

Resources for Developing Enrichment

If you have 10 minutes...

- Engage NY and CMP3 have problems related to your unit.
- Recent Mathcounts competitions (mathcounts.org) and Math Kangaroo sample questions (mathkangaroo.org).
- Past AMC 8, AMC 10, and AMC 12 contests have great problems; you can find past problems on the Art of Problem Solving wiki by googling “aops AMC 8”, “aops AMC 10”, or “aops AMC 12”.
- Have students make free accounts on the Art of Problem Solving. Alcumus has effectively infinite questions.

If you have a class period...

- A sheet of 10 of our favorite “big problems” is included in this packet, presented without solutions so you can play with them yourself if you like. If you’re interested in confirming answers or getting guidance for presenting a problem to students, send us an email.
- A handout for Malcolm’s Bridges of Konigsberg / basic graph theory lesson is included in this packet; the answer can be found on the wikipedia page for “Eulerian path” or you can email Malcolm and he’d be happy to provide further guidance.

If you have the time to start a club or activity...

- To start a math team in a middle school: Mathcounts has a ton of materials they will send you.
- To start a math team in a high school: Print out copies of previous AMC 10 and AMC 12 contest questions and let your students go to town.
- For any grade level, the Art of Problem Solving book Competition Math for Middle-School Students is a great resource (even though it says middle school, we recommend for all).
- To start a math circle, visit the National Association of Math Circles at mathcircles.org for a ton of starting resources.

If you want to go down the rabbit hole (one step at a time)...

- Read Nix the Tricks at nixthetricks.com; commit to eliminating one trick from your instruction each month, quarter, or year.
- “Good word problems / Rich tasks first” – think about starting with applications and discovering abstract ideas & methods.
- Read Dan Meyer’s blog at blog.mrmeyer.com (look for past entries on pseudocontext and “If math is the aspirin, how do you create the headache?”).
- Read the Math with Bad Drawings blog at mathwithbaddrawings.com (especially “Black Boxes”).
- For higher level classes in high school (precalculus and higher), read the “Continuous Everywhere but Differentiable Nowhere” blog at samjshah.com for a ton of specific lesson ideas with resources attached.

We are happy to answer questions, give advice, and share stuff!

Links to all of this and more problem sets at beammath.org/nctm

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