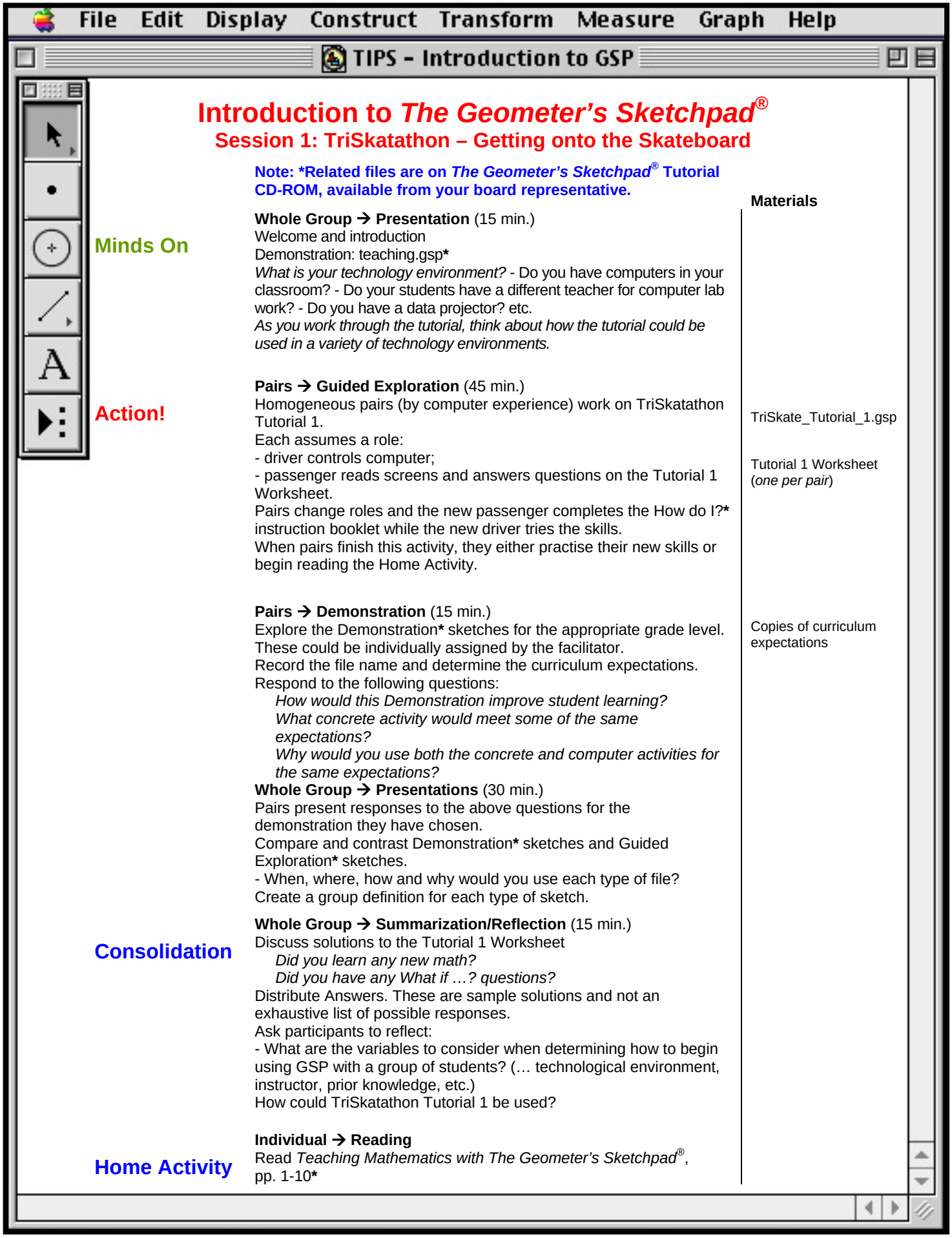


Introduction to *The Geometer's Sketchpad*®

Session 1: TriSkatathon – Getting onto the Skateboard

Note: *Related files are on *The Geometer's Sketchpad*® Tutorial CD-ROM, available from your board representative.

		Materials
Minds On	**Whole Group → Presentation** (15 min.) Welcome and introduction Demonstration: teaching.gsp* *What is your technology environment?* - Do you have computers in your classroom? - Do your students have a different teacher for computer lab work? - Do you have a data projector? etc. *As you work through the tutorial, think about how the tutorial could be used in a variety of technology environments.*	
Action!	**Pairs → Guided Exploration** (45 min.) Homogeneous pairs (by computer experience) work on TriSkatathon Tutorial 1. Each assumes a role: - driver controls computer; - passenger reads screens and answers questions on the Tutorial 1 Worksheet. Pairs change roles and the new passenger completes the How do I?* instruction booklet while the new driver tries the skills. When pairs finish this activity, they either practise their new skills or begin reading the Home Activity.	TriSkate_Tutorial_1.gsp Tutorial 1 Worksheet (*one per pair*)
	Pairs → Demonstration (15 min.) Explore the Demonstration* sketches for the appropriate grade level. These could be individually assigned by the facilitator. Record the file name and determine the curriculum expectations. Respond to the following questions: *How would this Demonstration improve student learning?* *What concrete activity would meet some of the same expectations?* *Why would you use both the concrete and computer activities for the same expectations?* **Whole Group → Presentations** (30 min.) Pairs present responses to the above questions for the demonstration they have chosen. Compare and contrast Demonstration* sketches and Guided Exploration* sketches. - When, where, how and why would you use each type of file? Create a group definition for each type of sketch.	Copies of curriculum expectations
Consolidation	**Whole Group → Summarization/Reflection** (15 min.) Discuss solutions to the Tutorial 1 Worksheet *Did you learn any new math?* *Did you have any What if …? questions?* Distribute Answers. These are sample solutions and not an exhaustive list of possible responses. Ask participants to reflect: - What are the variables to consider when determining how to begin using GSP with a group of students? (… technological environment, instructor, prior knowledge, etc.) How could TriSkatathon Tutorial 1 be used?	
Home Activity	**Individual → Reading** Read *Teaching Mathematics with The Geometer's Sketchpad*®, pp. 1-10*	

TriSkatathon – Tutorial 1 Worksheet

Screen 7

1. **Compare** line segments, rays, and lines.
   What's the same and what's different?

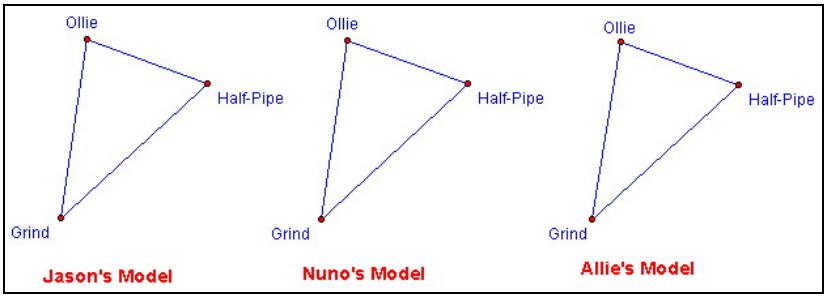
Screen 10

2. What figure is formed?

3. Exploration:
   Is the following statement sometimes, always, or never true?
   When three points are joined a triangle is formed.
   Give reasons for your answer.

Screen 12

4. Which model is the best one?
   Give reasons for your answer.



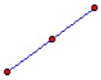
5. Fill in the blank:
   After making a construction always …

   _____

TriSkatathon Tutorial 1 Worksheet (continued)

Screen 13

6. What's special in each model?

	Feature 1	Feature 2	Feature 3
Nikko			
Maija			

Screen 14

7. What do you think is special about the model?
What's always the same or different?
Note: If you printed the sketch as instructed just attach the printout to this sheet. You do not have to rewrite your observations.

Screen 15

8. Which description is the most appropriate for each model?
Give reasons for your answers.

a) Equilateral Triangle

b) Isosceles Triangle

c) Triangle

TriSkatathon Tutorial 1 Worksheet (Sample Answers)

Screen 7

1. Compare line segments, rays, and lines.
What's the same and what's different?

They are all straight. They all have two control points.
Line segments have two endpoints whereas a ray has just one and a line doesn't have any endpoints.

Screen 10

2. What figure is formed?

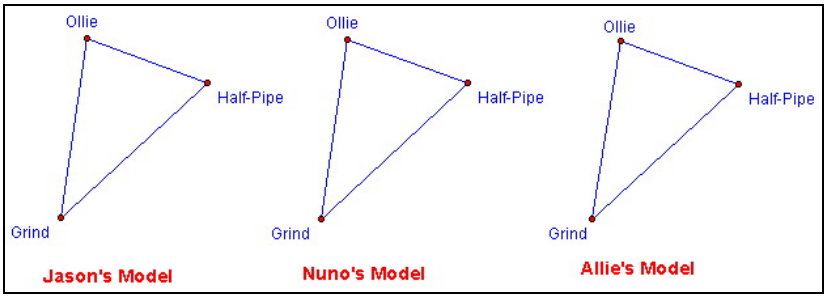
A triangle is formed.

3. Exploration:
Is the following statement sometimes, always or never true?
When three points are joined a triangle is formed.
Give reasons for your answer.

It is sometimes true because sometimes the three points will be on the same line –

Screen 12

4. Which model is the best one?
Give reasons for your answer.



Jason's model is the best one because it stays together when you do a drag test.
Nuno's model disconnects at Half-Pipe. Allie's model disconnects at all of the points.

5. Fill in the blank:
After making a construction always …

… drag objects to test the model's performance.

TriSkatathon Tutorial 1 Worksheet (Sample Answers continued)

Screen 13

6. What's special in each model?

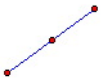
	Feature 1	Feature 2	Feature 3
Nikko			
Maija			

Figure 1:
Nikko's point is not constructed to be always on the segment.
Maija's point looks like it is always in the middle of the segment. It looks like it is the midpoint of the segment.
Figure 2:
In both figures, it looks like the segments are always equal in length.
In Nikko's figure, it looks like the angle between the segments is always 90 degrees which would make the segments perpendicular.
In Maija's figure, it looks like the common endpoint is the center of a circle and the other two endpoints are on the circumference of the circle.
Figure 3:
In both figures, the segments seem to have the same length. Nikko's segments also appear to always be parallel.

Screen 14

7. What do you think is special about the model?
What's always the same or different?
Note: If you printed the sketch as instructed just attach the printout to this sheet. You do not have to rewrite your observations.

When I move point O nothing else moves.
Point O always seems to move on a path that is perpendicular to GH.

When I move H, O moves too.
It looks like angle OHG is always 90 degrees.

When I move G, O moves but H stays fixed in one spot.
Angle OHG still seems to be 90 degrees.

If I joined the points they would probably form a right-angled triangle.

Screen 15

8. Which description is the most appropriate for each model?
Give reasons for your answers.

a) Equilateral Triangle

Model 2 is an equilateral triangle. I know this because when I do a drag test the side lengths always stay the same.

b) Isosceles Triangle

Model 3 is an isosceles triangle because when I do a drag test, sides OH and OG stay the same length. I could make all the sides the same length so even though it is always isosceles it could sometimes be equilateral.

c) Triangle

Model 3 is a triangle with no special features. I don't see anything that is always the same or always different.