

In this video, a Grade 5 class uses the division by subtraction strategy to solve division problems both with and without remainders.

This learning guide is designed for use by instructional leaders and learning communities, or as a self-paced study to explore division strategies.



This learning guide is intended for use after viewing the video [Division by Subtraction](#) (length 5:14).

**General Synopsis:** Division by subtraction is a strategy for dividing in which students think of division as repeated subtraction.

## Key understandings:

- Students subtract multiples of the divisor from the dividend until they reach zero or a number smaller than the divisor.
- When students first begin to use this strategy, they may use many steps to get to the solution. As students become more proficient at using the strategy and more proficient with their number facts, they will use fewer steps to arrive at a solution.
- Our goal is to have students use fewer steps by estimating the solution and beginning with a multiple of the divisor that equals a number close to the dividend.

## Questions for discussion:

### Division with no remainder: 0:00–3:00

- The teacher asked if anyone used a different number other than 10 or 80. What numbers might a student have used?
- How does this strategy provide opportunities for students working at various levels successfully solve division problems?
- How would you encourage a student who uses many steps to arrive a solution move towards using multiples of the divisor that are closer to the value of the dividend?

### Division with remainders: 3:07–5:14

- It is important for students to understand what a remainder means in a division problem. What did remainder 2 mean in the candy problem?

### Resources:

- Van de Walle, Karp, Lovin & Bay-Williams, *Teaching Student-Centered Mathematics*, 2014, page191.

### Acknowledgement:

This guide was developed by the Edmonton Regional Learning Consortium in partnership with St. Benedict School and funded through a grant from Alberta Education to support implementation. It is provided for free in support of improved teaching and learning under the following Creative Commons license.

