



Guidelines for Contributors to *Learning and Teaching with Learning Trajectories* (aka [LT]²)

Thank you!

Please allow us to begin with a sincere appreciation that you are considering contributing to the *Learning and Teaching with Learning Trajectories* ([LT]²) tool, found at LearningTrajectories.org. This document is designed to answer questions you may have, helping you making your contributions as meaningful and efficient as possible.

We begin by answering some frequently asked questions (FAQs) and then provide specific guidelines.

Again, thanks to you!

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Frequently Asked Questions about Activities and Videos

What are learning trajectories?

For this, we suggest you see the videos on the home page and the resources pages of (LearningTrajectories.org).

What kinds of activities are you looking for?

We welcome high-quality activities that illustrate how to develop a given level of thinking of one of our learning trajectories. That's broad (!)—we cover all of the important mathematics topics for children from birth to second grade. How do you choose?

First, a lot of our videos are us “doing what we can,” by borrowing small groups of children. So we would love more videos of a *whole class*.

Second, what about topics...and activities? We have three possible ways for you to choose. We would appreciate any of these three, including combinations of them!

1. Activities for any levels of a given learning trajectories that currently have fewer examples, or no examples (!) on the website. We will send you an updated list if you'd like to try that way.
 2. Especially if you don't want to "think up" your own activity, an alternative is to make a video for an activity that is already on [LT]² *but does not have a video yet!*
- . We *also* encourage you to simply *video and/or send notes on one or more activities you just love to teach! They are often the "gold" we seek!*

In all three cases, we suggest you see the activities (written and videos) at the level of the learning trajectory where your activity belongs before you write the directions for your activity.¹ Some children like activities which are couched in the form of games. It is not necessarily the competition they like (winning), but the fact there is a goal to attain (reaching the end, achieving the next level).

We encourage you to send activities that allow children to apply their mathematical intuition and thinking and their natural curiosity to an engaging question or problem. Often, such activities appeal to children's imagination (e.g. set it in a story) or draw from their motivation to solve an age-appropriate problem (e.g. using toys, blocks, nature, art, or music).

How detailed do I need to be when explaining my activity?

It will vary based on the activity. Ideally, you would explain it so that novice teachers or parents with no background in teaching mathematics would be able to do the activity as you envision it. If you are a veteran teacher, write it so a substitute teacher could follow your plan and then add any additional explanations that you would give if a parent volunteer were leading the activity instead of a teacher. You can use our [LT]² template or just write it up any way you like. If you don't have time, just send us some bullets and the video and we'll write it up.

What about the video part? And do you want videos of activities already on [LT]²?

We love short (attention span of most users, you know!), generally 2 minutes or less (but we're happy to view any length!) engaging videos accompanying the activity. It doesn't have to "cover" the entire activity. Indeed, the best videos often show a *core part* of the activity in which a teacher and children interacting where the children's thinking and learning are the main focus.

Do we want videos of activities already on [LT]²? *You bet we do!* Most activities on [LT]² don't have videos yet and we *need* them! Even if we do have a video, *yours* will be another illustration of how *you* teach it, making it come alive for your particular children.

Videotaping

¹ One of our most productive contributors, Edward Schroeter, wrote us, "Good advice. It helped me, and it is really excellent professional learning. It was beneficial...being a video contributor helped my professional growth!"

You don't need cumbersome or expensive equipment to make videos for us. You can use your own cell phone or tablet. They are of sufficient quality.

Please shoot your video in landscape format. In other words, hold your camera in a horizontal position.

If you want to include the children's faces in the video, we need you to download our permission form (https://www.dropbox.com/sh/glgmh8z4m3k1nc1/AADpxJzl_bkdj0TGX4sixQ4ea?dl=0) and have the children's legal guardians sign it. Scan and email it to us at MARSICO.institute@du.edu (or any of the e-mail addresses on p. 1) with your video and activity write up. You don't need a permission form if you video a medium close up of the children, their hands, and record their voice. Sometimes this can be a more effective illustration of mathematical thinking.

If you have video but e-mailing it does not work (it may be too large or the like), please simply email us (see p. 1) and we'll figure it out for you.

What if the children in the video are not able to do the activity in the way that I hoped they would?

The children in the video do not need to be "perfect" and show mastery of a level, but they do need to be engaging in the mathematical ideas of the targeted level of the learning trajectory. If you decide the video does not show what you had hoped, you could modify the activity plan to better match the mathematics that arose in the video, or...take a new video! Sometimes repeating the activity with children will give you just what you wanted. As the original creator of the activity and the children's teacher, you will be in a good position to do that. And to be clear, there is no shame in this! It is good teaching practice. Children often need to repeat mathematical activities before they reach a particular developmental level.

If, however, there is no way to make the activity plan match the video, or if the video does not depict children's mathematical understanding and/or highlight their mathematical misconceptions, please e-mail us and we can see if it matches another developmental level or the like. If you believe the activity would have been successful with other children (perhaps older or younger children), trying that would be fine too.

Does [LT]² then own my activity? Do I get credit for developing it?

No! And yes! That is, we don't own it...you do. You provide us with the right to include your activity on [LT]², but you maintain ownership (if the activity is your creative work and you have a right to copyright of course; if you use a published activity, we will credit the publisher *and* your implementation). See the attributions in most of our pdf's of the activities.

And you get full credit for developing and/or implementing it. Please (unless you prefer not to) add your name as author right on the template—to which we turn.

Templates

- Enclosed with these guidelines is a blank activity template (especially clarify “key questions”). Please use this when writing up your activities if you like. We can move your text to our form if you prefer.
- Also, here are the LTs (topics), levels, and activities on [LT]² with videos and write-ups that you can use to “see what we mean.”

LT (topic)	Level	Activity
Subitizing	Conceptual Subitizer with Place Value	Snapshots (to 50) (see the developmental video for similar tasks!)
Spatial Visualization	Beginning Slider, Flipper, Turner	Piecing Pentominoes Together
Spatial Visualization	Slider, Flipper, Turner	Pentomino Puzzle Perfection!
Multiplying / Dividing	Partitive Divisor	Make Equal Groups
Shapes	Shape Matcher—More Shapes, Sizes & Orientations, Combinations	Match and Name Shapes
Composing 2D Shapes	Shape Composer	Pattern Block Puzzles (Shape Composer)
Measurement: Length	End-to-End Length Measurer	Measure the Woolly Worm

Please feel free to ask us any questions!