

Explorathon 2018: A STEM Event

Expanding Horizons for Girls in Science, Technology, Engineering, and Mathematics

A joint project of the American Association of University Women – Birmingham Branch, Ford Motor Company Fund, Cranbrook Institute of Science, and Cranbrook Schools.

Wednesday, March 21, 2018

7:45 a.m. – 1:00 p.m.

Location: Cranbrook Kingswood Middle School for Girls

Purpose

To provide students with interactive and hands-on workshop sessions featuring dynamic women scientists, engineers, mathematicians, and health care specialists; and to showcase opportunities for women in STEM (science, technology, engineering, and mathematics) careers.

Workshop Sessions

Interactive workshops will be presented to small groups of students in grades **8 through 12**. Each student will participate in three workshop sessions. While students are participating in workshops, adults **must** attend concurrent interactive sessions presented by selected speakers from the Explorathon roster.

Registration

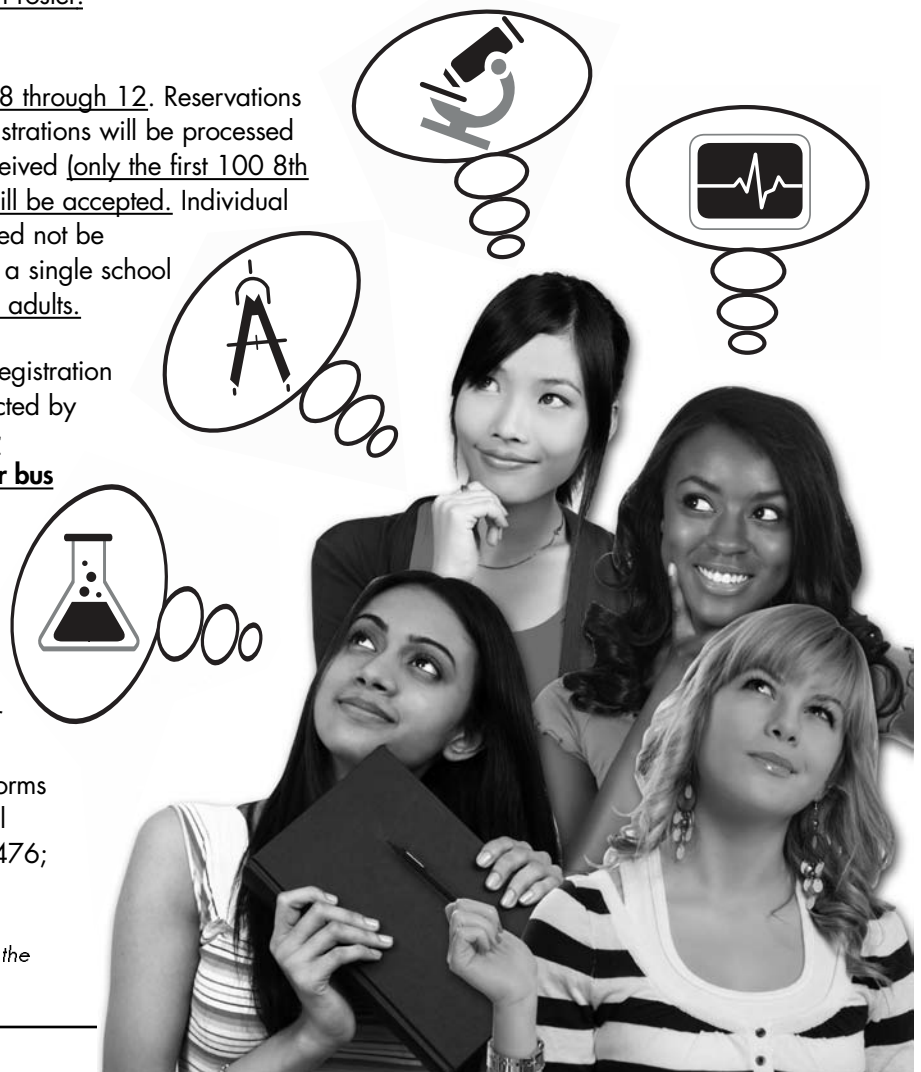
Attendance is limited to 400 participants in grades **8 through 12**. Reservations are accepted on a first-come, first-served basis. Registrations will be processed when completed forms and full fee payment are received (only the first 100 8th graders will be accepted). No faxed registrations will be accepted. Individual student registrations are welcome; those students need not be accompanied by an adult. Group reservations from a single school will be limited to no more than 25 students and two adults.

CONFIRMATIONS WILL NOT BE SENT. If your paid registration arrives after the program is filled, you will be contacted by phone and provided with a full refund. **Deadline for Registrations: All supported students (scholarships or bus subsidies) Wednesday, February 14. All others Friday, March 2, 2018.** NOTE: In order to attend Explorathon, students must attend all three workshops. Students will be dismissed at 1:00 p.m.

Fee

\$15 PER PERSON: student, aide, parent, or teacher (includes lunch). Scholarships or bus subsidies are available. For further information and application forms go to <http://birmingham-mi.aauw.net>. For additional questions contact Pam Hoffman (Phone: 248-770-8476; e-mail: pamela.hoffman@comcast.net).

You may copy this brochure and print registration forms from the website: <http://birmingham-mi.aauw.net/>



Workshops

Please choose six workshops and list their letter and number in order of preference on the registration form that you return. You will be assigned to three sessions. If sessions are full, it may be necessary for us to make some substitutions.

A. ANIMAL CARE AND ENVIRONMENTAL STUDIES

A-1 Science, Law, and the Environment: Environmental Law

Do you care about the environment? Join our interactive workshop where you get to be the environmental lawyer.

A-2 Making Natural Beauty Products and Other Tips for Teens Living Green

Learn how to make your own natural beauty products that do not harm the environment and learn what else you can do to protect our planet!

A-3 Walk on the Wild Side: Exotic Veterinary Medicine

Get a feel for what it's like to be a veterinarian who cares for exotic pets.

A-4 Protecting Our Lakes From Vampire Fish

Find out how it is possible for scientists to manage invasive species in the Great Lakes in a cost-effective and environmentally friendly manner.

B. ANTHROPOLOGY

B-5 Forensic Anthropology: What Bones Can Tell Us

C. CHEMISTRY

C-6 The Chemistry of Pharmaceutical Drug Design

C-7 Chemistry and Designing with Plastics (Latex used in this class)

The PlastiVan program is a lab experience where students delve into the chemistry, history, and sustainability issues of polymers and plastics and how they are designed to have distinct properties.

D. COMPUTERS

D-8 Using Computer Science to Make Games

E. ENGINEERING AND PHYSICAL SCIENCE

E-9 Can You Hear Me Now? Sound and Vibration

Measure and feel sound by listening to music.

E-10 Physics Helps Solve Medical Mysteries

Is biomedical physics in your future? We will discuss the physics of nerve impulses in the body and test your reaction times. We will also look at how your brain processes information and discuss a day in the life of a medical scientist.

E-11 What is Engineering?

An Automotive Engineer's Perspective

Come meet three female engineers working on green vehicles: hybrid, plug-in, electric, and fuel cell. You can work in any field anywhere in the world!

E-12 What is Engineering?

Detectives and Problem Solvers of Technology

E-13 How Enzymes Turn What You Eat into What You Are: Discussions in Biochemistry

Participants will learn the subject of biochemistry with a focus on enzymes.

Workshops continued

F. HEALTH CARE

F-14 A Day in the Life of a Doctor

F-15 My Mom Has Breast Cancer
What About Me?

Discussions in Genetic Counseling.

What if you or a close relative found out that you had a genetic condition that increased your chances of having a major health condition, like breast cancer, heart disease, or a disability? Would you want to know if you were at risk? Learn more about genetic counselors, healthcare providers who help people decide whether to look into their genetic crystal ball to see their future.

F-16 Why Does She Do This?
Why Does He Do That?

Our brain is at the center of everything we do! In this workshop you will learn about the differences in the male and female brain, how we learn, why we often interpret things differently, etc.

F-17 Restore and Rehabilitate Your Body

A physical therapist can take away your pain. We'll show you how using manual therapy, kinesiotaping, functional dry needling, exercise, and more.

F-18 You Are What You Eat

G. MATHEMATICS

G-19 What's in the News and What isn't Reported: Understanding What's Behind the Numbers in the Headlines

There are many scientific principles that should be considered when designing, conducting, and analyzing social research. This workshop provides an overview of the field of survey methodology and explores how sample design, questionnaire design, data collection methods, and statistical analysis affect research results.

G-20 Take Charge—Entrepreneurship—Is It for You?

The importance of math, technology, and marketing in creating the business of your dreams. Students will participate in developing a mini marketing plan.

G-21 Women Shaping the Future of Finance

Men...step aside. Women are making great strides shaping the future of finance. There are many interesting opportunities for women with a career in accounting and finance.

Location

Cranbrook Kingswood Middle School for Girls – Go to the Cranbrook entrance at 39221 Woodward Avenue, Bloomfield Hills, Michigan 48303-0801 (between Quarton/Big Beaver Rd. and W. Long Lake Rd.). See parking and drop-off instructions on enclosed map or check our website.

Schedule - March 21, 2018

7:45 a.m. – 8:20 a.m.	Registration	11:10 a.m. – 12:00 p.m.	Workshop II or Lunch B
8:25 a.m. – 9:10 a.m.	Welcome and Keynote	12:05 p.m. – 12:55 p.m.	Workshop III
9:20 a.m. – 10:10 a.m.	Workshop I	1:00 p.m.	Dismissal
10:15 a.m. – 11:05 a.m.	Workshop II or Lunch A		

Registration (Please print legibly) _____

Explorathon - Wednesday, March 21, 2018

Deadline to register is February 14, 2018 (scholarship or subsidized) or March 2, 2018 (all others). Attendance is limited to 400 participants in grades **8 through 12**. Reservations are accepted on a first-come, first-served basis (only the first 100 8th graders will be accepted). You may copy this form on 8-1/2 by 11 inch paper. One registrant per form. Please print clearly all information, detach this section and mail with your payment. A student registering as an individual, rather than with a school, need not be accompanied by an adult. Please check our website (birmingham-mi.aauw.net) for parking and drop-off instructions.

Student Registration

Last name _____ First name _____

Address _____

City _____ State _____ Zip _____

Phone (____) _____ School _____ Grade _____

Do you wish a vegetarian lunch? Yes No [NOTE: Must be pre-ordered.]

Have you attended Explorathon before? Yes No

Students: List below your workshop selections **by letter and number** in order of preference. (You will be assigned to three workshop sessions. If sessions are full, it may be necessary for us to make some substitutions.) **Please select from at least two areas.**

1. # _____ 4. # _____

2. # _____ 5. # _____

3. # _____ 6. # _____

Optional: "I hereby consent and authorize Explorathon permission to photograph my child for media sources including newspaper, television, and brochures in connection with the activities in Explorathon."

Parent/Guardian signature _____

Adult Registration

Last name _____ First name _____

Address _____

City _____ State _____ Zip _____

E-mail address _____

Phone (____) _____ Circle one: Parent Teacher Aide

School _____ School District _____

Are you coming by bus or school van? Yes No

Do you wish a vegetarian lunch? Yes No [NOTE: Must be pre-ordered.]

All Participants

Please enclose a check for \$15 per person (adults as well as students), payable to AAUW Birmingham Branch Foundation, Inc., and send to Ms. Pam Hoffman, 2077 Burgundy St., West Bloomfield, MI 48323. Phone: 248-770-8476

Note: Your check is your receipt. No refunds will be granted.

<http://birmingham-mi.aauw.net/>



Detach section and mail with your payment

