



# Balancing and Weighing

**Provided by:**

Iowa State University Extension  
and Outreach, Scott County  
875 Tanglefoot Lane  
Bettendorf, Iowa 52722  
563-359-7577  
[www.extension.iastate.edu/scott](http://www.extension.iastate.edu/scott)

Information	Program Description
2nd-3rd Grade (can be modified for younger students)	"Balancing and Weighing" is a curriculum consisting of sixteen individual lessons that walk students through basic concepts and activities that focus on balancing and weighing. This curriculum also includes scales and blocks for weighing.
Curriculum Format	Each lesson can be presented in 45-60 minutes.  Teaching Guide with complete instructions is provided.  Teaching Kit with materials needed to present lessons is provided. User may need to provide standard classroom supplies (pencils, scissors, glue). If a lesson requires perishable items (e.g. milk), user is responsible for these purchases.

Lesson	Overview
One: Thinking about Balance	Students use simple materials to observe and explore the relationship between balance and weight.
Two: Building Structures that Balance	Students build structures that balance using a beam, a fulcrum and Unifix Cubes.
Three: Exploring the Beam Balance	Students investigate and discover how changing the amount of weight and the position of weight affect the way a beam balances on a fulcrum.
Four: Moving the Fulcrum	Students explore the third variable that affects balance: the position of the fulcrum.
Five: Building Mobiles	Students discover they can design mobiles with various fulcrum points and they can change the balance of the mobile by adding a small amount of weight or by shifting its position.
Six: Exploring the Equal-Arm Balance	Students discover what happens when they place a variety of objects in the pails of the equal-arm balance.

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<b>Lesson</b>	<b>Overview</b>
Seven: Using the Equal-Arm Balance to Compare Objects	Students deepen their understanding of the uses of the equal-arm balance as they place a variety of objects in the pails and observe and compare the results.
Eight: Developing Strategies for Placing Objects in Serial Order	Students apply their comparing skills to develop strategies for placing objects in serial order from lightest to heaviest.
Nine: Placing Six Objects in Serial Order	Students expand and refine their comparison-making strategies to determine where to place two new objects in serial order.
Ten: Balancing with Unifix Cubes	Students discover that weighing is the process of balancing an object against a certain number of standard units.
Eleven: Graphing the Weights of the Objects	Students examine the advantages and disadvantages of observing the movement of the pails of the equal-arm balance versus weighing as strategies for placing six objects in serial order.
Twelve: Describing the Four Foods	Students apply their comparing and weighing skills to solve problems that involve four foods of varying weights, shapes and sizes.
Thirteen: Comparing Cupfuls of Food	Students apply their observations to help explain why equal cupfuls of food have different weights.
Fourteen: Weighing Cupfuls of Food	Students apply the skills acquired during previous lessons to weigh a cupful of each of the four foods.
Fifteen: Which Food Occupies the Most Space?	Students determine that equal weights of the four foods occupy different amounts of space.
Sixteen: Where Are the Six Marbles?	Students apply the skills and problem-solving strategies they have developed with the equal-arm balance to determine which of five sealed canisters contains six marbles.

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