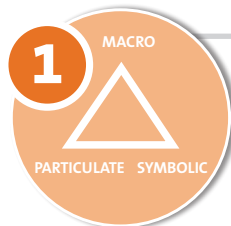


10 TIPS

from the ACS Guidelines and Recommendations for Teaching Middle and High School Chemistry



1

Use Johnstone's triangle to help students understand chemical phenomenon

What is observed at the macroscopic level is a result of interactions at the particulate level—at the level of atoms, ions, and molecules—which can be represented symbolically.



6

Use technology to ...

- Collaborate, research, collect and analyze data, and communicate
- Access videos and simulations.

Align instruction with standards

In the environment of changing standards, find a comprehensive list of topics covered in most first-year high school chemistry courses, as well as in a middle school curriculum.



2

Make connections to other disciplines

Informing students that chemistry is present in STEM and other subjects outside of science, such as history, math, and language arts, benefits students' understanding of chemistry and may extend their appreciation for chemistry.



3



8

Find your professional home!

- Join an organization, such as the American Association of Chemistry Teachers (AACT), to gain access to resources that will support you.
- Attend conferences to network, learn from other educators, and expose yourself to what others just like you are doing in their classrooms.



7

Lab must be safe

- Store and dispose of chemicals safely.
- Have the right equipment—both materials and safety.
- Follow RAMP principles of safety.
- Think green—don't unnecessarily pollute the community.

Investigate, don't just do

- Begin a unit with an investigation.
- Considering a combination of hands-on labs and virtual/digital labs—when is one better than the other?
- An investigation can be thought of as three experiences: pre-laboratory, laboratory, and post-laboratory.



4

Find resources to support student passion for chemistry

AACT, ACS, and other organizations provide many resources that teachers can access and share with students to enhance their interest in and learning of chemistry.



9



5

Both focus and variety are key when planning lessons

- Establishing learning objectives is a must.
- Use a variety of strategies for engaging with content such as problem solving, reflection, modeling, and reading.
- Assess student understanding throughout a lesson and use outcomes to help drive follow up lessons.



10

Teach chemistry ethically and inclusively

Everyone can learn chemistry. Discover resources to help support learning for all.