

PROGRAM OVERVIEW

Unit Structure

All of the instructional units have common features. Each unit begins with a list of all the standards addressed in the topics and a list of one or more conceptual activities. Each unit also begins with a pre-assessment. Each topic begins with an overview of the standards addressed in the topic; Essential Questions; vocabulary (titled “Words to Know”); and a list of recommended websites to be used as additional resources.

Each lesson begins with a list of identified prerequisite skills that students need to have mastered in order to be successful with the new material in the upcoming lesson. This is followed by an introduction, key concepts, common errors/misconceptions, scaffolded practice problems, guided practice examples, a problem-based task with coaching questions and sample responses, a closure activity, and practice. Each topic ends with a progress assessment to evaluate students’ learning.

All of the components are described below and on the following pages for your reference.

Standards Correlations

In this section, you’ll find a comprehensive list of the Texas Essential Knowledge and Skills addressed in each lesson.

Conceptual Activities

Conceptual understanding serves as the foundation on which to build deeper understanding of mathematics. In an effort to build conceptual understanding of mathematical ideas and to provide more than procedural fluency and application, links to interactive open education and Desmos resources are included. (*Note:* These website links will be monitored and repaired or replaced as necessary.) These and many other open educational resources (OERs) are also accessible through the Learning Object Repository as separate objects that can be assigned to students.

Unit Pre-Assessment and Answer Key with TEKS

This can be used to gauge students’ prior knowledge and to inform instructional planning. The assessment is followed by an answer key that lists the Texas Essential Knowledge and Skills addressed by each problem.

Instructional Strategies

These research-based strategies are intended to provide additional support for teachers using Walch’s resources. Implementation guides for these instructional strategies can be found later in the program overview, while icons are located throughout the instructional resources to indicate appropriate strategies at the point of use. Inclusion of these strategies along with additional resources for English as a Second Language (ESL) students, SWD students, and struggling readers will provide teachers with a wide range of instructional support.

PROGRAM OVERVIEW

Unit Structure

Texas Essential Knowledge and Skills for the Topic

All standards that are addressed in the entire topic are listed.

Essential Questions

These are intended to guide students' thinking as they proceed through the lesson. By the end of each lesson, students should be able to respond to the questions.

Words to Know

A list of vocabulary terms that appear in the unit are provided as background information for instruction or to review key concepts that are addressed in the lesson. Each term is followed by a numerical reference to the first lesson in which the term is defined.

Recommended Resources

This is a list of websites that can be used as additional resources. Some websites are games; others provide additional examples and/or explanations. The links for these resources are live in the PDF version of the Teacher Resource. (*Note:* These website links will be monitored and repaired or replaced as necessary.) Each Recommended Resource is also accessible through Walch's cloud-based Curriculum Engine Learning Object Repository as a separate learning object that can be assigned to students.

Warm-Up

Each warm-up takes approximately 5 minutes and addresses either prerequisite and critical-thinking skills or previously taught math concepts.

Warm-Up Debrief

Each debrief provides the answers to the warm-up questions, and offers suggestions for situations in which students might have difficulties. A section titled Connection to the Lesson is also included in the debrief to help answer students' questions about the relevance of the particular warm-up activity to the upcoming instruction. Warm-Ups with debriefs are also provided in PowerPoint presentations.

Identified Prerequisite Skills

This list cites the skills necessary to be successful with the new material.

Introduction

This brief section gives a description of the concepts about to be presented and often contains some Words to Know.

PROGRAM OVERVIEW

Unit Structure

Key Concepts

Provided in bulleted form, this instruction highlights the important ideas and/or processes for meeting the standard.

Graphing Calculator Directions

Step-by-step instructions for using a TI-Nspire and a TI-83/84 are provided whenever graphing calculators are referenced.

Common Errors/Misconceptions

This is a list of the common errors students make when applying Key Concepts. The list suggests what to watch for when students arrive at an incorrect answer or are struggling with solving the problems.

Scaffolded Practice (Printable Practice)

This set of 10 printable practice problems provides introductory level skill practice for the lesson. This practice set can be used during instruction time.

Guided Practice

This section provides step-by-step examples of applying the Key Concepts. The three to five examples are intended to aid during initial instruction, but are also for individuals needing additional instruction and/or for use during review and test preparation.

Enhanced Instructional PowerPoint (Presentation)

Each lesson includes an instructional PowerPoint presentation with the following components: Warm-Up, Key Concepts, and Guided Practice. Selected Guided Practice examples include GeoGebra applets. These instructional PowerPoints are downloadable and editable.

Problem-Based Task

This activity can serve as the centerpiece of a problem-based lesson, or it can be used to walk students through the application of the standard, prior to traditional instruction or at the end of instruction. The task makes use of critical-thinking skills.

PROGRAM OVERVIEW

Unit Structure

Optional Problem-Based Task Coaching Questions with Sample Responses

These questions scaffold the task and guide students to solving the problem(s) presented in the task. They should be used at the discretion of the teacher for students requiring additional support. The Coaching Questions are followed by answers and suggested appropriate responses to the coaching questions. In some cases answers may vary, but a sample answer is given for each question.

Recommended Closure Activity

Students are given the opportunity to synthesize and reflect on the lesson through a journal entry or discussion of one or more of the Essential Questions.

Printable Practice (Sets A and B) and Interactive Practice (Set A)

Each lesson includes two sets of practice problems to support students' achievement of the learning objectives. They can be used in any combination of teacher-led instruction, cooperative learning, or independent application of knowledge. Each Practice A is also available as an interactive Learnosity activity with Technology-Enhanced Items.

Topic Progress Assessment and Answer Key with TEKS

Each topic ends with 10 multiple-choice questions, as well as one extended-response question that incorporates critical thinking and writing components. This can be used to document the extent to which students grasp the concepts and skills addressed during instruction. The answer key that follows correlates each problem to the targeted Standard(s).

Answer Key

Answers for all of the Warm-Ups and practice problems are provided following each unit.

Unit Assessment and Answer Key with TEKS

Each unit ends with 12 multiple-choice questions and three extended-response questions that incorporate critical thinking and writing components. This can be used to document the extent to which students grasped the concepts and skills of each unit. Targeted TEKS are listed in the answer key.

Performance Task

Selected units include an extension activity to provide students with opportunities to practice, reinforce, and apply mathematical skills and concepts to a real-world task.