

Transitioning Math Teaching Structures to Remote Learning

As NYC teachers move our math classrooms to remote learning, the Math Collective has started to brainstorm and collect ideas for how to transition our familiar and vibrant math teaching structures to online platforms. This is a list of *ideas*, not *requirements*, and we hope that you read it for inspiration! Choose one structure or look for a platform you are already comfortable with as a starting point. We would love to add your own ideas and adaptations to this growing collection - please email us at mathcollective@mathcollective.org to add your thoughts!

Structure we use in our real math classroom	Ideas for how to handle it in remote learning
Warm Up (fluency activities)	<ul style="list-style-type: none"> Record specific fluency activities that lend themselves to being recorded, using Screencastify, Loom, Seesaw or another recording platform Do a warm up during a live whole class or small group meeting Great Minds Knowledge on the Go has recorded fluency activities for a number of grades and modules
Figure it Out (problem solving/application problems)	<ul style="list-style-type: none"> Post the application problem to a platform (Google Classroom, Seesaw, FlipGrid, etc.) (could be once a week, twice a week, every day...) All of the application problems are available, typed and on Google Slides, at embarc.online Have students respond: <ul style="list-style-type: none"> In writing With video/voiceover (Flipgrid, Seesaw) By taking a photo of their work and uploading it to Seesaw, Google Classroom or another platform
What's New? (framing the work, teaching the concept development)	<ul style="list-style-type: none"> Zearn teaches the concept development for each lesson in the Math Chat or Learning Lab You can record a "framing of the big idea" for a particular lesson, topic, or new module (see inquiry lenses under the Resources Tab on the Math Collective website for framing ideas) using any recording platform If you are teaching a live math lesson, and you'd like to see the work that students are doing in real time, you can create an assignment for them to work on using Go Formative, ClassKick or the PearDeck add-on for Google Slides, and then as students work on the problem, you'll be able to see their work in real time. You can also then share the teacher screen (where you

	<p>have a collection of all of their work) with your class or group, so that they can see each other’s work and talk about it.</p> <ul style="list-style-type: none"> • Also see suggestions in “Small Group work” below for more ideas.
Independent Work Time	No adaptation needed - kids have plenty of this!
Assessment	<ul style="list-style-type: none"> • Exit tickets - can be created in Google Forms or already created in Formative for every lesson on embarc.online <ul style="list-style-type: none"> ○ Worked examples could be included in a Google Form exit ticket • Use Flipgrid or Seesaw for kids to record themselves talking about a solution to a problem
Conferring	<ul style="list-style-type: none"> • Google Meet - most likely you will not be meeting with kids one-on-one, but see below for suggestions for small groups. • There are good questions in the problem solving routine linked here that foster conversation.
Small Group Work	<ul style="list-style-type: none"> • Have a math conversation with a group of kids - you don’t have to make a new set of problems for them to work on! Here are some bases for that conversation: <ul style="list-style-type: none"> ○ Tower of Power from Zearn ○ Application Problem ○ Worked examples - see Math Collective Problem Solving Routine problem sets for grades 3, 4, 5; worked examples for exit tickets and homework from Engage lessons are available on embarc.online for each lesson ○ 3 Act Tasks are a great visual, interactive, already made resource (available here and here) ○ Steve Wyborney has lots of great already-made tasks that could be used with a small group (see his Splats, Esti-Mysteries, Area Puzzles, Subitizing Slides and more)
Math Debrief & Discussion	<ul style="list-style-type: none"> • Pull together a small group of kids who could have a good conversation, have a specific problem that they talk about (application problem or a problem from the problem set or Zearn tower of power, for example). • Use Padlet as a virtual “math gallery” where students can post their work and see each other’s work - you could also create a Flipgrid where, after kids see each others’ work on the Padlet, they record a video

	commenting on one of their classmates' pieces of work.
Partner Work/Partner Coaching	<ul style="list-style-type: none">• Kids could be partnered and they could watch each other's videos in Flipgrid/Seesaw and comment or respond back.• You could put partners in the same small group - if there is a way to do breakout rooms in Google Meet, you could have the kids who are partners go into breakout rooms to discuss a problem
Parent Support	<ul style="list-style-type: none">• Family office hours, if this is a structure your school is using, could be a time to screen share and go into the tower of power from Zearn and work through a problem together• You could use a recording platform to record a few key strategies (e.g. adding and subtracting using the place value chart, modeling a word problem using a tape diagram) and post on your school's website.• You could share good questions parents can ask math thinkers. There are good questions in the problem solving routine linked here.• To answer questions from parents like, "Why do you teach <insert math topic> this way?" you can share with parents Graham Fletcher's videos on the progressions or this video from Mike Flynn called "What Happened to Math Class?"