



TWISTED PICTURES

Teacher Manual

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Goals/Objectives

English Language Arts Standard	Students will build reading comprehension skills by selecting the sentence that best describes a given picture.
Language/ Reading Skills	Students will... <ul style="list-style-type: none">• understand the structural features of the English language, including syntactic features like word order and parts of speech, and morphological features like prefixes, suffixes, plurals, and subject-verb agreement (English grammar)• read texts with accuracy, appropriate rate, and expression to support comprehension (fluency)• clarify the meaning of unknown words using strategies such as morphemic and contextual analysis (word learning strategies)• read texts independently, with minimal to no assistance (independent reading)
Reading Comprehension Skills	Students will recognize whether they understand what they are reading, and if necessary, to take steps to repair their comprehension before continuing to read (monitoring comprehension).
Cognitive Skills	Students will... <ul style="list-style-type: none">• hold a phrase or sentence in working memory while comparing it to a picture (memory)• focus on specific information, sustain that focus, and ignore distractions while carrying out a task (attention)• rapidly interpret visual information to identify written words as well as details within a picture (processing)• use the order of words to identify subtle differences in meaning among phrases and sentences (sequencing)
Social-Emotional/ Executive Function Skills	Students will... <ul style="list-style-type: none">• increase selective attention to detail• reduce working memory demands by building long term memory representations of complex syntactic structures• increase confidence in reading texts with more complex syntax than typically found in spoken language• enhance motivation for tasks requiring attention to detail• increase self-regulation

Icon Key



Audio



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English Learner



Quick Check

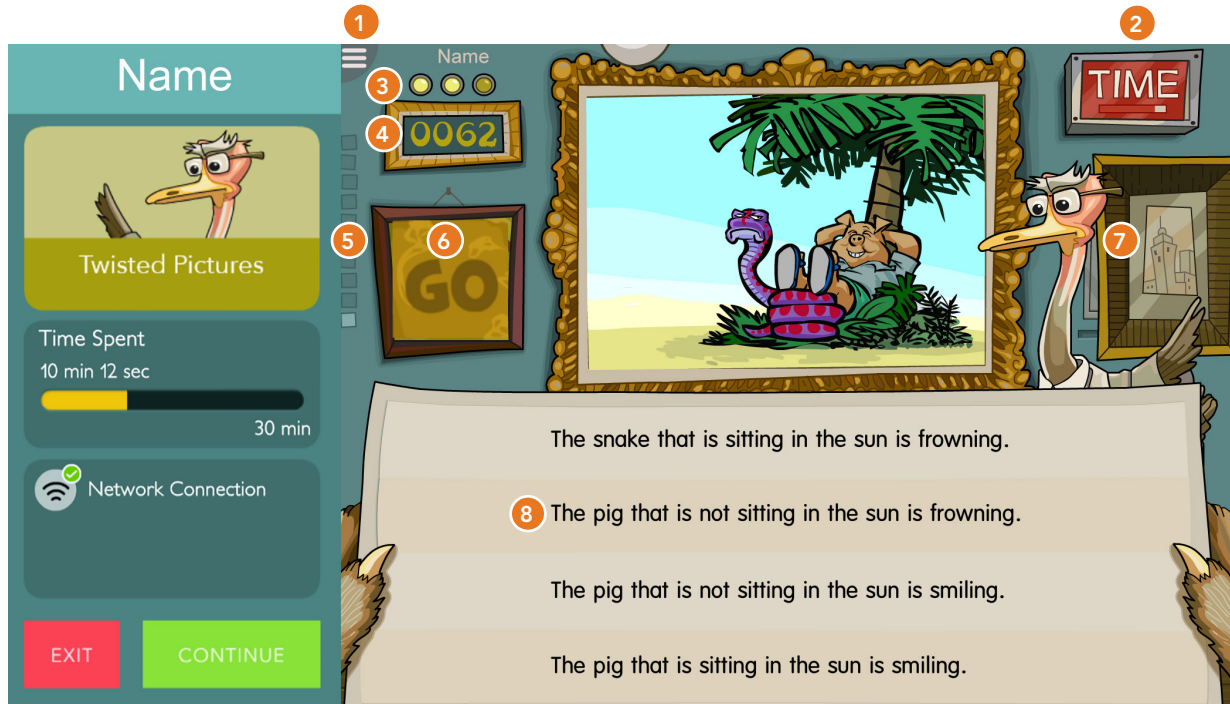


Settings



Video

Exercise Screen



1 Menu

Shows:

- Time Spent / Time Scheduled for the exercise.
- Network connection status.
- Exit: Returns student to the Assignments screen.
- Continue: Returns student to the exercise.

2 Time

Bar fills in from left to right to show time spent in the exercise.

3 Current Streak

A set of lights above the scoreboard illuminate to show the current number of consecutive correct answers. Resets after 3 correct in a row or an incorrect answer.

4 Points

Shows total points awarded across all of today's sessions.

- Correct answers: 7 points for each correct answer.
- Bonus points: 20 points after 10 correct answers
- High score: Animates when the student surpasses the highest score ever achieved in one session.

5 Progress Meter

Tracks and celebrates every 10% of exercise content completion.

6 Go Button

Presents a question.

7 Number of Streaks (Art thief)

The art thief makes an appearance, after the student makes a 3-in-a-row streak. At first, a mysterious egg is lowered from the roof. After 13 streaks the thief opens the safe and jumps inside, but then becomes trapped with the loot

8 Answer Buttons (Lines in notebook)

Presents possible answers on 4 lines on the museum guide book.

Exercise Overview

Task

In Twisted Pictures, the student views a picture and reads four phrases or sentences, written in the museum guide book, below. The student must choose the phrase or sentence that correctly describes something in the picture.

Content

Progression

Students progress through increasingly difficult groups of phrases and sentences. There are three levels of reading difficulty (vocabulary level and sentence length).

Vocabulary Level	Average Sentence Length	Maximum Sentence Length
2nd Grade Sentences	6 words	10 words
3rd Grade Sentences	8 words	12 words
4th Grade Sentences	12 words	18 words

Increasing the reading level of the text increases the attentional and memory demands of the task as the student demonstrates mastery of the content. Within each of these levels, 17 grammatical structures are presented in random order.

Exercise Overview

Grammatical Structure	Sample Sentences
Predicative Adjectives	The girl is tall.
Active Voice	The girl follows the kitten.
Simple Negation	The girl is not happy.
Predicate Prepositional Phrases	The box is under the table.
Coordinating Conjunctions	The girl is sitting and happy.
Subject Relative Clauses	The girl that is happy is tall.
Reduced Subject Relative Clauses	The boy jumping is happy.
Subject Relativization with Negation	The boy that is not crying is tall.
Complement Infinitive Clauses	The boy wants to go.
Passive Voice	The kitten is followed by the girl.
Sentences with Subject Relative Clauses and Ambiguous Endings	The girl that follows the boy is short.
Sentences with Reduced Subject Relative Clauses and Ambiguous Endings	The girl following the boy is angry.
Double Embedding	The boy who chases the girl who is tall has red hair.
Object Relative Clauses	The boy chases a girl who is short.

Did you know?

As children learn to read, they depend on their knowledge of spoken language to support their reading comprehension. However, written language typically contains more complex and diverse sentences than spoken language.¹ For this reason, learning complex sentence structures (syntax) is very important for reading comprehension. As texts become increasingly complex, reading comprehension puts increasing demands on cognitive processes including working memory, attention, and fluid reasoning. Language scientists have shown that working memory plays a vital role in reading. It enables the reader to remember what they have already read while simultaneously processing, and incorporating new information. Working memory capacity is limited, but it can be supported by long term memory. When syntactic knowledge is readily available in long term memory, reading complex texts puts less of a strain on working memory and attention.² Twisted Pictures is an intensive language-based reading exercise that systematically builds comprehension for a variety of sentence structures, from simple to complex. This approach is consistent with the focus recommended by leading language scientists on best methods for enhancing “discovery/learning, long-term retention, and activation of difficult sentence patterns”.²

¹ Sorenson Duncan, T., Mimeau, C., Crowell, N., & Deacon, S. H. (2021). Not all sentences are created equal: Evaluating the relation between children’s understanding of basic and difficult sentences and their reading comprehension. *Journal of Educational Psychology, 113*(2), 268.

² Montgomery, J. W., Gillam, R. B., & Evans, J. L. (2021). A New Memory Perspective on the Sentence Comprehension Deficits of School-Age Children With Developmental Language Disorder: Implications for Theory, Assessment, and Intervention. *Language, Speech, and Hearing Services in Schools, 52*(2), 449-466.

Facilitate and Encourage

Introduce

Engage

To introduce this exercise to your students, start by saying: [Today, we are going to practice identifying the sentence that best matches a picture.](#) Display a picture of a student walking. Next, display the three sentences: the student is walking, the student is sleeping, and the student is skipping. Ask: [Which phrase best matches the picture?](#) Read the response options aloud as you point to each sentence. Confirm the correct response by saying: [the student is walking.](#) After the correct response is confirmed, allow the students to come up with other correct and silly/incorrect answers.

Demo

1. Say: [Today, we're going to practice selecting the sentence that best matches the picture. Together, we'll work on an exercise called Twisted Pictures. I'll get us started, and then I'd like for you to try.](#)
2. Project the "Introduction - English or Spanish" demo for Twisted Pictures.
3. Follow along with the demo, which explains how the exercise works.
 - Describe the details you see in the picture.
 - Then, read the four sentences to choose from.
 - Explain which one is the best match and how you ruled out the other options.
 - Click the correct answer.
4. Keyboard shortcuts:
 - Go button = Space bar
 - Possible answers (top to bottom) = Number keys 1 - 4

Direct students to log in and work individually on the Scrap Cat Demo for approximately 10 minutes. This time period mimics the timing of the exercise once it's assigned. Debrief with students to ensure they understand the task and objective of the exercise. Ask: [What did you notice?](#) Have students share anything that they have questions about.



Twisted Pictures includes instructional audio for the exercise introduction and instructions. By default, these are presented in English. You can, however, select Spanish instructions for all, some, or individual students on the Manage page in mySciLEARN.

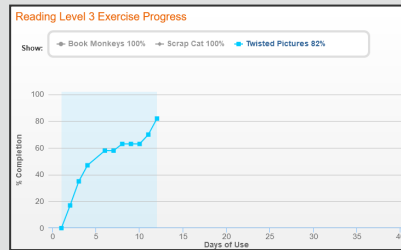
Monitor Student Progress

Review Twisted Pictures reports regularly to monitor student progress. Use the data to determine which students are succeeding and which students might be struggling to make progress.

Where to look...

PROGRESS: Reading Level 3 Exercise Progress - Twisted Pictures

The colored line shows student progress and their percent complete. Each dot indicates a day the student worked on the exercise.



What to look for... what it means

Is the line going up?

The student is completing content accurately and making progress.

Is the line flat across several dots?

The student may be struggling and you need to find out why.

Are there long lapses between dots?

The student may be skipping this exercise.

USAGE: Usage Details - Schedule

Schedule		Minutes/Questions	Start Time	Total Minutes
Days of Use	Date	Book Monkeys	Scrap Cat	Twisted Pictures
10	11/05/2021	●	●	●
9	11/04/2021	●	●	●
8	11/03/2021	●	●	●
7	11/02/2021	●	●	●
6	10/28/2021	●	●	○
5	10/27/2021	●	●	●

Schedule

See if the student has met their daily schedule, and check what's planned for the next few days:

- Time completed
- Time not completed
- Exercise Skipped
- Planned for day

Do you see half-filled gray circles?

The student is working on this exercise, but not meeting the scheduled time. Make sure that they have time to complete their daily schedule. If fatigue is an issue, add some breaks to their schedule.

Do you see red circles?

The student is skipping this exercise. Provide support to help them re-engage.

USAGE: Usage Details - Minutes/Questions

Schedule		Minutes/Questions		Start Time		Total Minutes	
Days of Use	Date	Book Monkeys Min	Book Monkeys Ques	Scrap Cat Min	Scrap Cat Ques	Twisted Pictures Min	Twisted Pictures Ques
10	11/05/2021	12	81	8	93	10	31
9	11/04/2021	12	70	8	100	10	25
8	11/03/2021	12	81	8	88	10	53
7	11/02/2021	12	71	8	97	10	46
6	10/28/2021	12	64	8	88	7	39
5	10/27/2021	12	41	8	93	10	38
4	10/26/2021	12	70	8	95	10	42
3	10/22/2021	9	49	0	-	0	-
2	10/21/2021	0	-	8	95	6	25
1	10/20/2021	12	54	8	85	10	37

Are many days highlighted in red?

The student is not meeting their daily schedule. Check the Schedule tab in this report to investigate further.

Is the student answering fewer questions than usual?

They may be distracted or losing focus. In comparison to their previous activity, a low number of questions to minutes may indicate the student is not applying themselves to the task.

Is the student answering more questions than usual?

They may be rushing. In comparison to their previous activity, a high number of questions to minutes may indicate that the student is trying to amass points or progress through the content without actually learning it. Remind them that making progress depends on accuracy, not speed.

Facilitate and Encourage

Where to look...

PROGRESS: Progress Details - Twisted Pictures

The screenshot shows a progress monitoring chart for 'Twisted Pictures' as of 0/22/2021. A legend indicates: a green checkmark for 'Complete, advancement criteria met'; two green bars for 'In progress: completed / total'; a grey bar for 'Not started'; and two red bars for 'Advancement criteria not met'. The chart lists progress for 2nd, 3rd, and 4th Grade Sentences. 2nd Grade Sentences is complete (91%, 68 questions). 3rd Grade Sentences is in progress (75%, 68 questions). 4th Grade Sentences is in progress (88%, 9 questions).

Grade Level	Progress Status	Percent Correct	Questions
2nd Grade Sentences	Complete, advancement criteria met	91%	68
3rd Grade Sentences	In progress: completed / total	75%	68
		89%	68
		82%	68
		88%	68
4th Grade Sentences	In progress: completed / total	47%	68
		88%	9

Percent Correct

To make progress, students must correctly answer 90% of the questions in a group.

Questions

Each group in Twisted Pictures has 68 questions divided equally across 17 different grammatical structures (4 questions per structure).

What to look for... what it means

Are there red bars under Progress?

To pass a group, a student must correctly answer at least 62 of the 68 questions (90%). Red bars indicate that the student did not pass the group and will repeat the content. Make sure that the student remains focused and motivated.

When a level is repeated, does Correct increase?

The student has mastered more of the content at this level and is making progress.

When a level is repeated, does Correct stay the same, or decrease?

The student is not learning from their mistakes, or is losing focus. Remind them to think about the corrective feedback to better understand why their answer was wrong before moving on to the next question. Check the Errors section of this report to determine where the student needs additional support.

Is Correct below 70%?

The student may be struggling with the task. See the "Adjust Instruction/Intervene" section in this teacher manual for suggestions on supporting struggling students.

Has the student repeated a level too many times without passing?

Typically, students will pass a group within three or four attempts. A student who has not passed a group within four attempts may be struggling. See the "Adjust Instruction/Intervene" section in this teacher manual for suggestions on supporting struggling students.



Reading Level 3 Progress Monitoring Chart in [Student & Teacher Resources](#)

Adjust Instruction/Intervene

Differentiation Activities

Differentiating instruction requires continually striving to know and to respond to each student's needs in order to maximize learning. Use the data in Twisted Pictures reports to adjust instruction to meet each student's needs and respond to variance among learners. The activities below are suggestions to support students who might be struggling with their progress in Twisted Pictures.



Does the student understand the exercise goal/task?

After initially reviewing the exercise goal/task with the student, if the student is demonstrating difficulty, consider clarifying the instructions, setting a goal based on student area of need, and modeling and practicing self-monitoring to encourage accuracy, confidence, and independence.

- First, start by setting a clear goal:
 - Set a goal in student-friendly language prior to beginning the exercise. The goal should be positively stated, written using clear and concise language, and be observable and measurable.
 - Review the goal with the student and check for understanding.
- Next, introduce and model how the student will monitor their goal:
 - Choose or create a self-monitoring chart for students to track their progress (aligned with the Reading Level 3 Progress Monitoring Chart found in Teacher Resources). Use the chart to motivate, encourage, and allow the student to practice self-monitoring. Include the goal on the self-monitoring chart.
 - Explain and model the steps needed to complete and interpret the self-monitoring chart.
 - Practice completing and interpreting the self-monitoring chart with the student.
- Then, clarify the expectations by modeling and reviewing the specific steps required to complete the exercise:
 - Review the steps of the activity with the student.
 - Model or explain the steps of the activity.
 - Practice completion of the task with the student.
 - Encourage the student to explain or show you how to complete the task.
 - Monitor independent practice and provide feedback and prompts as needed.

Facilitate and Encourage



Is the student on task and engaged with the activity?

When a student is struggling to stay on-task and engaged, consider the strategies below as a starting point to increasing student engagement.

- Adjust the pacing or duration of instruction.
- Provide built-in breaks and allow the student to request breaks as needed. Involve the student in determining their preferred and most successful work schedule. Some students prefer longer work periods and longer breaks while others prefer shorter work periods and more frequent breaks. Adjust as needed to increase student momentum, success, and confidence.
- Consider student motivation. Motivation can be intrinsic and extrinsic. How to motivate the student is largely dependent on their learning needs, preferences, and reinforcers. Student observation, reinforcer surveys, rapport building, and parent and student questionnaires can be helpful in determining how to increase student motivation.



Are there words in the phrases or sentences that the student doesn't know?

- Have the student write down any unfamiliar words.
- Define and review key vocabulary used in the task.
- Display key vocabulary words and definitions.
- Promote student practice with vocabulary sentence strips, guided-notes, response cards, or note cards.



Is the student struggling to identify details within a picture?

Gather a set of images that display clear events, social interactions, or multiple objects. Show one image at a time. Take turns describing the different characters, activities, and details in each picture.

- Model and prompt students to identify small details and relationships.
- To increase engagement, use cartoons or funny pictures.



Is the student struggling to match the correct sentence to the picture?

- Have each student draw their own picture and then write one to three sentences that describe the picture. You can use the Twisted Pictures Picture Description Worksheet in [Student & Teacher Resources](#).
- Gather a set of images that display clear events, social interactions, or multiple objects. Show one image at a time. Make up a few sentences that correctly or incorrectly describe the picture. After each sentence, have students give a thumbs up if the sentence matches the picture and a thumbs down if it does not. Ask the students to explain their reasoning.
 - To increase engagement, use images from a favorite story or that relate to a favorite character or hobby.

Facilitate and Encourage

Adjust Instruction/Intervene

Student Resources

You may decide to use the following worksheets with your students:



Twisted Pictures Picture Description Worksheet in [Student & Teacher Resources](#)



Reading Level 3 Completion Chart in [Student & Teacher Resources](#)

Students can self-monitor their progress in each Reading Level 3 exercise by filling in the bar each day with their actual completed percentage. This provides students with an overall view of how much content they've completed compared to how much they have left to do. Students will need one copy.