Event Activity Guide for Companies

How to Use This Guide
Use this guide when planning your IGNITE event to ensure your activity is meaningful and engaging for students.

- Your activity can be focused around critical thinking, skill-building, or anything that interactively engages students in STEM—this is your chance to get creative, highlight the unique work you do, and share your passions with students!
- Curriculum should be **hands-on, linked to your company, and focused on interaction.**

Activity Requirements
All IGNITE Workshops, virtual Work-Based Learning Experiences, and Field Trips include an interactive, hands-on activity for students to participate in. Activities should be accessible, interactive, timely, and pre-approved.

1. **Accessible content**
   - Content such as computer/web-based programs, videos, or non-PDF files must be available without download requirements due to restrictions on school devices. Curriculum format options:
     - Web-based – You are required to share links with IGNITE at least 2 weeks prior to your event to ensure schools are able to access the content.
     - Brainstorming/discussion-based:
       - If virtual, this can utilize pen/paper, Zoom whiteboard, or other virtual collaboration platform.
     - Utilizing physical materials:
       - If virtual, you must be able to mail materials to the participating school(s) at least 1 week prior to your event. IGNITE will provide educator address(es).
   - Handout format options:
     - If virtual, please do BOTH:
       - [Shorten](#) link to PDF handout and share the link during the event
       - Email IGNITE the link 3 days before the event
     - If in-person, bring hard copies of handouts – extra in case more students show up!

2. **Interactive activity that engages all students**
   - Company volunteers are there to introduce the activity and guide/support students, but students should spend most of the time actively participating, not watching.
   - Provide context that demonstrates the real world applicability of the activity so students understand how what they’re learning impacts people and helps your company do what you do.
- Activities should be an experience rather than a lesson. Prioritize student interaction and engagement over completing a set number of steps — students should have a hands-on introduction and more exploration they can do if they have time.
  - Ensure activities involve movement, are hands-on, or, for field trips, involve changing locations.
  - We recommend using handouts to use as a visual aid when introducing a process and new information. Remember your audience! Keep language on handouts brief and in terms that the students will understand.
- Students love swag! If you’re looking for ideas, we recommend notebooks and pens!
- During virtual events students will not be able to share their screens due to school district policy. Consider an activity that doesn’t require students to share their screen in order to allow for more student-volunteer interaction, assistance, and feedback (ex. Holding up a paper project to the screen).

3. Activity must be completed within the scheduled time
- During in-person events, the Activity Leader will have 5 minutes to introduce the workshop activity. Students have 45 minutes in small groups to complete the activity.
- During virtual events, the Facilitator will have 2 minutes to introduce the workshop activity. Students have 30 minutes in breakout rooms to complete the activity.
  - In the rare event that an educator requests a 15-minute extension, the breakout room activity time is 45 minutes.
- In addition to the activity, IGNITE events include important context for introducing students to STEM fields and a Panel and Q&A discussion so students hear from professionals they can relate to.
  - Your activity must fit into the Small Group/Breakout Room portion of the agenda.
  - Also consider any extra time that might be needed to introduce the exercise, to help students get set up with tools, etc.
- Keep in mind, IGNITE events are designed to introduce students to a skill or concept so they will be inspired to continue exploring STEM through classes and clubs at school.

4. Provide curriculum to IGNITE to review at least 2 weeks prior to your event
- You can share a written template, PowerPoint slides, or discuss it in a meeting or email.
- IGNITE is here to provide support and guidance as you develop and refine your activity. Let us know if you would like to brainstorm or discuss your ideas!
- Once IGNITE has reviewed the curriculum, we highly encourage all company volunteers to meet for a pre-event run through.

Prompts for Developing your Activity
- Consider your audience and how to make your work relatable; some questions to reflect on:
  - What problems are you currently working on solving?
What types of decisions are you needing to make?
What kinds of hands-on skills are relevant to the work you do?
What might it be like to attend a board meeting at your company?
If you were to host a focus group, what question/issue would the group address?

- What hands-on exercise will engage students and introduce a new skill or concept?
- Keep the activity interactive and hands-on, as students crave and learn the most from interactive activities.
- Remember that the goal isn’t to teach an entire skill right then, but to introduce a skill.

Examples of Successful Activities

Skill-Building Focused (technical or soft skills)

- **Artificial Intelligence and Machine Learning with Afiniti**
  - Students experience AI/ML firsthand through a series of games where the computer "learns" as you play. Training the computer to distinguish between two image classes in Teachable Machine, attempting to beat the Afiniti-bot in Afiniti's Rock-Paper-Scissors, and testing the computer's ability to recognize doodles within seconds in Quick, Draw!

- **Create a Video Game with CGI**, using Scratch to do digital storytelling
  - Students used drag-and-drop motion to choose a main character and background; they learned how to use basic code to get their character to move, and even added text to enable characters to speak, added music/sound, etc.

- **Build Your Own Website with Google**
  - Students got to build their own web pages using HTML, and some even published them on the Internet using GitHub. They got to add their names to the pages, color-code them, etc. Brief, hands-on, browser-friendly intro to HTML and CSS.

- **UX Design with Microsoft**
  - Students were given 8 different types of apps to choose from, and 8 different customer personas to create the app interface with a unique customer in mind. Each student sketched out their own design for an app of their choice. Some students collaborated in groups to create their design and some students worked individually.

- **Exploring the Capital Markets with PitchBook Data**
  - Students brainstormed product ideas and then learned about the processes for expanding an idea into a business. Once they picked their products, groups discussed business names, a business plan, sales and marketing, and ideas for funding.

- **Public Speaking for Future Leaders with Freeman Means Business**
After learning effective techniques to prepare and grab audience attention, the students each presented an introduction and "elevator pitch" answering the question: "If you were elected to serve as the next President of the U.S., what would you do on your first day in office and why?"

- **Build A Better House with Amazon Women in Engineering**
  - Students were divided into 4 groups and each given a set of basic building supplies for a house in a different environment (city, jungle, etc.). After a brief introduction to principles of engineering, students worked with mentors to design and build a house using their supplies and choosing from a selection of additional materials, incorporating a few required elements and optional aesthetic or quality of life add-ons.

**Critical Thinking-Focused**

- **Smart Home Devices with Microsoft Azure Sphere** Students conceptualized a new smart home device:
  - Ideas that students came up with included: a smart closet that tracks the weather to help people decide what to wear, a smart fridge that can detect expired food, a smart animal feeder that can monitor how much pets are eating, etc.
  - Students discussed potential vulnerabilities in their designs, given what they were learning from the field trip about cybersecurity and problems to solve, and what steps they might need to have in place for their ideas to secure the devices.
  - *Note: Microsoft Azure Sphere specializes in cybersecurity of IoT devices/smart devices.*

- **Satellite Imagery with Planet** Students got to look at Planet satellite images in small groups and brainstorm how different parts of the images could help solve world issues:
  - Example: one image showed a cattle ranch in Argentina, where students were able to brainstorm and discuss to figure out that these types of satellite images can help farmers predict food production and the best times to grow their crops.
  - Example: one image showed a yard with what looked to be abandoned airplanes somewhere in the desert. This turned out to be an airport in the Middle East and because of the pandemic, travel had been halted and they had run out of space in the yard to house all of the airplanes that would normally be coming and going.
  - Example: one image showed a body of water with different colors, and students were able to figure out that it was a river that had been polluted (some parts were purple, others were a healthier green, and students could detect harder hit areas).

- **Animation with Pixar** Students used pen and paper to make their own flipbook of a ball bouncing:
  - In breakout rooms, each student made their own flipbook. The activity demonstrated how animation works, but also that it can be tricky and a surprising amount of work!
  - Materials needed for the activity were just pencil and paper.

- **Tech Accessibility with Amazon** Students brainstormed accessibility ideas for Alexa devices:
  - Each breakout room focused on a different device, and groups discussed features that the device could add value for different customers.
Example: Students in the Echo Dot group thought of adding a feature that would allow lyricists the chance to put their work with harmony on the Echo Dot.

Example: The Kindle group thought of adding a tab for languages and captions for the hard of hearing.