

INTRODUCTION

Did you know that according to the Bureau of Labor Statistics, jobs that require computer and math skills are each projected to grow by more than 20 percent in the next decade? Unfortunately, studies show that girls begin to lose confidence and interest in science and math during middle school.

According to the National Center for Education Statistics, 66 percent of girls in fourth grade say they like science. But only one-third of high school students enrolled in Advanced Placement physics classes are girls. At the college level, fewer than one-fifth of engineering majors are women.

Additionally, the National Assessment of Educational Progress reported that 71 percent of eighth-grade boys have confidence in their math ability, whereas only 60 percent of eighth-grade girls report confidence in their math ability. This gender gap in confidence continues on into high school and college as well.

Positive reinforcement in these subjects can give girls the extra support they need to enthusiastically pursue science and math education careers.

Whether the activities in this guide are used to supplement troop activities, create a series of events, or provide a focus for a Special Interest group, the goal of **Mix it Up! Guiding Middle School Girls to Success** is to give girls opportunities not only for real-life applications of financial literacy and science, technology, engineering, and math (STEM) activities but also find their voice, challenge themselves, make friends, and have fun.

With funding from New York Life Foundation, GSUSA field-tested financial literacy and STEM activities in “School Success Clubs” organized by three councils: Girl Scout Council of Greater New York, Girl Scouts of Eastern Massachusetts (formerly Patriots’ Trail Council), and Girl Scouts Heart of the Hudson (formerly Girl Scouts of Westchester Putnam). The activities and volunteer tips in this guide are a result of evaluations and feedback from girls, volunteers, and councils.

GETTING STARTED!

“Girls are more successful in math and science programs that incorporate a cooperative, hands-on approach than in programs that stress competition and individual learning,”

– National Council for Research on Women, 2001

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Getting Started!

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- Organizing Sessions

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Financial Flair Activities

Activities that enrich girls' skills in finance.

SECTION 3

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Activities that enrich girls' skills in science, technology, engineering, and math (STEM).

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Activities that lay out a framework for creating an action plan using the skills learned through the Financial Flair and Science and Tech Trek activities.

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Printer-Friendly Version

PDF documents of the content in Sections 1-4.

THE GIRL SCOUT LEADERSHIP EXPERIENCE

The Girl Scout Leadership Experience enables girls to develop the values and skills they need to be leaders in their lives right now, as well as in the future.

The activities in this guide, like all Girl Scout Leadership Experiences, are built on the three Girl Scout keys to leadership. Girls become leaders by:

- ✓ **Discovering:** Understanding themselves and their values, and using their knowledge and skills to explore the world
- ✓ **Connecting:** Caring about, inspiring, and teaming with others, locally and globally
- ✓ **Taking Action:** Acting to make the world a better place

By using skills that have been developed through the financial literacy and STEM activities in **Mix it Up!**, girls have the opportunity to improve the lives of others by participating in a Take Action project.

The Girl Scout Leadership Experience also ensures that the activities are meaningful and beneficial to girls by tying them to a core set of national leadership outcomes and infusing the activities with the processes of **girl-led, learning by doing, and cooperative learning**.

Guiding girls through the activities will result in the development of positive attitudes toward learning and raise their confidence. Their personal growth will likely help them better meet the academic pressures they face in school. By taking time to reflect at pivotal points throughout the experience, girls can apply the concepts and skills they learn to their own lives—feeling more confident in themselves, in their skills, and in their ability to achieve their goals.

Finally, by participating in the group activities described in this guide, girls will recognize the value of working together and will ultimately feel more connected to their friends, to you, to other adults, and to their communities.

PROCESSES THAT SUPPORT A LEADERSHIP EXPERIENCE

It is not just “what” girls do, but also “how” they do it that will make their experiences in financial literacy and STEM programming impactful. Integrated into the activities (what girls do), the three Girl Scout processes of “girl-led,” “learning by doing,” and “cooperative learning” (how girls do it) create an environment of fun and friendship, drive the quality of the experience, and enable the development of leadership skills. To ensure that your group of middle school girls has a high-quality and fun learning experience, integrate the three processes into all activities!

Girl-Led

Being “girl-led” is just what it sounds like—coaching the girls to drive the planning, decision making, learning, and fun as much as possible.

Middle school aged girls are ready, and want to take on more responsibility. They want to feel like they are making their own decisions and choices. For example, you can:

- ✓ Encourage girls to think about what other activities they might like to do. Do they want to take a trip? Meet a professional? (You can easily mix and match the sequence of activities based upon the interests of the girls!)

And...

- ✓ Let girls imagine, plan, organize, and implement their own projects with as little supervision as possible (you will want to assist them in thinking through the scale and scope of the projects, and guide them to realistic decisions based on time and resources).

By standing back and letting girls create their own experiences, you give girls the opportunity to feel more ownership of their group and experience and have more fun.

Tips:

Safe mistakes: If girls are not making mistakes, they are not doing the planning. (Only on health and safety issues are there no compromises.)

Real choices: If there really is no choice, do not give the appearance of one; for everything else there is a choice.

Follow-through: If you say you are going to do something, then do it!

Learning by Doing (or Experiential Learning)

As girls “do,” they also need time to reflect on what they have done. Reflection and critical thinking help girls get deeper meaning from their experiences. So, for every experience girls have along the way, encourage time for talking, sharing, reflecting, and applying their insights to new experiences in their lives. By leading each other in activities, they will be practicing this approach themselves. Articulating their thoughts and feelings will consolidate what they are discovering about themselves and leadership.

Cooperative Learning

When girls work together toward shared goals in an atmosphere of respect and collaboration, they learn a lot from each other. While building their relationship skills, the girls will especially value having a team atmosphere that makes them feel safe and supported.

To support their cooperative learning experience, partner with girls on creating a team agreement. Encourage them to reflect back and speak openly and often about how they are functioning as a team. Also, whenever possible, encourage girls.

UNDERSTANDING MIDDLE SCHOOL GIRLS

Girls want to interact with an adult who can appreciate the things in their world—the things they do, the things they think about, and the things they dream. If you are not already around middle school girls, take time to get to know their world. See a popular movie or visit a store popular with preteens. Ask girls which magazines or Web sites they like best and check them out.

While each girl is an individual, some general characteristics of girls in sixth, seventh, and eighth grades are that they:

- ✓ Feel unique, as if no one else has ever felt the way they do
- ✓ Display excellent planning skills, long attention spans, and total absorption in their passions (though they may discover a new passion frequently)
- ✓ Are extremely concerned with their friends and peer relationships and put a lot of energy and interest into them (and may develop self-consciousness in front of peers)
- ✓ Are often interested in boys and develop crushes

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- ✓ Are into “what’s hot” and “what’s not” in fashion, music, celebrities, and style
- ✓ Are committed to communicating and getting along with parents/guardians
- ✓ Feel a lot of pressure about the social scene at school, and think that adults do not understand how complicated their social life is—and how much stress it can cause
- ✓ Have good communication skills and, with guidance, can present issues effectively in public forums
- ✓ Like to be with and serve people directly—it is their social nature

Remember...

- ✓ Reviewing this guide will give you confidence!
- ✓ Show confidence.
- ✓ It is OK not to know everything! You and the girls can explore answers together.
- ✓ Be enthusiastic—it is contagious!
- ✓ Get to know the girls. Inquire about each girl individually. Know their likes, dislikes, and so on.
- ✓ If a girl seems bored, consider asking her to “take the lead” on an activity.
- ✓ Be flexible. If an activity is not working, ask girls themselves what to change, or what other activity they would like to do.
- ✓ Know when to assert yourself.
- ✓ Be consistent and fair—treat everyone alike.
- ✓ Keep your sense of humor!

OUTCOMES: BENEFITS TO GIRLS

You may be wondering: How will I know if girls are having an effective leadership experience and are benefiting from the financial literacy and STEM activities in this guide? Each activity in this guide is tied to a specific outcome (noted in the upper right-hand corner on the first page of each activity). Checking the outcomes is like noting road signs on a trip—the signs that let you know you are getting closer to your destination. Similarly, seeing the age-appropriate signs during Girl Scout activities lets you know that girls are achieving the intended outcomes.

As girls practice the financial literacy, STEM, and Take Action concepts within the activities, they are working toward the following National Leadership Outcomes:

- ✓ Develop a strong sense of self
- ✓ Gain practical life skills
- ✓ Seek challenges in the world
- ✓ Promote cooperation and team building
- ✓ Feel connected to their community
- ✓ Become resourceful problem solvers

Girls will achieve these outcomes in various ways. For example, as girls participate in the series of Financial Flair activities, they may set financial goals that they truly believe they can attain. When girls work on their Take Action projects, they will demonstrate independence in thinking through the required components of their action plans, keep themselves on track, and be able to identify people and organizations in their communities to help with some aspect of their project (e.g., obtain editing guidance for media projects).

The accompanying chart provides a few examples of National Leadership Outcomes, their grade-level-specific definitions, and the “signs” that middle school girls are achieving them. However, a girl most likely will not fully achieve the intended benefit of the outcome by participating in only one activity. It is important to note that it is not about a single experience yielding a particular outcome, but rather repeated exposure to activities that are tied to a specific outcome over a period of time throughout Girl Scouting. It is also important to remember that not all girls will demonstrate the same “sign” at the same time. These are indicators only and should not be used to judge girls or their abilities.

For more definitions of the outcomes and their signs, see the chart on the next page.

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National Leadership Outcome	Grade-Level-Specific Definition	Sample Indicator/Sign	Examples of Mix it Up! Outcomes
Discover: Girls develop a strong sense of self.	Girls show an increase in self-efficacy.	Girls are able to set personal goals and believe in their ability to achieve them.	Girls identify their strengths and skills as entrepreneurs. (Financial Flair) Girls connect their personal skills with career choices. (Financial Flair)
Discover: Girls gain practical life skills. <i>NOTE: This outcome is the primary focus of the majority of Financial Flair and Science and Tech Trek activities.</i>	Girls have increased confidence in their ability to succeed in math and science. Girls think about their financial needs and how they can meet them.	Girls seek more opportunities to take part in math and science activities. Girls make a budget and set savings goals.	Girls practice memorization and apply it in their daily lives. (Science and Tech Trek) Girls experiment with solar energy. (Science and Tech Trek) Girls practice financial goal setting. (Financial Flair)
Discover: Girls seek challenges in the world.	Girls recognize the importance of challenging oneself for one's positive growth.	Girls report how setting challenging goals helped them do better in school.	Girls learn design skills as they make paper airplanes and attempt to improve the aerodynamic designs. (Science and Tech Trek)
Connect: Girls promote cooperation and team building.	Girls have a greater understanding of team building.	Girls can list their own criteria for what makes a good team (e.g., clear roles, trust, respect, diversity, etc.).	Girls learn and practice marketing and communications skills. (Financial Flair) Girls plan a Take Action project. (Take Action)
Connect: Girls feel connected to their communities locally and globally.	Girls gain greater understanding of the importance of community networks for themselves and others.	Girls can describe ways in which their participation in their larger communities supported their personal and leadership goals (e.g., provided safe environment, helped gain skills, etc.).	Girls practice survey methods by polling community members. (Science and Tech Trek) Girls complete a Take Action project. (Take Action)
Take Action: Girls are resourceful problem solvers.	Girls are able to create and implement detailed action plans for their projects.	Girls demonstrate independence in thinking through the required components of their action plans (e.g., location of resources, timelines, responsibilities, etc.). <i>and</i> Girls report being more able to keep themselves "on track," requesting adult help if needed.	Girls design a backpack. (Science and Tech Trek) Girls execute a Take Action project. (Take Action)

OVERVIEW OF ACTIVITIES

The activities are based on the three keys to leadership (Discover, Connect, Take Action) and are organized by category: **Financial Flair** (financial literacy), **Science and Tech Trek** (STEM), and **Take Action**. The Take Action activities provide girls with a step-by-step framework for creating, planning, and organizing their own Take Action project. This set of activities is designed to further support the activities in either of the other categories and will extend the experience of what girls enjoy most.

MEETING FORMAT

Each activity in this guide uses a similar format for use during your group meeting.

- ✓ Introduction/Talking Points—a “script” that introduces the activity and puts it in the context of the Girl Scout Leadership Experience.
- ✓ Hands-On Experience—step-by-step instructions for facilitating the activity. Each activity is designed so girls can learn or practice basic STEM and financial literacy skills in an engaging and fun way.
- ✓ Reflection/Discussion—a list of questions and talking points designed to help girls explore and discuss how the activity’s skills and themes can be useful in their “school world” and be applied to their “real lives.” Questions can also be used as journal prompts—ideas for girls to write about in their journals.

Sample Meeting

Each activity in this guide is designed for a meeting time of 75 minutes. If your group meets for a shorter time, consider condensing activities, or breaking an activity into two meetings. Try to always leave a little time at the end for girls to reflect.

Service vs. Taking Action: What’s the Difference?

When girls do service, they help fulfill an immediate need. When girls Take Action, they team up with others to solve a problem and strive toward long-lasting change. Encourage girls to use some of their acquired skills to have an impact on others.

Support girls as they:

- ✓ Seek to understand how something they have learned can be applied to create change in their life or the lives of others
- ✓ Decide upon the scale and scope of their Take Action project—based on a realistic assessment of their resources
- ✓ Enlist others from the community to get involved

With help when they need it, girls can make the world a better place!

The world needs both service and action and sometimes they come together. The activities here will engage girls in thinking toward the long-lasting changes that could exist beyond their personal involvement.

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A typical 75-minute meeting might look like this:

10 minutes: Welcome (ice-breaker, opening ceremony, business)

50-55 minutes: Activity (introduction, hands-on activity, reflection)

5-10 minutes: Clean-up/Closing (journaling, business, closing ceremony)

BE FLEXIBLE

When supporting girls in activity selection, the number one rule is to know the girls! What do they like or dislike? What kinds of things get them excited? For example, if you know the group likes the outdoors, encourage girls to choose activities that relate to the environment or activities that can be done outdoors. If the group is particularly interested in aeronautics, suggest girls try “Daredevil of the Sky,” in which girls design and fly their own paper airplanes.

Also, remember to ask girls what they want to do! If they especially like a certain activity or subject, ask them what other related activities they might like to do. For example, they might like to go on a field trip to a science museum or invite an engineer to meet with them. In other words, use the activities in this guide as the foundation to your program, but be creative and flexible about adding other activities.

Financial Literacy and Science, Technology, Engineering, and Math are two areas that Girl Scouts has been committed to in developing program for girls. Listed below are additional Girl Scout resources. Check the Girl Scout shop Web site <http://goshop.girlscouts.org/gsusaonline/> for hard copy resources and also http://www.girlscouts.org/program/program_opportunities/science/ for other STEM resources available either by download or hard copy.

OTHER RESOURCES:

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FINANCIAL LITERACY RESOURCES

Making Cents of Her Life

Girls can play the Making Cents of Her Life money management game on the STUDIO 2B Web site to strengthen their fiscal muscles. Sponsored by Visa USA, this game enables girls to work toward achieving the goals of one of four teen or preteen characters.

Money Smarts

The Money Smarts financial literacy Web pages, sponsored by J.P. Morgan Chase, teach girls the ins and outs of earning, spending, saving, and investing. By setting goals, learning about career choices, figuring out how to budget, and understanding types of bank accounts, girls lay the groundwork for a lifetime of sound decision making and get ready for endless possibilities. Visit the Money Smarts website here: <http://www.girlscouts.org/moneysmarts/>

Cashin' In

This book helps girls learn to manage money to afford what really matters in high school: things like a first car, the perfect prom dress, and college.

Got Money? Saving and Investing (available in Spanish and English)

This book helps girls learn how to make their own rules and make their money last throughout their lives.

Mind Your Own Business

With this book girls cultivate skills, knowledge, and confidence to become savvy entrepreneurs.

SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH (STEM) RESOURCES

Lighten Up! Discovering the Science of Light

Lighten Up! helps girls aged 11-15 to explore optics—a branch of physics—and discover why physics is so important in everyday life. This book offers fun, engaging activities such as making a sunset in a bottle, using Jell-O to understand how lenses work, and crafting a telescope to explore science concepts. Career profiles highlight job opportunities available in the field. The book is available for free via download at www.studio2b.org/gossipyouneed/lighten_up.asp.

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TAKE ACTION RESOURCE

aMAZE! *The Twists and Turns of Getting Along*, the new Cadette Girl Scout Leadership Journey is another resource for Take Action activities.

ORGANIZING SESSIONS

There is no right or wrong way to implement the activities. You can follow the order in which they are presented in the guide or you can **Mix it Up!** However, remember that girls will have the most positive and complete learning experience when they apply something they have learned and enjoyed to a Take Action project and make a difference for others.

The Discover and Connect activities that girls do along the way will provide them with the skills they need to develop a Take Action project. Girls, with your help and guidance, will choose and organize a Take Action project. For example, you and the girls can start with either the Financial Flair or Science and Tech Trek activities and plan a Take Action project at any time throughout the learning cycle (such as during the middle part of the year, the end of the year, or both). You and the girls may choose to do the Financial Flair activities in chronological order, culminating in a Take Action project (such as girls starting an after-school math club for younger girls). Or, they may choose to do the Science and Tech Trek activities in sequence (as they appear in this guide), culminating in a Take Action project (such as developing an action plan to begin a recycling program at their school).

Perhaps your group is already involved with a Take Action project. If so, they may choose to do only a few of the activities that relate to their current project. These activities will help provide a more solid framework for their Take Action project.

You and the girls can also choose to do a mix and match of Financial Flair and Science and Tech Trek activities that culminates in a Take Action project decided on by the girls. Below are suggestions for various ways of implementing the activities:

Financial Literacy Activities in Chronological Order Leading Up to a Take Action (TA) Project

FINANCIAL FLAIR	
Crunch the Numbers	From Dreams to Reality
HOW Much Are Those Jeans?	Checkin' In
Setting Goals	What's the Issue? (TA)
Your Entrepreneur Within	Vision and Defining (TA)
What's Your Dream Job?	Shaping the Plan (TA)
Runnin' It	Taking Action (TA)
Let's Go to Commercial	Reflect and Celebrate! (TA)
All the Money in the World	

STEM Activities in Chronological Order Introducing the Take Action (TA) Component Early in the Sequence

SCIENCE AND TECH TREK	
Learning and Memory	What's the Issue? (TA)
Get Perspective!	Marketplace Math (Part 1)
Through Your Eyes	Marketplace Math (Part 2)
Daredevil of the Sky	Some Like It Hot!
Backpack Challenge (Part 1)	Vision and Defining (TA)
Backpack Challenge (Part 2)	Shaping the Plan (TA)
Design Gone Wild	Taking Action (TA)
Media Scavenger Hunt	Reflect and Celebrate! (TA)

Sample Mix and Match of STEM, Financial Literacy (FL), and Take Action (TA) Activities

STEM, FINANCIAL FLAIR & TAKE ACTION	
Learning and Memory (STEM)	Runnin' It (FL)
Crunch the Numbers (FL)	All the Money In the World (FL)
HOW Much Are Those Jeans? (FL)	What's the Issue? (TA)
Setting Goals (FL)	Marketplace Math, Part 1 (STEM)
Your Entrepreneur Within (FL)	Marketplace Math, Part 2 (STEM)
Through Your Eyes (STEM)	Vision and Defining (TA)
Daredevil of the Sky (STEM)	Shaping the Plan (TA)
Design Gone Wild (STEM)	Taking Action (TA)
What's Your Dream Job? (FL)	Reflect and Celebrate! (TA)

GETTING STARTED!

Once you are ready to get started, browse through the other sections of the [Mix it Up!](#) resource and get ready for a fun experience!