

## Homework and Assessments Suggestions

A thoughtful approach to homework and assessments can maximize their usefulness and help reach more students. Here are some suggestions that you may find helpful and add to your repertoire.

### Lagging Homework

*Do not assign homework on a given topic until you have spent several days on it in class.*

- ◇ It allows more students to understand the topic, and therefore make them more capable of doing the homework. (Non-completion of homework is sometimes due to insufficient understanding.) More students completing and understanding the homework means less class time spent on ineffective “going over the homework” activities. (See below.)
- ◇ It extends exposure to the topic, which is helpful for the students who just need more time to understand a new concept. It does not harm the students who pick up the concept quickly. In fact, it provides a review opportunity for them.
- ◇ Not tying today’s homework to today’s lesson frees you to focus on making the lesson as effective as possible, instead of rushing to get through it so that a few students will be ready to do homework.
- ◇ Starting a new topic with several days of classwork puts more of the learning process under your direct control as a teacher. Relying on the homework to play a key part in the acquisition of new ideas puts too much of that process out of your control.
- ◇ Some students may find this policy odd at first, but they quickly get used to it.

### Keeping Homework Short and Accessible

*Most learning happens in class.*

Homework should be short and accessible to maximize participation and usefulness.

### Going Over Homework

Having the teacher go over the homework, or a few students write it on the board is almost always a waste of time. The students who got it right are getting nothing out of this and feel they can check out while it is going on. The students who couldn’t do it probably cannot learn it quickly. Use the time saved by reducing “going over” time to teach the material better in the first place, through interactive lessons that combine student inquiry with teacher instruction.

*If you need to spend time going over homework, find a way to make it useful to the students.*

One way is to have them go over it with each other while you circulate and get a quick record of who did the homework and what the recurring questions are. That is of course meaningless if many students haven’t done the homework, but that is all the more reason to keep the

homework lagged, short, and accessible, and to demand homework completion right from the start of the school year.

If you see that most students got something wrong on the homework, do not do the exact same problem on the board. Instead, do a similar problem. This will make that more interesting to the students who got it right, and you need their participation just as much as the other students.

## Quizzes

*Do not quiz on a given topic until you have spent several days on it in homework.*

- ◇ It allows more students to understand the topic, and can lead to stronger showing on the quiz.
- ◇ It extends exposure to the topic, which is helpful for the students who just need more time to understand a new concept. It does not harm the students who pick up the concept quickly. In fact, it provides a review opportunity for them.
- ◇ If most students get something wrong on a quiz, the topic must return on future quizzes or tests. Students need to be explicitly warned about this: we are not “done” with a topic until it is mastered.
- ◇ Along with lagging homework, it gives the message that hard topics will not go away.

One possible scheme is quizzes that are short and focused on one or two topics, and occasional tests that take a whole period and are cumulative.

## Quiz Corrections

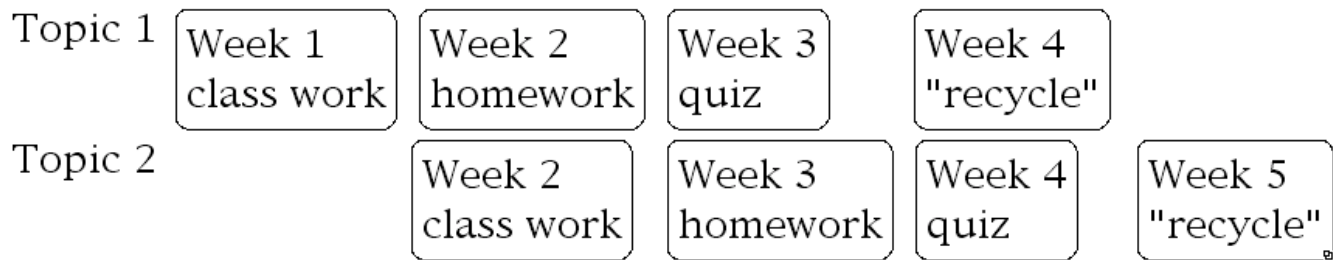
*Require quiz corrections, done as homework for points, from every student.*

This gives students one more chance to learn the material, and again extends exposure. The fact that tough topics will return on future quizzes is a way to emphasize the importance of the quiz corrections.

Standards for quiz corrections are higher than they are for the quiz itself: students should show their work, and write short explanations in their own words.

## The Big Picture

This illustration is a simplified visual representation of the above scheme, which shows how it extends exposure to any given topic:



(The "recycle" is the quiz corrections assignment.)

## The Underlying Philosophy

All these suggestions are based on this idea: *constant forward motion, eternal review.*

Specifically:

- ◇ Students learn at different rates.
- ◇ Therefore, you need to move forward to new topics even if not everyone gets the current topic.
- ◇ However, you should not give up on students who don't get it quickly.

Once you implement some version of this, students will see that you are giving them many chances to catch up on ideas they missed the first time around. And moreover, they'll see that you have high expectations and trust that given time, they can learn.

**Note:** This approach does not take any more time than the traditional approach. The time is just distributed differently.

## How to Plan the Week

Here is one way to plan your week for a given class:

- ◇ If you returned a quiz last week, choose a due date for the quiz corrections.
- ◇ If not, choose a date for a quiz. The topic should be material for which you have completed a cycle of homework.
- ◇ Decide on daily homework assignments. Only assign homework on material that has already been covered in class during the previous week or earlier.
- ◇ Decide on class work. Most of it should be on new material.
- ◇ If you decide you need to review old material, use new representations or new activities as much as possible. Repeating the same material the same way is not likely to lead to different results.

## More Reading on These Ideas

**On my blog:** go to [blog.MathEducationPage.org](http://blog.MathEducationPage.org) and search for “[extending exposure](#)”. That post will contain links to other related posts.

**On my Web site:** go to [www.MathEducationPage.org](http://www.MathEducationPage.org) and search for “[about teaching](#)”. On that page, click on the "[Nothing Works](#)" article.