

Generic Lesson Plan Template

You should submit this form in addition to any computer generated files/documents/models to your group folder on Angel. Please create a .zip file and upload the group of files as a single archive.

Name: Liz Helbig-Watkins
Grade level(s)/Subject taught: Math A
Objectives: Discovering, applying and using the properties of isosceles triangles.

Please provide a rich **one-page, single-spaced**, description or a *vision* of your best thinking on a way or ways you might teach the planned lesson. (approximately ½ page for the teacher role, ½ page for the student role). Also, construct a tentative rubric that you might use with your students (see example)

Items to include in your lesson plan: (Choose your discipline/concepts from your own area).

1. *Write the Mathematical Concept or “key idea” that modeling will be used to teach: (e.g. Students use mathematical modeling/ multiple representation to provide a means of presenting, interpreting, communicating, and connecting mathematical information and relationships)*

Key idea 1: Students use mathematical reasoning to analyze mathematical situations, make conjectures and gather evidence to discover the properties of isosceles triangles.

Key idea 7: Apply axiomatic structure to algebra and geometry.

and/or...

- 1b. *Write the Science Concept or “key idea” that modeling will be used to teach: (e.g. Organisms maintain a dynamic equilibrium that sustains life).*

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Materials:

- Computer Lab
- Worksheet

“...a rich **one-page, single-spaced**, description or a *vision* of your best thinking...”

Prompts:

1. How will you assess the prior knowledge of the student?
2. How will you begin the lesson?
3. What are the teacher and students doing every 5-10 minutes? (Teacher Actions and Student Actions)
4. How will you assess the learning for the lesson?

Using Geometer's Sketchpad I plan on having my students...
(software / modeling package(s))

This lesson is planned for a block class or 2 single class periods.

The students will begin class with a review worksheet on classifying triangles by angles and sides. Then as a class we will go over it. 5-10 minutes

I will then tell them they will be working with GSP to examine Isosceles triangles. I will show them how to create an isosceles triangle using GSP and answer any questions the students might have before giving them a worksheet. 10 minutes

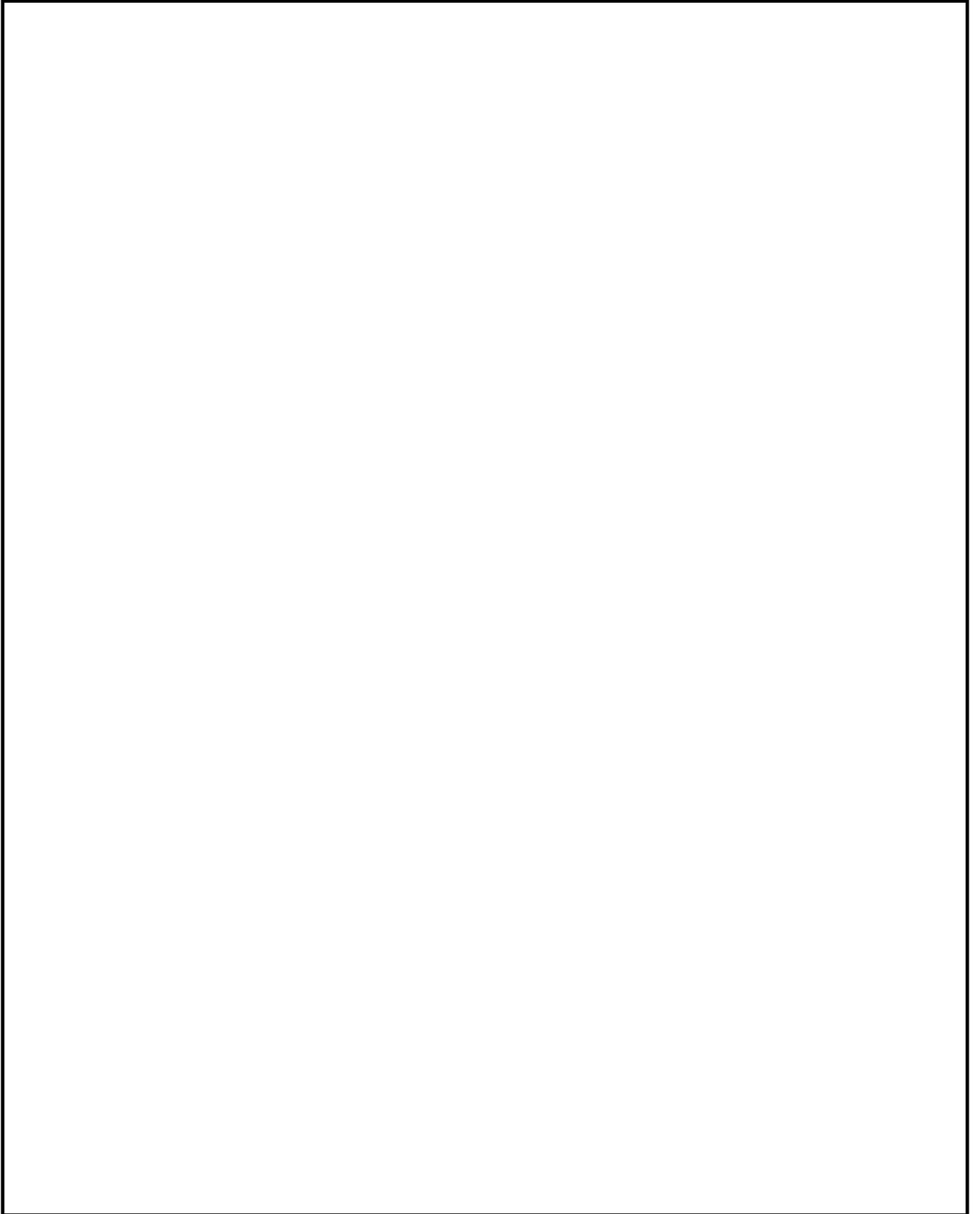
I will pass out the Triangle Activity worksheet. Students will work independently to complete the worksheet. 20-25 minutes.

I will then go over specific questions with the class to pull out more information on Isosceles triangles and tell them what they found out in the worksheet is really a theorem.. Then we will take notes and the students will enter this information into their notebooks. (base angles, vertex, legs, base, the Isosceles triangle Theorem and its converse .) I will then give some specific examples finding angles in different polygons that include Isosceles triangles 30 minutes

As a class we will review what we learned on isosceles triangles. The ticket out the door will be to write one of the theorems down correctly. (It doesn't have to be verbatim, the concept just needs to be understood and expressed in writing 5 minutes

RUBRIC

3	Students will recognize and clearly describe and generalize patterns in Isosceles Triangles. They will be able to state the Isosceles Triangle Theorem in their own words. Students will participate in class discussions and complete worksheet.
2	Students are able to recognize and clearly describe the patterns in writing, but do not participate in class discussion or complete most the worksheet. They have a good understanding of the Isosceles Triangle Theorem and are able to express most of it in their own words.
1	Students are able to recognize some patterns, but are unable to clearly describe the patterns in words and class discussions or complete half of the worksheet. They have somewhat of an understanding of the Isosceles Triangle Theorem and are able to express some of it in their own words.
0	Students display very little or no understanding of the concept. Students do no participate in class discussions or complete some of the worksheet. They have little or no understanding of the Isosceles Triangle Theorem and are not able to express it in their own words.



****Example:** "I was thinking about beginning the class on [modeling X] by using the overhead to ask students what they know about X. From this brainstorming session, I might ask them to get into groups and discuss one or more of the ideas they gave me. After about ten minutes, I would have the students give their ideas on X and write them down on a transparency so they would be able to see them for the entire hour. From here, I would provide a 10 to 15 minute demonstration of the basics of using _____ modeling software. I would use an conceptual example that they would find familiar with such as getting a cold and how it is transmitted. From here, I would have students at the computer stations using a prepared guide or tutorial to get them started on basic software usage. I expect that in a short time a number of students would "catch on" rather quickly and be able to help others. By the third lesson, I suspect that most would be well on their way to development of their own or small group models using the _____ software. My plan of assessment would probably be a group model so they would gain more confidence in using the software in a meaningful way. After the second or third lesson, I would ask them to choose from a list of thematic or topic areas that fit the software nice and develop a model using the technology. As a product, I may have partners share their model and describe to other small groups how it works. The rubric I design would be general at first so that I might see what kinds of the products the student were capable of creating. From the prototypes, I would hone my rubric to make the modeling product as challenging as possible without making it too difficult." Etc...