



Teacher notes for “They’re Everywhere!”

An activity that shows students the Slope-Intercept equations are found everywhere.

14-11

They’re Everywhere! They’re Everywhere

1/2 day

- After students run the Hi-Tech Brains lab (It is found in our FREE SAMPLE PACKET, if you don’t have one, just click the Free Sample Button on our homepage and request one) , they should have a good idea that linear equations are “everywhere.” Since we teach that slope is also constant change, students can see that constant change occurs whenever they see a pattern. After we ran this lab the first time, students came to us with examples they saw of linear equations.
- Tom took photos of some of the things they spotted (Or he gave them his digital camera and they took the photos.) and you’ll see those pictures on handout 14-11. Every photo represents a linear equation. For example, on problem #1, every time a table is added, 4 chairs are also added, so the constant change or slope is 4. The equation is $C = 4T + 2$, where C represents the number of chairs and T represents the number of tables. The y-intercept this time represents the 2 extra chairs sitting against the back wall. It’s nice to add that if a person was to count the number of chairs in the room, most people would probably do it as the algebra “does” in the equation, that is, 4 times 3 plus the 2 chairs at the back.
- Question #2 is interesting in that the y-intercept is negative. The constant change is 12 markers per box and the **equation is $M = 12B - 5$** , where the - 5 represents the 5 missing markers. (We would not expect most students to write the equation as $M = 12B + 7$, because they are encouraged, and we expect, them to check their answers. So if they wrote the wrong equation and checked by filling in the 7 boxes, they would get $7 \cdot 12 + 7$ and that would be too many markers.)
- After you run the lab and this handout, your students will see that “Algebra is Everywhere.” You can help guide them in looking for more real-life equations by telling them to look for patterns. For example, rows of glasses stacked up probably fit a linear equation, as do the lights or tiles in your classroom ceiling, and perhaps the number of chairs in your room also fit a linear equation. Once you see a few, they are easy to spot.
- When you make copies of this particular handout, check to see if your photocopy machine has a “photo” setting. If so, the copies of this handout will be much sharper and crisper. We usually copy this handout single-sided rather than back-to-back.