

Exploring Proportional Situations (Slides 1-11)

Resource Video 1

This module uses the photo problem to introduce the meaning and characteristics of proportional situations. The first half of the activity focuses specifically on what it means for two quantities to be proportionally related while the second half has students look at what proportionality means about the rate of change of the situation.

Most students have some sort of understanding of proportionality. The first question of the photo problem has them use this understanding to find the dimensions of different sized photographs. As a teacher, you should bring out the different methods of solving that students use and discuss how they are similar and different. Students should be pushed to explain why their method works beyond just what they did to get the answer. For example, those who set up equivalent ratios and set them equal to one another should be questioned as to how they know the ratios should be equal to one another.

These explanations and reasonings will eventually lead into the development of the table, graph and formula that relate the two quantities. There are some useful slides and animations in the PowerPoint to help you facilitate these discussions. They can also be used to bring out the scaling factors and constant multiple in the table.

As a teacher, you shouldn't be overly concerned that students know the words scaling factor and constant multiple or ratio, but that they can recognize the differences between them and that they can use these formulations to reason about a proportional situation. Students are given the opportunity to formalize these ideas for themselves later in the PowerPoint.