What is found in an Engaging Mathematics TEKS-based activity?

Each activity addresses a specific student expectation that is reflected in the content objective.

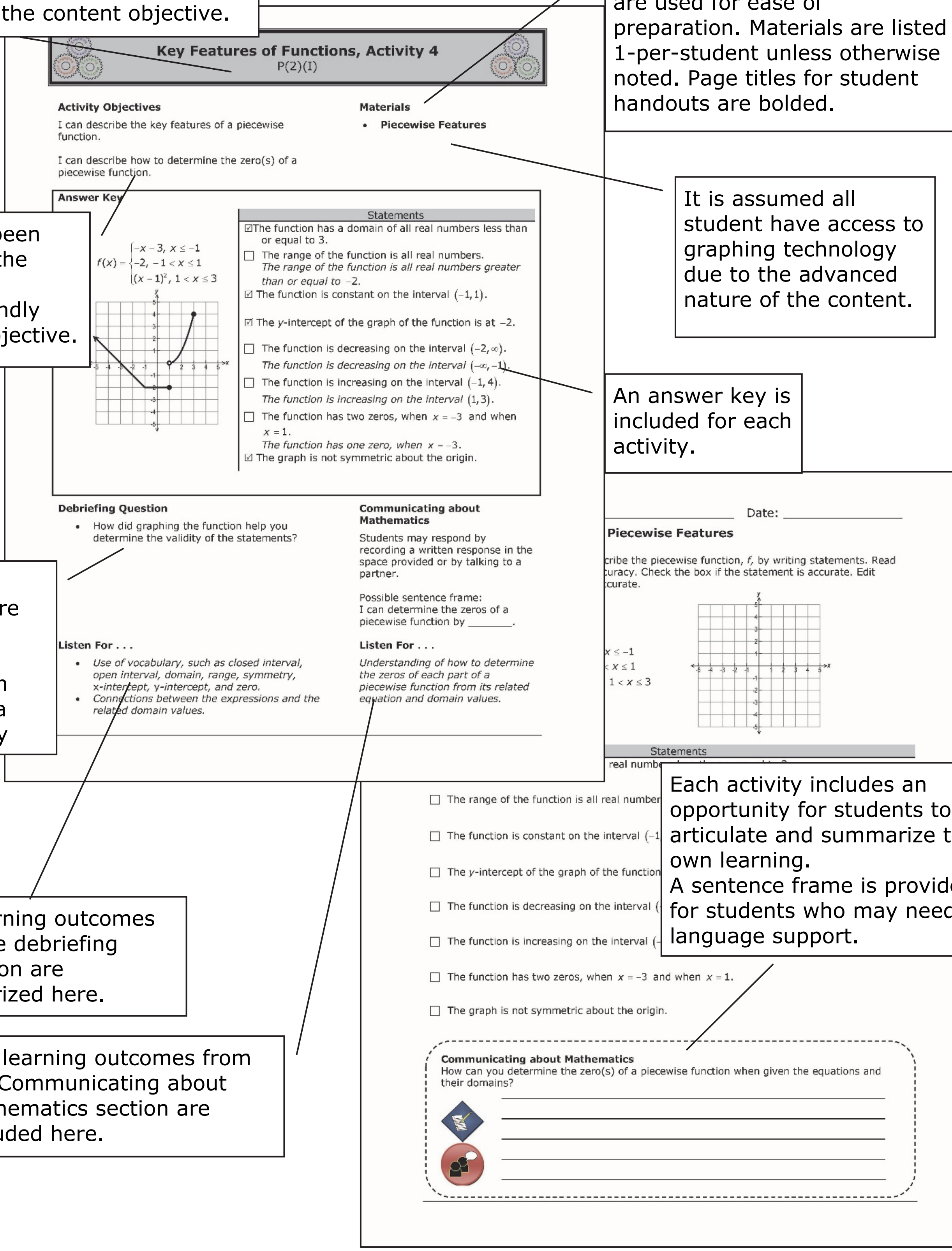
Common classroom materials are used for ease of preparation. Materials are listed 1-per-student unless otherwise noted. Page titles for student handouts are bolded.

It is assumed all student have access to graphing technology due to the advanced nature of the content.

ELPS have been included in the form of a student-friendly language objective.

An answer key is included for each activity.

Debriefing questions are included to assist the teacher with facilitating a post-activity



Each activity includes an opportunity for students to articulate and summarize their own learning.
A sentence frame is provided for students who may need language support.

Key learning outcomes from the debriefing discussion are summarized here.

Key learning outcomes from the Communicating about Mathematics section are included here.

Student Name: ______________________________ Date: ________________

Fly Advertisement

Take turns with your partner choosing a box to complete. Discuss your response with your partner. Continue until all boxes have been completed.

The Fly Advertisement Company prints and assembles aerial banners. The first table shows f, the function which can be used to determine the amount of nylon needed based on ℓ, the length of the banner. The second table shows g, the function which can be used to determine the time needed to print and assemble an aerial banner based on m, the amount of nylon used.

Area of Nylon Banners

Length Banner, ℓ (feet)	50	75	100	125	150	175	200	225	250
Nylon, $f(\ell)$ (square feet)	750	1125	1500	1875	2250	2625	3000	3375	3750

Time to Print and Assemble Banners

Nylon, m (square feet)	800	970	1150	1500	2200	2250	2900	3750	4500
Time, $g(m)$ (hours)	12	14.55	17.25	22.5	33	33.75	43.5	56.25	67.5

A What does $f(75) = 1125$ represent in the context of this situation?	**B** How do you know it will take 22.5 hours to print a banner that is 100 feet long?	**C** Estimate the production time for a banner that is 180 feet in length.
D Estimate the length of banner that takes 43.5 hours to print and assemble.	**E** Represent the production time for a banner 250 feet in length using a composite function.	**F** Evaluate $g(f(100))$.
G What is the production time for a banner that is 150 feet long?	**H** What does $g(2200) = 33$ represent in the context of this situation?	**I** How do you know a banner that takes 56.25 hours to print and assemble is 250 feet long?

Communicating about Mathematics

How does the composed function $g(f(\ell))$ help you relate the context to the questions asked?

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