



ThinkUp!™

MATH

Summer School
Framework

Suggested Summer School Framework Using Components of *ThinkUp! Math*

Framework Component	Teacher Edition Component	Student Edition Component	Teacher Toolbox
Pre-Assessment			
Vocabulary Mastery	Vocabulary Activity Vocabulary Formative Assessment	Vocabulary Mastery	
Journal		Focus on 9 Traits for Critical Thinking (anticipatory set) Reflection on My Learning (closure/follow-up)	
Spiral Content/ Numerical Fluency		Review of previously instructed content from Concept Application or Concept Practice	
TEKS Instruction	Concept Application/ Concept Practice Prompts	Concept Development Concept Application (guided instruction) Concept Practice Concept Check	
Manipulatives/ Hands-on	Concept Development Activities Intervention Activities	Motivation Station	
Exit Ticket	Concept Development Formative Assessment Intervention Formative Assessment		
Post-Assessment			Benchmark Assessments

Suggested Summer School Framework Using Components of *ThinkUp! Math* : Plan A

<p>TEKS Introduction 10 – 15 minutes</p>	<p>Learning Targets (Student Edition)</p> <ul style="list-style-type: none"> • Offers student outcomes for unit • Written in student-friendly language
<p>Vocabulary Activity 10 – 15 minutes</p>	<p>Vocabulary Mastery Activity (Teacher Edition)</p> <ul style="list-style-type: none"> • Identifies essential math terms for unit • Reinforces the meaning of vocabulary terms • Interactive design with a variety of groupings
<p>Journal 20 – 30 minutes</p>	<p>Focus for the 9 Traits of Critical Thinking (Student Edition – anticipatory set)</p> <ul style="list-style-type: none"> • Supports integration of two critical thinking traits • Offers students two thinking and learning prompts related to unit concepts • Designed as a writing prompt or discussion prompt <p>Reflection on My Learning (Student Edition – closure/follow-up)</p> <ul style="list-style-type: none"> • Provides a constructed response question prompt • Allows students to reflect on unit concepts and make connections to other math concepts, to other content areas, or to everyday life
<p>Initial TEKS Instruction 15 – 20 minutes</p>	<p>Concept Development (Student Edition)</p> <ul style="list-style-type: none"> • Offers brief explanation of unit concepts • Provides short, open response practice items • Designed for whole group or small group discussion
<p>Hands-on/ Manipulative Activities 20 – 30 minutes</p>	<p>Concept Development (Teacher Edition)</p> <ul style="list-style-type: none"> • Provides activities to instruct on unit concepts • Encourages interactive experiences and discussions • Reinforces student edition Concept Development component
<p>TEKS Application 30 – 40 minutes</p>	<p>Concept Application (Student Edition)</p> <ul style="list-style-type: none"> • Provides problems for practice and discussion • Designed to be done flexibly (partners, small group, whole group) followed up with whole group discussion <p>Concept Application/Concept Practice (Teacher Edition)</p> <ul style="list-style-type: none"> • Designed as a follow-up to student edition Concept Application page • Offers examples of guiding questions for item reviews • Stimulates discussion and identification of misconceptions <p>Concept Check (Student Edition)</p> <ul style="list-style-type: none"> • Assesses mastery of the unit concepts • Provides practice with questions formatted to STAAR Redesign
<p>Formative Assessment/ Exit Ticket 10 – 15 minutes</p>	<p>Concept Development Formative Assessment (Teacher Edition)</p> <ul style="list-style-type: none"> • Offers an idea to assess student understanding • Allows opportunities for feedback and discussion • Identifies areas in need of targeted reinforcement

Suggested Summer School Framework Using Components of *ThinkUp! Math* : Plan B

<p>TEKS Introduction 10 – 15 minutes</p>	<p>Learning Targets (Student Edition)</p> <ul style="list-style-type: none"> • Offers student outcomes for unit • Written in student-friendly language
<p>Vocabulary Activity 10 – 15 minutes</p>	<p>Vocabulary Mastery Activity (Teacher Edition)</p> <ul style="list-style-type: none"> • Identifies essential math terms for unit • Reinforces the meaning of vocabulary terms • Interactive design with a variety of groupings
<p>Journal 20 – 30 minutes</p>	<p>Focus for the 9 Traits of Critical Thinking (Student Edition – anticipatory set)</p> <ul style="list-style-type: none"> • Supports integration of two critical thinking traits • Offers students two thinking and learning prompts related to unit concepts • Designed as a writing prompt or discussion prompt <p>Reflection on My Learning (Student Edition – closure/follow-up)</p> <ul style="list-style-type: none"> • Provides a constructed response question prompt • Allows students to reflect on unit concepts and make connections to other math concepts, to other content areas, or to everyday life
<p>Initial TEKS Instruction 15 – 20 minutes</p>	<p>Concept Development (Student Edition)</p> <ul style="list-style-type: none"> • Offers brief explanation of unit concepts • Provides short, open response practice items • Designed for whole group or small group discussion
<p>Workstation/ Rotation 50 minutes</p>	<p>Concept Development Activities (Teacher Edition)</p> <ul style="list-style-type: none"> • Provides hands-on activities to instruct on unit concepts • Encourages interactive experiences and discussions • Reinforces student edition Concept Development component <p>Concept Practice (Student Edition)</p> <ul style="list-style-type: none"> • Offers practice for the standards concepts • Applies concepts discussed in Concept Development <p>Intervention (Teacher Edition)</p> <ul style="list-style-type: none"> • Offers practice for the standards concepts. • Reinforces unit concepts using an interactive instructional approach • Scaffolds unit concepts with concrete ideas • Allows for discussion of concepts
<p>TEKS Application 30 – 40 minutes</p>	<p>Concept Application (Student Edition)</p> <ul style="list-style-type: none"> • Provides problems for practice and discussion • Designed to be done flexibly (partners, small group, whole group) followed up with whole group discussion <p>Concept Application/Concept Practice (Teacher Edition)</p> <ul style="list-style-type: none"> • Designed as a follow-up to student edition Concept Application page • Offers examples of guiding questions for item reviews • Stimulates discussion and identification of misconceptions <p>Concept Check (Student Edition)</p> <ul style="list-style-type: none"> • Assesses mastery of the unit concepts • Provides practice with questions formatted to STAAR Redesign
<p>Formative Assessment/ Exit Ticket 10 – 15 minutes</p>	<p>Concept Development Formative Assessment (Teacher Edition)</p> <ul style="list-style-type: none"> • Offers an idea to assess student understanding • Allows opportunities for feedback and discussion • Identifies areas in need of targeted reinforcement

Flexible Usage of *ThinkUp! Math*

Whole group and small group discussions of the concepts can be powerful tools for learning and for identifying errors in thinking. During the instructional phase, *ThinkUp! Math* may be utilized more flexibly in ways that foster conversation and discussion. The initial instruction of the material provides an interactive approach. Then, the problems may be assigned later to provide more individualized information regarding student understanding.

Four Corners:

- Label corners of classroom A, B, C, D
- Project one question from Concept Application, Concept Practice, or Concept Check
- Instruct students to solve the problem, then move to the corner that aligns with their answer
- Have students justify their answer with other group members
- Share justifications with the class and discuss what makes an answer correct or incorrect
- Repeat process with other questions

Around the Room:

- Divide students into groups of 3–4
- Provide each group a different problem from Concept Application, Concept Practice, or Concept Check written on butcher paper
- Allow students to work together to solve the problem, being sure to show their work
- Display the problems on the walls around the room
- Provide each group with sticky notes
- Have students rotate through the room analyzing solutions to the problem and providing feedback on their sticky note (e.g., This is the correct answer. I solved this a bit differently by... The product of 12×12 is 144, not 140.)
- Guide a discussion related to the feedback provided by each group

Luck of the Draw:

- Place an equal number of problems on paper in a small container
- Divide students into pairs or groups and allow them to choose a problem
- Explain that each group will be the teacher for their problem
- Allow time for groups to solve each problem
- Call one group at a time to show how they solved their problem and justify their answer
- Provide feedback related to problem-solving process
- Offer corrections for misconceptions noted during discussion

Agree or Disagree:

- Have students form a circle
- Post a problem with a solution that includes all work (solved either correctly or with errors)
- Instruct students who agree with the solution to form a circle in the center while those that disagree remain in the outer circle
- Allow students an opportunity to discuss their justification about the solution to the problem
- Share thoughts as a whole group
- Correct misconceptions or misunderstandings during whole group discussion