



Experiential Learning Team Hands On Taskforce

2025 Virtual Teaching Hackathon

Team Names, Titles, Roles

- Mandy Bakas, East Aurora High School – Contributor
- Ashley Gabrielsen, Streamwood High School – Contributor
- Emmanuel Gonzalez, Aurora University Noyce Scholar – Contributor
- Kathy O'Brien, Cowherd Middle School – Reporter
- Dr. Alma Rodriguez Estrada, Aurora University – Team Leader
- Cassie Winchell, West Aurora High School – Contributor

Problem Selection and Approach



Key Problem

How can we make group work in virtual STEM classrooms more effective and help students be great collaborators?

Why Group Work Matters

- Stanford study: Teams that collaborate well are **50% more productive**.
- Group work teaches:
 - Communication and critical thinking
 - Peer-to-peer support
 - Ownership of outcomes

Approach

- Encourage student buy-in by highlighting long-term benefits.
- Co-establish norms with students.
 - Why collaborate?
 - What makes group work succeed or fail?
- Have students brainstorm examples of helpful and unhelpful group behaviors.
- Connect group work to real-world skills and future success.

Strategies and Implementation



Making Group Work Effective

- [One teacher's method](#) to creating good group norms.
- Set clear group norms and expectations (e.g., student-created “do’s and don’ts” for their corresponding groups).
- Incorporate regular reflections and peer evaluations.

Making Group Work Effective

- Use both group grades and individual assessments (see example on the right).

RUBRIC THAT WILL BE USED TO ASSESS YOUR PRESENTATION:

Category	Grade type	Component	Possible	Awarded
Content (26 points)	Group	Defining the topic, background, and relevance. Must include reliable sources. At a minimum, 1 review article.	8	
		Current research, techniques, and results. At a minimum, 1 review article (could be the same as above) and one original research article.	8	
		Organization: The information is presented cohesively and logically. It is clear that students truly worked as a group. All information is relevant to the main topic.	5	
		PowerPoint and questions submitted on time	5	
		Total (Content)	26	
Presentation Skills (24 points)	Individual	Quality of visual aid for the slides the student is presenting.	4	
		Clarity of presentation: fluency, vocabulary, voice volume.	4	
		Professional language and presentation	4	
		Within the time limit (not short/long), each student is expected to speak for a minimum of 5 minutes.	4	
		Evaluation given by group members	4	
		Submitted the evaluation on time.	4	
		Total (Presentation Skills)	24	
		TOTAL POINTS	50	

Example Peer Evaluation/Feedback

Evaluator:

How are we doing? Project:

Strategic Dispositions The team member:	Often	Sometimes	Not yet
<ul style="list-style-type: none">• Listens with understanding and empathy• Paraphrases ideas before responding• Clarifies ideas, concepts, or terminology• Poses questions to engage thinking			
<ul style="list-style-type: none">• Energizes the group with new ideas• Supports the group when there is frustration• Persists/finds alternatives when the group is stuck			
<ul style="list-style-type: none">• Monitors for accuracy and precision• Cross-checks references• Uses spell-checker• Edits with care			

Additional Comments:

Thoughtful Group Formation

- Be intentional.
 - Why these groups?
 - How will they support learning goals?
- Explain your grouping strategy to students to build trust and transparency.

Teaching Collaboration Skills

- Scaffold teamwork with explicit instruction in:
 - Self-advocacy
 - Clear communication
 - Shared responsibility
- Model and facilitate collaborative behaviors in real time.

Supporting Materials



Activity Example: SEL and Collaboration

- [“Simon Says”](#) for Social Emotional Learning:
 - Helps students follow instructions.
 - Encourages peer-to-peer learning before teacher involvement.

Digital Tools for Group Work

- **Desmos Polygraphs**
 - Strengthens two-way communication
 - Encourages paired reasoning and problem-solving
- **Desmos Activity Builder**
 - Offers free/paid activities tailored by topic
 - Great for in-class collaboration
 - Search “Desmos Activity Builder _____” and fill in your topic