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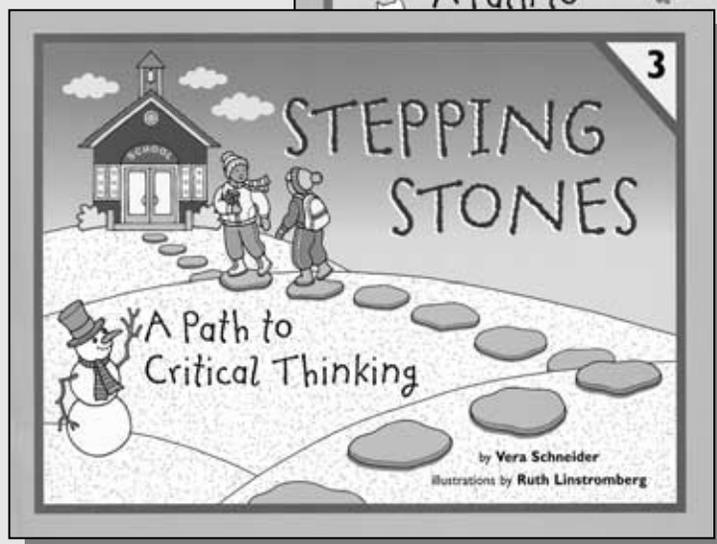
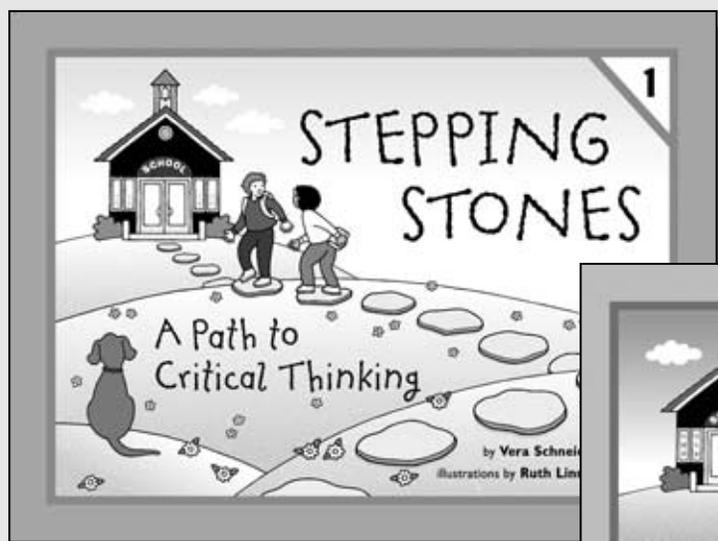
STEPPING STONES

GRADES K-2

Develop critical thinking skills in K-2 students

FREE Lessons ONLINE

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STEPPING STONES

What is *Stepping Stones*?

Well-developed critical thinking skills are essential for students to become independent thinkers and effective problem solvers. Throughout their lives, students need to be able to evaluate information, determine what is important, and come up with their own solutions. *Stepping Stones* introduces young students to the foundations of critical thinking, giving them the tools they need to excel across the curriculum.

The three books in *Stepping Stones*, for grades K–2, include a variety of activities to promote effective problem solving and develop critical thinking. Students begin with solving patterns by drawing the next logical picture in a sequence (*Stepping Stones 1*). These exercises incorporate math, visual discrimination, sound-symbol relationships and other phonetic skills and can be done even with pre-readers. As students progress in their critical thinking abilities and develop stronger reading skills, they move into more complex puzzles and word problems (*Stepping Stones 2* and *3*). These exercises include completing inference statements, sequencing, and logic problems. Comprehensive teacher’s guides provide input on how to introduce and reinforce the critical thinking process and include answer guides.

The types and format of the exercises vary across the three books in the *Stepping Stones* series, but all of them work on the following core competencies.

Features for You	Benefits for Your Students
Puzzles and exercises promote different strategies for finding solutions	Students learn to be effective problem solvers and master a variety of problem solving strategies
Open-ended puzzles often have more than one possible answer	Students learn to defend their thinking and evaluate and constructively critique the thinking of their peers
Variety of exercises and answers require creative thinking	Exercises cater to students with various learning styles and multiple intelligences
Students are encouraged to share different answers to the same puzzle	Activities promote effective classroom discussion and teach students to respect the ideas of their peers
Puzzles require that students read critically and understand relationships between objects and ideas	Exercises promote thinking on various levels and encourage students to look at problems from multiple perspectives
Perforated pages make it easy for students to take work home	Exercises and activities can be used to encourage family involvement and extend classroom learning

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Scope and Sequence

Stepping Stones follows a logical progression from visual analysis in Book 1 to reading-based analysis in Book 2 to problem-solving analysis in Book 3.

In Book 1, students are faced with 41 pattern-completion picture puzzles that include the following pattern types: *aa, abab, abc, aab*, and *abcd*.

Some puzzles require students to identify two pattern types embedded in the same sequence.

★ Download a free ready-to-use lesson from Book 1 (grade K) at www.epsbooks.com/SteppingStones

In Book 2, students work on six different types of puzzles:

1. Warm-up Exercises: students must eliminate one picture that does not belong in a set of four
2. Sentence Completions: students complete a sentence by choosing a pictured answer or drawing in one of their own
3. Inference Statements: students read a series of three or four short sentences and determine whether the last sentence is true or false
4. Inference Questions: students read a series of two or three short sentences followed by a short question and determine whether the answer to the question is *yes* or *no* or whether they have enough information to answer the question
5. Sequencing Activities: students evaluate a sequence of events to determine whether it is logical or not
6. Logic Problems: students choose a picture answer or write their own answers to short logic problems

★ Download a free ready-to-use lesson from Book 2 (grade 1) at www.epsbooks.com/SteppingStones

In Book 3, students first work through closed Warm-up Exercises that focus on comprehension of major curriculum areas. They then move on to open-ended, task-based puzzles that give them a set of information that they must use to solve a problem.

★ Download a free ready-to-use lesson from Book 3 (grade 2) at www.epsbooks.com/SteppingStones

All three books draw on skills from the major curriculum areas studied in grades K–2. The skills in *Stepping Stones* include:

Language Skills

Alphabet sequencing
Beginning sounds
Capital and lowercase letters
Compound words
Comprehension
Encoding
Ending sounds
Letter recognition
Letter-sound association
Listening
Punctuation
Rhyming
Singular and plural noun forms
Syllables
Verb tenses
Vocabulary

Social Studies

Community helpers
Geography

Math Skills

Counting (rote, skip)
Equations
Even and odd numbers
Graphs
Lines
Measurement
Money
Numeral recognition
Ordinal numbers
Patterns
Sets
Shapes
Time

Science Concepts

Animals
Colors
Float
Invention and design
Living/nonliving
Nutrition
Plants
Seasons
Sink
Space
Temperature
Textures
Tools
Weather

Concept Words

In, Out
On
Above, Below
Behind
Beneath
Beside
Between
Beyond
Opposite
Right side up
Upside down
Up
Down
Before
After
Right
Left
Same
Different
Similar
Fewer
Least
More
Top
Bottom

How do I fit Stepping Stones into my curriculum?

Stepping Stones can be used by whole classrooms, one-on-one, or by cooperative teams of students. The puzzles can be assigned as a weekly exercise to be done on a student's own time, sent home as homework, or used as the basis for a whole-class lesson. The puzzles make good morning warm-ups as well. The diversity of exercises and subjects makes it easy to incorporate *Stepping Stones* into lessons you are already using or to develop new lessons around the puzzles.

Mini-lesson with Stepping Stones



Here is a mini-lesson that you can try with your students. Download and print Book 2 (grade 1) ready-to-use lesson from *Stepping Stones* at www.epsbooks.com/SteppingStones and follow the mini-lesson plan below.

Time: 30-40 minutes
Grade Level: 1

Student Objective	Materials Needed
Students will work in small groups and use critical thinking skills to solve a variety of word problems. Students will then illustrate examples to defend their answers.	<i>Stepping Stones</i> ready-to-use sample Deck of cards Class set of page 2 of <i>Stepping Stones</i> ready-to-use sample Scissors Blank paper or chart paper Crayons or markers

Instructional Plan

- Using pages 3 and 4 of the *Stepping Stones* ready-to-use sample, cut apart the word problems along the dotted line, leaving you with 6 problem strips.
- Pass out a copy of page 2 from the *Stepping Stones* sampler to each student. Write the words "Critical Thinking" on chart paper or a white board. Read the words out loud and ask students what they think "Critical Thinking" means. Write down their responses under the heading. Explain to students that critical thinking means looking very carefully and thinking very hard about the solutions to different types of problems. Also explain that critical thinking exercises often have more than one right answer and different students will have different responses.
- Read the problem on page 2 aloud and ask students to fill in their answer and raise their hand when they finish. When all students are finished, ask volunteers to give their answers. If students drew in their own answer, have them come up to the board and draw their answer there as well. Once several students have shared their answers, discuss the different perspectives aloud. Point out the pictures on the board (drawn by students) and talk about why each one is or is not an appropriate solution. Be sure to allow the students who drew the pictures to defend their answers.
- Using the deck of cards, pull out only the kings, queens, jacks, aces, ones, and twos (24 cards total). Pass the cards out randomly to students (one card per student). Students should find their matching partners to form small groups of 4. Pass out one of the problem strips (see step 1) to each small group. You may need to modify the grouping if you have more than 24 students. Provide each group with a piece of chart paper and crayons or markers.
- Ask students to work in their small groups to solve their problems and then illustrate their answers on the chart paper. For example, if the students said that Anna does not have to be a basketball player (problem 1, page 3), they may want to illustrate other people who are tall and who are not basketball players to defend their solution.
- When all the groups are done, ask each group (or a representative from each group) to come up and read their problem aloud and share their solution with the class. Allow other students to ask questions.
- When students are done sharing, tell them that you are going to post a challenge problem, which they can solve when they have free time. Post page 5 of the *Stepping Stones* sampler in a prominent area of the classroom. Be sure to give students the answer to the problem and discuss at the end of the day (or some other designated period of time).

Stepping Stones Book I

Recommended for Kindergarten

Ready-to-use Lesson online

Download a free ready-to-use lesson from Book I (grade K) at www.epsbooks.com/SteppingStones

Open-ended puzzles encourage creativity and independent thinking.

Name _____

Date _____

What comes next? Continue the pattern.



24

Puzzle content spans the curriculum.
Suggested answer: a clock on the hour.

Stepping Stones Book I

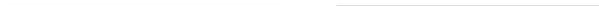
Recommended for Kindergarten

Engaging line art is inviting and welcoming to students.

Name _____

Date _____

What comes next? Continue the pattern with two pictures.



26

Critical reading skills—such as beginning and ending sounds—are reinforced.

Suggested answer: student fills in next two in series: first something that ends in *t*, then something that begins with *t*

Stepping Stones Book 1

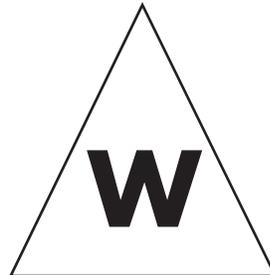
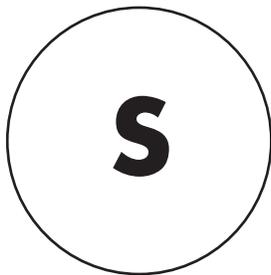
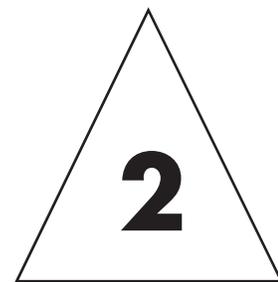
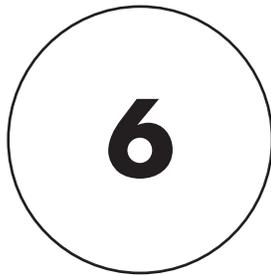
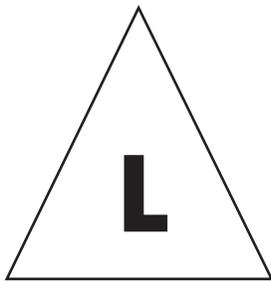
Recommended for Kindergarten

Puzzles become progressively more difficult, requiring more abstract thinking. Later puzzles feature two types of patterning, here *abc* and *ab*.

Name _____

Date _____

What comes next? Continue the pattern.



36

Suggested answer: an even number in a circle

Stepping Stones Book 2

Recommended for grade 1

Ready-to-use Lesson online

Download a free ready-to-use lesson from Book 2 (grade 1) at www.epsbooks.com/SteppingStones

Warm-up Exercises review concepts from Book 1 and prepare students for upcoming tasks.

Name _____

Date _____

**Cross out the item that does not belong in each set.
How did you make your choice?**

1



two



seven



five



star

2



ham



bell



well



tell

3



hand



foot



ear



pants

3

Focus switches to reading: text is included below pictures.

Suggested answers:
1. star (not a number)
2. ham (does not rhyme with other words)
3. pants (not a body part)

Stepping Stones Book 2

Recommended for grade 1

Sentence Completions push students to read critically.

Space is provided for individual answers, leaving the door open for their creative independent thinking.

Name _____

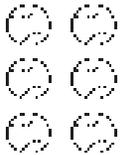
Date _____

Circle an answer or draw one of your own. Think about the pictures and the words carefully before you choose your answer.

There were three balls under the tree.

There were five balls under the fence.

There were _____ balls under the steps.



six balls



one ball



four balls



two balls

Suggested answer: six balls; rationale: *six* and *steps* both start with *s*

Stepping Stones Book 2

Recommended for grade 1

Inference Statements introduce students to *if... then* reasoning.

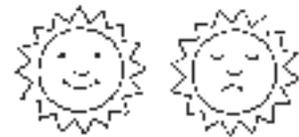
Name _____

Date _____

Color the happy face if the last sentence is probably true.
Color the sad face if the last sentence is probably false.

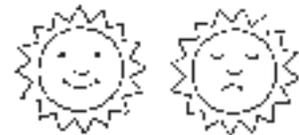
1

Pizza has cheese on it.
Jim is eating cheese.
Jim must be eating pizza.



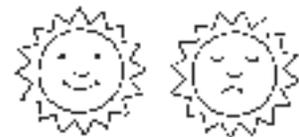
2

In the alphabet, *G, H, I* comes before *Q, R, S*.
The missing letter comes before *Q, R, S* and it is not *G* or *I*.
The missing letter must be *H*.



3

Teeth are for chewing food.
Combs have teeth.
Combs must eat.



37

Work with the concepts of true and false is excellent test preparation.

Suggested answers:

1. sad (pizza is not the only food that has cheese on it)

2. sad (there are other letters besides *H* that come before *Q, R, S*)

3. sad (only living things eat)

Stepping Stones Book 2

Recommended for grade 1

Inference Questions require critical analysis to determine whether enough information is available to answer the question, similar to the *none of the above* reasoning on high-stakes testing.

Name _____

Date _____

Color the happy face if the answer is **yes**.
Color the sad face if the answer is **no**. Color the
questioning face if there is not enough information to know the answer.

- 1 Greg will put a penny, a marble, and a toy car into the bag.
He will not put a ping pong ball or a boat into the bag.
Will Greg put a cork into the bag?
- 

- 2 The speed limit was 50 miles per hour.
The policeman gave Sari a ticket.
Was Sari driving faster than the speed limit?
- 

- 3 Trucks are not allowed on Pine Street.
Pine Street is the only road to Jamal's mother's house.
Can Jamal drive to visit his mother?
- 

41

Suggested answers:

1. sad (corks float and all other items in the bag sink)

2. questioning (we don't know how fast Sari was going, and she could have gotten a ticket for something other than speeding)

3. questioning (we don't know if Jamal drives a truck; if he does not drive a truck, then he can drive to visit his mother)

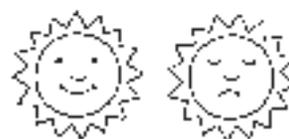
Sequencing Activities work on the logic of sequential order, a difficult task for young students.

Name _____

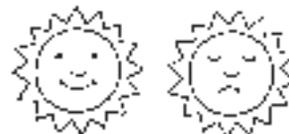
Date _____

**Color the happy face if the sentences make sense.
Color the sad face if something is wrong with the sentences.**

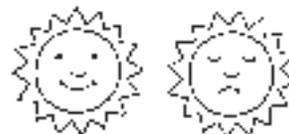
1 Helen turned on the radio and then put the batteries in it.



2 Dana closed the box and locked it.



3 Mark wrapped the present and then put it in a box.



Activities in the puzzles are ones that students encounter in their own lives.

Suggested answers:

- 1. happy
- 2. sad
- 3. happy

Stepping Stones Book 2

Recommended for grade 1

Problems lay the groundwork for the task-based puzzles in Book 3.

Name _____

Date _____

Circle the answer that makes the most sense.

Dale's dad is older than Dale's mom.
Dale's mom is 37 years old.
How old is Dale's dad?

12

24

42

37

73

Logic Problems pull information from various subject areas.

Suggested answer:

42 (if Dale's dad is older than Dale's mom, then he must be 42)

Stepping Stones Book 3

Recommended for grade 2

Closed Warm-up Exercises draw on the subject areas and skills that students will use in the subsequent open-ended Puzzles.

Ready-to-use Lesson online

Download a free ready-to-use lesson from Book 2 (grade 1) at www.epsbooks.com/SteppingStones

Draw a line from each sentence to the picture it describes.

It's the dog!

It's the dog?

It's the dog.



4

Suggested answer: *It's the dog!* goes to last picture; *It's the dog?* goes to middle picture; *It's the dog.* goes to first picture.

Stepping Stones Book 3

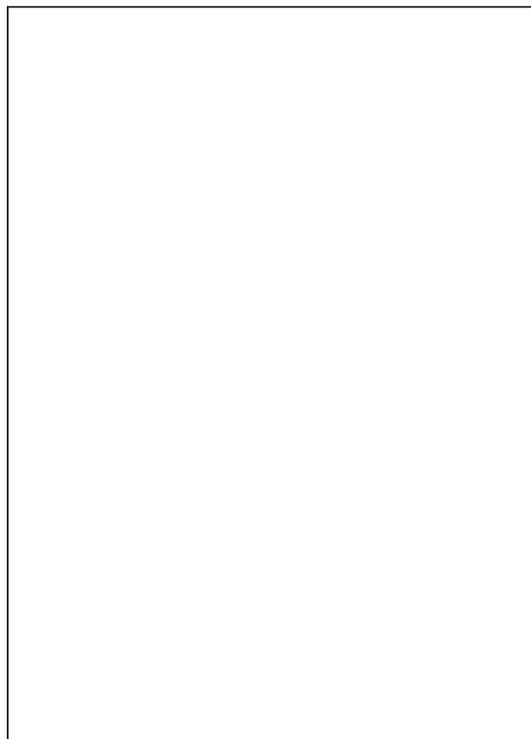
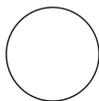
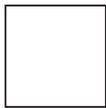
Recommended for grade 2

Open-ended Puzzles give students a chance to be creative and innovative.

Name _____

Date _____

Create a tree using six each of the following shapes.



57

Puzzles provide an excellent opportunity for students to work together in teams and learn to cooperate, respect multiple solutions, and test hypotheses.

Answer criteria: tree made of only: six small rectangles, six large rectangles, six squares, six triangles, six circles