PhET's Goals

PhET's Goals for Students: PhET's simulations and suggestions for simulation use are designed to support the following objectives.

Students will …
- Engage in scientific exploration with multiple, positive learning outcomes
    - Formulate and ask questions
    - Make predictions
    - Test emerging ideas and design experiments
    - Use evidence to support ideas
    - Monitor and reflect on their own understanding (e.g. through self-checking with simulation feedback, discussing with a partner, or teacher-led checks for understanding).
- Achieve conceptual learning
    - Identify cause-effect relationships
    - Make meaning of visual and mental models, and use them to make sense of scientific phenomena
    - Develop facility with commonly-used scientific representations and measurement tools (e.g. visual models, vectors, graphs, formulas, ruler, …)
    - Coordinate across scientific representations, science models, and real world situations
- Make connections to everyday life (e.g. science to the real world)
- Take and sense ownership of their learning experience
    - Direct their own learning through exploration
    - Persist through intellectual challenges
    - Feel a sense of accomplishment
- See science as accessible, understandable, and enjoyable
    - Identify as a scientist (a person that uses scientific reasoning)
    - Develop further interest in science
    - Experience the joy of inquiry and discovery

PhET's Goals for Teachers: PhET's simulations, activity design guidelines, and strategies for facilitation aim to support teachers' achievement of the following objectives.

Teachers will …
- Create a student-centered classroom by …
    - Hearing and valuing student ideas
    - Promoting student agency – students actively driving their learning
    - Encouraging and guiding student inquiry
    - Being a co-participant in the inquiry process
    - Building on students' prior knowledge
- Foster a supportive, goal-oriented learning environment by …
    - Valuing and addressing multiple goals - content, process, habits of mind, interest, etc.
    - Being prepared to address common student ideas/thinking and confusions
    - Adapting activities to their environment and their students (e.g. for varying learning goals and education levels)
    - Implementing 'checks for understanding' in order to assess student learning and drive instruction
    - Being responsive by flexibly adapting to emergent student ideas
- Bring their experience, professionalism, and knowledge of their students to designing, implementing, and improving activities, implementation, and sim design.