

# Changing the Culture

## Workshop Leader Version

**STEPUP** 

PHYSICS TOGETHER

Learn more at  
[STEPUPphysics.org](http://STEPUPphysics.org)

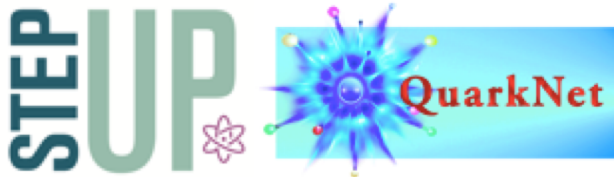




## Which Hat to Wear?

The next two slides address the student activity. (Student Hat)

The remaining slides address the Everyday Actions for teacher growth and development. (Teacher Hat)



# Guidelines for Discussion: Student Activity “Student Hat”

Join a group as a student.

Read your assigned guideline with  
your group.

## Guidelines for Conduct During Discussions



This poster represents the work of many. For more details about the national initiative on engineering high school physics teachers to improve student learning, visit

[STEPUPphysics.org](http://STEPUPphysics.org)





# Guidelines for Discussion: Student Activity “Student Hat”

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Record a summary of your group answers using the question sheet.

Make a poster or slide of your group responses to share with the whole group.

# Everyday Actions “Teacher Hat”

Now put on your teacher hat.



Complete the *self-reflection* individually.

<https://bit.ly/2szH7fy>

Use the self-reflection below to think about how well your everyday actions support an inclusive physics classroom community. Then, use the Everyday Actions guidelines on the following pages to work to improve your practice as you support young women in physics. Try choosing one area to focus on each week.

**EVERYDAY ACTIONS SELF-REFLECTION**  
On a scale of 1-5, how would you rate your use of the everyday actions?

	NOT AT ALL					VERY MUCH
<b>When you talk to students individually, do you:</b>						
Discuss with students why they would be a good fit for physics	0	1	2	3	4	5
Direct other students to female students for help	0	1	2	3	4	5
Direct students toward clubs, camps, internships, or other programs	0	1	2	3	4	5
Encourage students to take advantage of academic opportunities in physics	0	1	2	3	4	5
Connect with students about what they value and are interested in	0	1	2	3	4	5
Provide students with feedback, reassurance, and personal stories of struggle	0	1	2	3	4	5
<b>When you facilitate group work/labs, do you:</b>						
Avoid isolating women in a group of mostly men	0	1	2	3	4	5
Ensure women are taking active roles	0	1	2	3	4	5
Bolster confidence around lab equipment	0	1	2	3	4	5
Teach collaboration skills during or before initial group activities	0	1	2	3	4	5
<b>When you address the whole class, do you:</b>						
Set expectations for success	0	1	2	3	4	5
Promote a sense of community	0	1	2	3	4	5
Promote a growth mindset	0	1	2	3	4	5
Value many different types of skills, such as communication and teamwork	0	1	2	3	4	5
Distribute attention during class discussions	0	1	2	3	4	5
<b>When you plan and assess, do you:</b>						
Incorporate real world physics examples	0	1	2	3	4	5
Connect physics to other disciplines	0	1	2	3	4	5
Establish clear grading rules	0	1	2	3	4	5
Allow second chances for high stakes assessments	0	1	2	3	4	5
<b>When you are outside the classroom, do you:</b>						
Encourage other teachers to recommend physics to their female students	0	1	2	3	4	5
Talk to school counselors to ensure they encourage female students to take physics and consider physics careers	0	1	2	3	4	5
Provide school counselors with information about the breadth of jobs in physics	0	1	2	3	4	5
Share female students' successes and capabilities with their families	0	1	2	3	4	5
Provide parents with information about job opportunities in physics	0	1	2	3	4	5
Support students who want to start a physics club or take part in physics activities and events	0	1	2	3	4	5
Find out about outreach and community activities for student engagement and encourage students to participate	0	1	2	3	4	5

# Everyday Actions “Teacher Hat”

Which areas do you feel confident about implementing? How do you accomplish that?

Which were you the most unsure about?

On which would you like to improve? How can you do that?

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# Everyday Actions “Teacher Hat”

Join a new group as a teacher.

Read your assigned guideline with your group.

Summarize your group discussion to share with the whole group.

Use the self-reflection below to think about how well your everyday actions support an inclusive physics classroom community. Then, use the Everyday Actions guidelines on the following pages to work to improve your practice as you support young women in physics. Try choosing one area to focus on each week.

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# Everyday Actions “Teacher Hat”

## Everyday Actions to *INSPIRE THE FUTURE OF PHYSICS*



**Talk to Students Individually**

Encourage students individually, especially young women. Promote self-confidence through explicit reinforcement of student abilities – female students tend to have less self-confidence in physics.



**Facilitate Group Work/Labs**

Ensure all students have equal opportunity to assume active roles and contribute to discussions. Female students are often marginalized in group work.



**Address the Whole Class**

Promote a positive attitude towards physics. Set expectations for success, distribute attention during discussion, and encourage a growth mindset. Students often have a fixed mindset about their abilities in physics.



**Plan and Assess**

Connect lessons to topics that resonate with students' values and lower the anxiety related to grades. Female students' interests are less likely to be incorporated in physics classes.



**Outside the Classroom**

Communicate with people who influence students outside of the classroom setting. Female students who persist in physics are strongly influenced by others but often have fewer experiences for building these relationships.

Use *Everyday Actions to Inspire the Future of Physics*.

Discuss your assigned everyday action with your group and record your answers.

Summarize your group results to share in a whole group discussion.



# Everyday Actions “Teacher Hat”

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## Reflection:

Record your personal goals for implementing  
Everyday Actions in your classroom.