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| Quadratic Applications | One common type of quadratic word problem involves the height (*h*) of an object over time (*t*).  |
| Guided Practice | 1. A child throws a water balloon down out of a window. Substitute 0 for *h* into the equation $h=-16t^{2}-10t+6$ to determine how many seconds it takes for the water balloon to reach the ground.
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| 1. A person tosses a coin down from a balcony into a fountain below. Substitute 12 for *h* into the equation $h=-5t^{2}-2t+36$ to determine how many seconds it will take before the coin passes a sign that is 12 feet above the ground.
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| 1. A boater launches a firework up into the air. Substitute 125 for *h* into the equation $h=-5t^{2}+50t$ to determine how many seconds it will take before the firework reaches its maximum height of 125 meters and explodes.
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