



## **GUIDELINES FOR NEW MATERIALS**

Thank you for wanting to share your curriculum ideas and materials through the Creative Learning Exchange. Your contribution will help many teachers and their students benefit from system dynamics and systems thinking in their classrooms. These guidelines will help you prepare a document that is easy for other teachers to use. It is not a cookbook, however. Your lesson should be in your voice, reflecting the enthusiasm of your students. Beyond the basic requirements, please feel free to add whatever you think other teachers would need to know. Above all, try to be concise. Remember that teachers are busy. Try to give them all that they need to know, and no more.

### **TITLE/AUTHOR Include:**

- Author's name, the date, school or affiliation, and e-mail or school address on title page or first page.
- Copyright information and permission to copy for non-commercial educational use on title page.

### **ABSTRACT**

- A brief introduction or abstract so that teachers can quickly grasp the general idea of the lesson and decide whether or not it suits their needs. Include:
  - The purpose of the lesson – what question or problem do students explore?
  - The grade level and subject area.
  - Why are you presenting this lesson? What will students learn?
  - What do students do? Do they play a game, build a model, conduct an experiment, etc.?
  - What ST/SD tools/concepts are used; how does ST/SD contribute to the lesson?

### **PREPARATION Include:**

- Preparation requirements: time, materials, technology/special equipment needed, etc.
- Assumed ST/SD knowledge, background, and experience of both the teachers and the students to enable successful use of these materials.

## **PEDAGOGY Include all those that apply to your lesson.**

- Accurate and appropriate use and explanation of all ST/SD tools (See “Tips for ST/SD Tools” and/or “Rubrics for Understanding” at [www.clexchange.org](http://www.clexchange.org) for details)
  - Explain major feedback loops, accumulations (stocks).
  - State the purpose of any model.
  - Document and balance all units.
  - Document all equations.
  - Give detail appropriate to level of expertise of student and teacher.
  - Explain the pertinence of the use of systems tools in this specific lesson
- Evidence of how ST/SD improved the lesson for students
- Learning objectives for students
- Student worksheets (Include “answer keys” for teacher reference.)
- Typical or expected student responses, examples of student work and anecdotes
- Pitfalls, troubleshooting, advice, possible errors or confusions; hints for creating positive learning opportunities in such situations
- Debriefing advice, questions to synthesize and deepen student learning
- Interdisciplinary connections
- Transferability
- Links to other lessons
- Real-world applications, broader lessons, ethical implications
- Content consistent with current knowledge

## **REFERENCES**

- Include complete references for all sources.

## **PROCEDURES**

- Please submit your lesson to the Creative Learning Exchange in digital format using standard word processing (MS Word or Apple Works).
- If possible, please submit any models in the latest version of the modeling software.
- Send the file to [stuntzln@clexchange.org](mailto:stuntzln@clexchange.org).

## **WORKING TOGETHER**

Preparing ST/SD lessons for dissemination is an opportunity for teachers and others to collaborate and learn from one another. Please feel free to contact the Creative Learning Exchange (Lees Stuntz, [stuntzln@clexchange.org](mailto:stuntzln@clexchange.org)) with any questions as you write up your lesson. All submissions will be reviewed before posting. The shared goal is to present effective materials to our audience of teachers visiting the website. Thank you for participating in this process.