Active Learning Ideas and Tips

Adapted from the following sources:
O'Neal, C., & Pinder-Grover, T. (n.d.). *How can you incorporate active learning into the classroom?* Center for Research on Learning and Teaching, University of Michigan, http://www.crlt.umich.edu/sites/default/files/resource_files/Active%20Learning%20Continuum.pdf
Paulson, D. R., & Faust, J. L. (n.d.). *Active learning for the college classroom.* California State University, http://web.calstatela.edu/dept/chem/chem2/Active/
What is active learning? (n.d.). Center for Teaching and Learning, University of Minnesota, http://www1.umn.edu/ohr/teachlearn/tutorials/active/what/

Active learning activities encourage students to actively learn the material. Such activities may involve reading, reflecting, talking, listening and/or writing in order to promote students' analysis, synthesis and evaluation of course content. While there are several ways to use active learning, here is a list of some ideas you can easily incorporate into your own classrooms.

1. Writing Activities – At an appropriate time (perhaps at the end or the beginning of class), have students take out a blank sheet of paper and write a response to a question or prompt you pose. Students typically have one or two minutes to respond to the question or prompt. This can be used as a quick check for student understanding or to review, and some example questions include:

    - What does the term "random" mean?
    - What was the main point of today's class material?
    - What was the 'muddiest' point in today's lecture?
    - What questions do you have about today's material?
    - Etc.

    This can also be used to have students reflect on an activity or class lecture by completing an instructor-provided prompt. Some examples of instructor-provided prompts include:

    - I was surprised that….
    - I learned that….
    - I wonder about….
    - Etc.

2. Quick Understanding Checks – These methods let you quickly check student understanding before, during or after instruction. At an appropriate time, students are asked questions and instructed to signal their responses using one of the following strategies:

    - *Whiteboards* – Students write answers on a mini whiteboard and hold them up for you to see when they're ready.
    - *Finger Signals* – Students hold up the appropriate number of fingers immediately in front of their torsos to indicate their responses to a question or statement. For example, you might say "one finger for 'yes', two for 'no'", and then state, "A sample statistic is a numerical summary of a population."
    - *Thumbs Up–Sideways–Down* – Students hold their thumbs up, sideways or down to communicate their level of understanding with respect to a question or concept. Students with their thumbs up may be called on to share their response with the rest of the class.
    - *Red-Yellow-Green Light* – Students hold up the appropriate colored card to indicate their level of understanding with respect to a question or concept. (Red = Don't understand; Yellow = Slightly understand/unsure; Green = Understand completely) Students holding up green cards may be called on to share their response with the rest of the class. This can also be used to have students indicate their answer to a question (e.g., Green = True; Red = False).
    - *Online or In-Class "Clickers"* (e.g., polleverywhere.com, TI-Nspires) – Display a question and have students respond using a clicker, TI-Nspire or cell phone. Responses are summarized in real time, so the class can discuss the results.

3. Clarification Pauses – This is a simple technique aimed at fostering "active listening." Throughout a lecture, particularly after stating an important point or defining a key concept, stop, let it sink in, and then (after waiting a bit – count to 10 Mississippi or so!) ask if anyone needs to have it clarified. Or ask students to review their notes and ask questions about what they've written so far.

4. Student Summary of another Student's Answer - After one student or group has volunteered an answer to your question, ask another student or group to summarize the first student's/group's response. Having students summarize or repeat each other's contributions both fosters active participation by all students and promotes the idea that learning is a shared enterprise. Given the possibility of being asked to repeat a classmates' comments, most students will listen more attentively to each other.

5. Note Comparison/Sharing – While students might listen attentively, they do not always know what to write down, or they might have gaps in their notes which will leave them bewildered when they go to study. One way to avoid these pitfalls is to stop lecturing immediately after covering a crucial concept and have students read each other's notes, filling in the gaps in their own note-taking.

Questions for Planning an Active Learning Activity (What is Active Learning?, n.d.)
When planning an active learning activity, answering the following questions will help you clarify your goals and structure.

- What are your objectives for the activity?
- Who will be interacting? Will students pair up with someone beside them or someone sitting behind/in front of them? Should they pair up with someone with a different background? Someone they don't know yet?
- When does the activity occur during the class? Beginning? Middle? End? How much time are you willing to spend on it?
- Will students write down their answers/ideas/questions or just discuss them?
- Will students turn in the responses or not? If they are asked to turn them in, should they put their names on them?
- Will you give individuals a minute or so to reflect on the answer before discussing it or will they just jump right into a discussion?
- Will you grade their responses or not?
- How will students share the paired work with the whole class? Will you call on individuals randomly or will you solicit volunteers?
- If students are responding to a question you pose, how are you going to ensure that they leave with confidence in their understanding?
- What preparation do you need to use the activity? What preparation do the students need in order to participate fully?

Other Tips for Success (What is Active Learning?, n.d.)

- Be creative! Invent new strategies and adapt existing ones to your needs.
- Start small and be brief.
- Develop a plan for an active learning activity, try it out, collect feedback, then modify and try it again.
- Start from the first day of class and stick with it. Students will come to expect active learning and perform better.
- Have students occasionally pair up with the student behind them, because friends often sit side by side.
- Negotiate a signal for students to stop talking.
- Find a colleague or two to plan with (and perhaps teach with) while you're implementing active learning activities.