they select a lot to purchase. Players must manage budgets through the entire process, spending wisely and building what they can afford. Since they control the outcome with their choices and decisions, it is possible to go broke before the house is completed.

The House – Angles, area, measurements, formulas and central tendency all have real meaning and practical value in building a home and landscaping the grounds. Precise measurement and careful cost accounting are critical skills.

The Sale and Critique – Did students manage budgets well and make a profit? The ability of students to apply Math skills to decision-making will factor into the outcome. Students who achieve objectives and score 70% or higher will “graduate” to larger budgets as they move to the next level.

Lesson/Discussion Starters

- Bring in a banker/mortgage consultant to explain in plain English how an interest loan works, and the advantages and disadvantages of different kinds of mortgages. Ask the person to “do the math” in steps students can follow and understand. The expert should also be encouraged to engage students in brainstorming and problem-solving using real-life examples.

- Talk about the importance of understanding how interest payments work. Many people don't understand credit card charges, for example, and end up facing significant debt. Again, a banking expert can help students understand the calculations and work with them to read the statement and interpret the fine print of credit card bills and other types of interest loan documents. Bring in a variety of credit offers so students can determine which are the best deals.
- Bring in a builder/contractor/architect who can present real-life "story problems and challenge students to solve them. Ask your "visiting math professor" to set up real exercises for students that require them to measure, convert measurements, figure pricing and determine how much material they would need to accomplish a real task such as carpeting the classroom, or wallpapering the school hallway.
- Have students interview building industry professionals about the problems of calculation errors in the building industry that most frequently result in re-doing work, re-planning a project, or coming to some other resolution. See Resources for suggestions locating building professionals who are willing to participate. During a sharing session, have students report their interview findings with others in a small group. Tell students they should cite the sources of their interviews, explain the problems that were attributed to miscalculations and the solutions (if the problem was able to be resolved).
- Ask students to keep a Math journal during the Site and House phases of the project. This journal should detail students' thought processes and help them to make connections between the processes they used at each stage of construction.