

Cognitive Abilities Test™
Practice Activities
Teacher Guide

Form 7

Screening
Form

Level 9

CogAT®

Test 1: Verbal Analogies, Levels 9–12

Part 1: Overview of Verbal Analogies

An analogy draws parallels between objects or ideas. Analogies can be about simple concepts such as “Brothers are boys just like sisters are girls” or complex concepts such as “Friendships are like glass. Once broken, they are hard to fix.” Successful learners habitually reason by analogy. Good analogies allow them to use what they already know when they are trying to understand new ideas. Reasoning by analogy requires attending carefully to the ways that two things are similar. Then this relationship is mapped onto a different pair of objects or ideas.

In this test, students answer questions that look like this:

*What is the relationship between **oven** and **heat**?*

oven → **heat** : **speaker** →

J sound **K** music **L** radio **M** voice **N** stage

*Which of these relates to a **speaker** in the same way that an **oven** relates to **heat**?*

When practicing the Verbal Analogies questions, encourage students to use these strategies.

- Make a sentence that describes the potential relationship, substituting words for the symbols. For example, use “is related to” in place of the arrow, and “in the same way” in place of the colon. Oven is related to heat in the same way that speaker is related to...?
- Generate a possible answer and look for it among the answer choices, testing for the relationship that matches best.

Students at this level tend to make the following common mistakes.

- Students may ignore the relationship between the first two words and simply choose an answer that is associated with the third word. For example, the student might pick **radio** because a radio has a **speaker**.
- Students might examine only some of the answer choices and then choose an answer that only partially satisfies the analogy. For example, the student may pick **voice**, which partially captures the idea of something the **speaker** emits, but the speaker emits **sound** in general, and voice is only part of that sound. Thus, **sound** is a better answer.

Part 2: Verbal Analogies Practice Test Script

The following script covers many issues that will help students do their best on the test. Read aloud the text printed in *blue italics*: these are directions to the students. Directions for you are in parentheses and should NOT be read aloud. Feel free to modify the script to ensure that students understand what they are supposed to do and how to do it.

(Make sure each student has a practice booklet. Then **SAY**!)

Open your practice booklet to page 1.

(Check that all students have the correct page.)

For each question in the Verbal Analogies test, you must figure out the relationship between the first pair of words. Then think about the third word. Choose the answer that relates to the third word in the same way that the first word relates to the second word.

P1

Let's do the first practice question.

1 white → snow : black →

A brown

B bronze

C rain

D coal

E clouds

*How are **white** and **snow** related to one another?*

(Encourage responses.)

White is the color of **snow**.

*Which word in the bottom row relates to **black** in the same way that **white** relates to **snow**?*

(Encourage responses. If someone chooses coal, **SAY**!)

Black is the color of **coal** just like **white** is the color of **snow**, so **coal** is the best answer.

(If someone chooses brown, bronze, rain, or clouds, **SAY**!)

That is not quite right. That is not something that is always colored black, like white is the color of snow.

(It can be helpful to give other examples of the difference between words that more precisely define a concept. For example, what would be a precise definition of “mother”? What would be wrong with a definition such as “a mother is a human being”?)

(Check to make sure that all students have selected answer choice D. Make sure students understand what they are supposed to do and clarify any confusion, if needed.)

P2

Let's do the second practice question.

2 oven → heat : speaker →
J sound K music L radio M voice N stage

*How is an **oven** related to **heat**?*

(Encourage responses. Most importantly, an oven produces heat.)

*An **oven** produces **heat**. Now we must look for the word that relates to **speaker** in the same way that **oven** relates to **heat**.*

*What does a **speaker** produce? Which word in the bottom row best completes the analogy?*

(Encourage responses. If someone chooses the correct answer, sound, **SAY**:)

*You chose **sound** because a **speaker** produces or puts out sound like an **oven** produces or puts out **heat**. You're right. That is the best answer.*

(If someone chooses music, **SAY**:)

***Music** is too specific because it is only one type of sound put out by a speaker.*

(If someone chooses radio, **SAY**:)

***Radio** isn't the answer because it does not relate to speaker in the same way that oven relates to heat. A radio has a speaker, but it is not produced by a speaker.*

(If someone chooses voice, **SAY**:)

***Voice** is too specific because it is only one type of sound put out by a speaker.*

(If someone chooses stage, **SAY**:)

***Stage** isn't the correct answer because it is not put out by a speaker, but used as a place to set a speaker.*

(Check to make sure that all students have selected answer choice J.)

P3

Look at the third practice question. Listen carefully while I solve this question. I will tell you how I answer the question so you can answer similar questions.

3 animals → zoo : art →

A display

B exhibition

C museum

D fair

E vault

First I'll read the analogy. **Animals** are related to a **zoo** in the same way that **art** is related to.... Hmm, let me think now. How are animals and a zoo connected?

Animals can live at a zoo. So where does art live? Well, art doesn't really live, so the rule must be something else.

First I want to look at all the answer choices to see if they can help me decide what might relate to art in the same way that animals relate to a zoo.

Well, art can be **displayed** (or shown) or it can be a type of **display**. But that doesn't really describe the same relationship of animals and a zoo.

An **exhibition** is a public display of art. A zoo is where animals are kept for public display. That might work, but let me look at the rest of the answer choices first.

A **museum** is a home for **art** like a **zoo** is a home for **animals**. Also, a museum allows for the public display of art like animals are publicly displayed in a zoo. I think **museum** is the best answer yet. But I still want to look at the other choices.

A **fair** might have art for sale, but zoos don't usually sell animals to people, so that relationship doesn't work.

A **vault** may hold art, but it usually has other important things as well. It is not designed just for art. A zoo is designed to hold animals, so vault doesn't seem like the right answer.

After carefully looking at all the answer choices, I'm going to choose **museum** as the best answer. Do you understand why I chose **museum**?

(Check to make sure that all students have selected answer choice C and clarify any confusion.)

P4

Look at the next practice question. I want you to try this one by yourself. Think about which answer choice relates to the word **seldom** in the same way that **often** relates to **many**. Only one word in the bottom row should fit the analogy. If more than one word fits the analogy, look for another way that the words relate. If you find an answer, circle it in your booklet.

4 often → many : seldom →

J few

K frequently

L sometimes

M never

N a lot

(Make sure students have enough time to solve the problem on their own. Then **SAY**.)

*How is **often** related to **many**?*

(Encourage responses. Call on a few students to answer. The correct answer is something like “Often describes something that *happens a lot*, and many shows that there are *a lot of something*. Often describes time and many describes amount.” Wait for a correct answer, then **SAY**.)

*You are correct. **Often** is a term for something that happens a lot, and **many** is a term for having a lot of something. **Often** describes a high frequency and **many** describes a high number. Which answer choice relates to **seldom** in the same way that **many** relates to **often**?*

(Encourage responses. If someone chooses the correct answer, few, **SAY**.)

*Yes, **few** is a term for a small number of something like **seldom** is a term for something that happens a small number of times. I have **few** absences because I **seldom** miss school. But I have **many** books because I **often** read. **Often** and **many** describe large amounts, but **seldom** and **few** describe small amounts.*

(Check to make sure that all students have selected answer choice J. If necessary, explain why other answers are not as good as **few**. It can also be helpful to consider other options. For example, suppose “some” were on answer option. Why would “few” still be a better answer?)

P5

Look at the next practice question. Try to solve this practice question on your own.

(Make sure students have enough time to solve the problem on their own. If students do not understand the words, please clarify. Then **SAY**.)

5 cab → fare : diner →

A eat

B food

C receipt

D menu

E bill

*How is a **cab** related to **fare**?*

(Encourage responses.)

*When you ride in a **cab**, you pay a **fare** for the trip. Which word in the bottom row goes with **diner** in the same way that **cab** goes with **fare**?*

(If someone chooses the correct answer, bill, **SAY**!)

*You are correct. Why did you pick **bill**?*

(Encourage responses.)

***Bill** is the best answer because when you eat at a **diner**, you pay a **bill** for your food and the service.*

(If someone chooses any of the other answer choices, **SAY**!)

Why did you pick _____?

(Allow the student to share his or her reasoning.)

Well, _____ isn't the right answer because it does not describe the money owed for services received.

(Check to make sure that all students have selected answer choice E and clarify any confusion.)

P6

Look at the last practice question. Try to solve this practice question on your own.

6 arid → dry : soaked →

J wet

K damp

L moist

M humid

N water

(Make sure students have enough time to solve the problem on their own. If students do not know the words, please clarify. Then **SAY**!)

*How are the words **arid** and **dry** related?*

(Encourage responses.)

***Arid** means very **dry**. If a desert is arid, it is extremely dry. Which word relates to **soaked** in the same way that **arid** relates to **dry**?*

(If someone chooses the correct answer, wet, **SAY**!)

*You are correct. But why did you pick **wet**?*

(Encourage responses.)

***Wet** is the best answer because if something is **soaked**, it is extremely **wet**. Wet is the general term, and soaked is a specific amount or degree of wetness meaning very wet.*

(If someone chooses any of the other answer choices, **SAY**!)

Why did you pick _____?

(Allow the student to share his or her reasoning.)

Well, _____ isn't the right answer because it is not a more general term for soaked in the same way that dry is the more general term for arid.

(Check to make sure that all students have selected answer choice J.)

(Note that examining all options is part of figuring out the relationship. For example, wet, damp, moist, humid, and water are all associated with moisture. But the only word that more generally defines or describes the state of something that is soaked is the word wet.)

*Many students who answer this question incorrectly pick the word **damp**. Why do you think they pick **damp**?*

(Encourage responses.)

Damp and soaked are both associated with water, and they are both degrees of wetness. But damp means only slightly wet. Soaked means completely wet.

(Clarify any confusion, if needed.)

Test 2: Number Analogies, Level 9

Part 1: Overview of Number Analogies

An analogy draws parallels between objects or ideas. Successful learners habitually reason by analogy. Good analogies allow students to use what they already know when they are trying to understand or remember new ideas. Reasoning by analogy requires attending carefully to the ways in which two things are similar. Then this relationship is mapped onto something new. Performance on this test predicts mathematics achievement because discovering quantitative patterns and relationships is at the core of learning mathematics.

Each question on the Number Analogies test presents two pairs of numbers. To solve the questions, students must find a rule that transforms the first number in each pair into the second number. The same rule must work for both pairs of numbers. Then the student uses the rule to generate the missing number in the third pair. Most questions require only one rule, but some questions use two rules such as adding and then doubling. Students are allowed to use scratch paper on the actual test. Items in the test look like this:

S1

7	→	14
9	→	18
1	→	?

What rule explains how to transform 7 into 14 and 9 into 18? The rule must work on both pairs of numbers.

2 3 8 10
A B C D

Apply the same rule to figure out the number that should go in the box with the question mark.

What rule changes 12 to 4 and 16 to 8?

S2

[12 → 4] [16 → 8] [20 → ?]

J 16 K 12 L 10 M 8 N 6

When practicing the Number Analogies questions, encourage students to use these strategies.

- Think of a rule that describes how to transform the first number into the second number in the first two pairs. For example, the second number is 8 less than the first.
- If more than one rule works, then try the simplest rule first.
- Apply the same rule to the third pair of numbers to determine the missing number.

Students at this level tend to make the following common mistakes.

- Students may use the wrong arithmetic operation. For example, the student might add instead of subtract.
- Students might find a rule that works with only one of the pairs and not both. For example, in the first sample question, a student may remember that adding 7 to 7 will make 14. Although this rule does not work for the second pair, the student may simply add 7 to 1, and mark the answer as 8.

Part 2: Number Analogies Practice Test Script

The following script covers many issues that will help students do their best on the test. Read aloud the text printed in *blue italics*: these are directions to the students. Directions for you are in parentheses and should NOT be read aloud. Feel free to modify the script to ensure that students understand what they are supposed to do and how to do it.

It may be helpful to make copies of the practice questions in order to display them one at a time on an overhead projector. If this is not possible, hold up a copy of the student practice booklet and point to different parts of each practice question as you discuss them with the class.

(Make sure each student has a practice booklet. Then **SAY**.)

Open your practice booklet to page 1.

(Check that all students have the correct page.)

P1

Let's do the first practice question. Look at the first two rows of the question.

	9	→	10				
1	8	→	9				
	7	→	?	7	8	9	10
				A	B	C	D

(Hold up your copy of the booklet. Point to the first two rows as you **SAY**.)

Each row of the question has two numbers and an arrow between them. The arrows mean that the numbers 9 and 10 follow a rule, and the numbers 8 and 9 follow the same rule.

How do we go from 9 to 10?

(Encourage responses.)

How do we go from 8 to 9?

(Encourage responses.)

In this question, the rule for each pair is to add 1 to the first number to get the second number.

Now look at the third row. We must use the same rule for 7. What is the missing number?

(Encourage responses.)

The rule is to add 1 to the first number. 7 plus 1 is 8. So the missing number is 8 which is answer choice B.

(Check to make sure that all students have selected answer choice B.)

P2

Let's do the second practice question.

10	→	8
8	→	6
6	→	?

4 6 8 10
J K L M

(Point to the first two rows of the question as you **SAY**!)

Look at the top two rows of the question.

In the first row, the numbers 10 and 8 follow a rule. The numbers 8 and 6 in the second row must follow the same rule.

How do we go from 10 to 8, and from 8 to 6?

(Encourage responses.)

The rule for this question is to subtract 2 from the first number to get the second number.

Now look at the third row. We must follow the same rule for 6. What is the missing number?

(Encourage responses.)

When we subtract 2 from 6 we get 4. So the missing number is 4, which is answer choice J.

(Check to make sure that all students have selected answer choice J.)

P3

Let's do the next practice question.

The image shows a math problem interface. On the left, a green box contains the number '3'. To its right is a table with three rows. Each row has a number in a box on the left, an arrow pointing right, and another number in a box on the right. The first row is 7 → 14. The second row is 9 → 18. The third row is 1 → ? (the question mark is in a yellow box). To the right of this table are four multiple-choice options: A (2), B (3), C (8), and D (10).

7	→	14
9	→	18
1	→	?

A B C D

(Point to the first two rows of the question as you **SAY**.)

Look at the top two rows of the question. What rule do the first two pairs of numbers follow?

(Encourage responses. If a student suggests “add 7 to the first number” as the rule, **SAY**.)

The rule “add 7 to the first number” works for the first pair of numbers. But does it work for the next pair?

(Encourage responses.)

No, it doesn't. If we add 7 to 9 we get 16, not 18. So this rule does not work.

Is there another rule we can use?

(Encourage responses.)

In both pairs, when we double the first number we get the second number. When we double 7 we get 14 and when we double 9 we get 18.

Using this rule, what is the missing number in the third pair?

(Encourage responses.)

When we double 1 we get 2. So the missing number is 2 which is answer choice A.

(Check to make sure that all students have selected answer choice A.)

Turn to the next page.

P4

Let's do the next practice question.

4	[12 → 4]	[16 → 8]	[20 → ?]			
	J 16	K 12	L 10	M 8	N 6	

Look at the numbers in the top row. This is the same kind of question as the questions we just answered, but now the number pairs are written in a row instead of in boxes. The arrows still mean that the two numbers must follow a rule.

What rule do the first two pairs of numbers follow? How do we go from 12 to 4 and from 16 to 8?

(Encourage responses.)

In this question, the rule for each pair is to subtract 8 from the first number to get the second number. When we subtract 8 from 12 we get 4 and when we subtract 8 from 16 we get 8.

Now look at the third pair. We must follow the same rule. What is the missing number?

(Encourage responses.)

The rule is to subtract 8 from the first number. 20 minus 8 is 12. So the missing number is 12 which is answer choice K.

(Check to make sure that all students have selected answer choice K.)

P5

Now look at the next practice question. Try to solve this practice question on your own.

5	[18 → 9]	[12 → 6]	[24 → ?]			
	A 19	B 18	C 15	D 13	E 12	

(Make sure students have enough time to solve the problem. Then **SAY**!)

What is the missing number in the third pair?

(Encourage responses.)

How did you solve this question?

(Encourage responses. If there are students who don't understand how to solve the question, go through the process as follows.)

What rule do the first two pairs of numbers follow?

(Encourage responses.)

In both pairs, when we divide the first number by 2 (or halve it) we get the second number.

(Note that the rule could also be "the second number is half of the first number.")

In the first pair, when we divide 18 by 2 we get 9. In the second pair, when we divide 12 by 2 we get 6. Using this rule, what is the missing number in the third pair?

(Encourage responses.)

When we divide 24 by 2 we get 12. So the missing number is 12 which is answer choice E.

(Check to make sure that all students have selected answer choice E.)

P6

Now let's do the last practice question.

6	[2 → 5]	[4 → 9]	[3 → ?]			
	J 4	K 5	L 6	M 7	N 8	

Look at the first two pairs of numbers. How do we go from 2 to 5 and from 4 to 9?

(Encourage responses.)

Let me give you a hint: The rule for each pair in this question requires two changes.

(Encourage students to discover the two rules.)

The rule for this question is to double the first number and then add 1 to get the second number. In the first pair, we double 2 to get 4 and then 4 plus 1 is 5.

Let's see if this rule works for the second pair as well.

In the second pair, we double 4 to get 8 and then 8 plus 1 is 9.

Now look at the third pair. We must follow the same rule with 3. What is the missing number?

(Encourage responses.)

When we double 3 we get 6 and then 6 plus 1 is 7. The missing number is 7 which is answer choice M.

(Check to make sure that all students have selected answer choice M.)

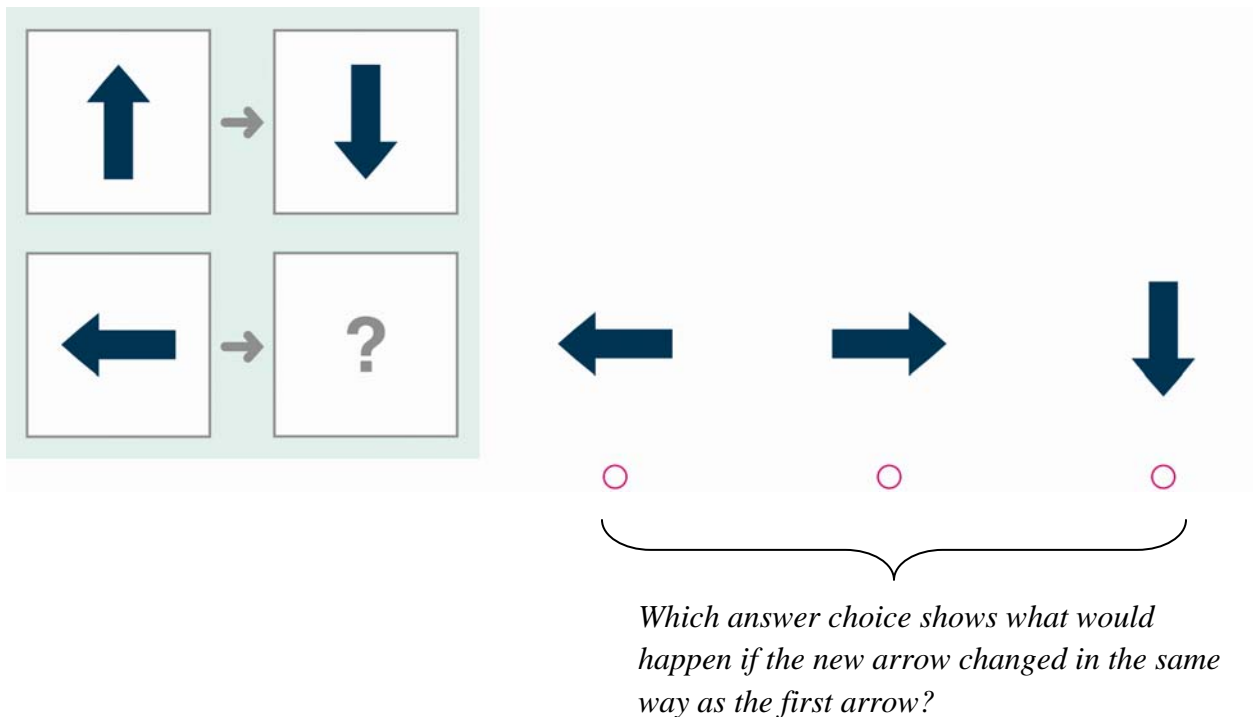
Test 3: Figure Matrices, Levels 9–12

Part 1: Overview of Figure Matrices

An analogy draws parallels between objects or ideas, for example, “up is to down as left is to right.” Analogies can be about simple things “A tadpole is like a fish” or complex concepts “Friendships are like glass. Once broken, they are hard to fix.” Successful learners habitually reason by analogy. Good analogies allow them to use what they already know to understand or remember new ideas. Reasoning by analogy requires attending carefully to how two things are similar and then applying these relationships to something new.

The Figure Matrices test is like the Picture Analogies and Number Analogies tests except the questions use figures or shapes rather than pictures of objects or activities.

In this test, students are asked to solve problems that look like this:



The diagram illustrates a figure matrix problem. On the left, a 2x2 grid is shown. The top-left cell contains a blue arrow pointing up. The top-right cell contains a blue arrow pointing down. The bottom-left cell contains a blue arrow pointing left. The bottom-right cell contains a question mark. A small grey arrow points from the top-left cell to the top-right cell, and another small grey arrow points from the bottom-left cell to the bottom-right cell. To the right of the grid, three answer choices are presented: a blue arrow pointing left, a blue arrow pointing right, and a blue arrow pointing down. Each arrow has a small pink circle below it. A large black curly bracket spans the three arrows. Below the bracket, the following text is written: *Which answer choice shows what would happen if the new arrow changed in the same way as the first arrow?*

When practicing the Figure Matrices questions, encourage students to use these strategies.

- Carefully examine the first two figures and think of a rule (and say it silently) that describes the relationships between them. For example, flip the first figure to get the second one.
- Apply the rule to the third figure to determine the missing figure.
- Test the rule on each answer choice, eliminating answer pictures that do not fit the rule.
- Look for a more precise rule if more than one answer choice fits the rule.

Students at this level tend to make the following common mistakes.

- Students may choose an answer choice that looks like the figure in the bottom row. For example, in the sample question above, students might select the first answer choice.
- Students might infer the wrong relationship between the first two figures. Putting the rule into words will help them to be more precise.
- Students may overlook or forget a critical feature of the figures in the top row. Using language to describe the rules will help them remember them.
- Students might select an answer choice before checking all the answer choices.

Part 2: Figure Matrices Practice Test Script

The following script covers many issues that will help students do their best on the test. Read aloud the text printed in *blue italics*: these are directions to the students. Directions for you are in parentheses and should NOT be read aloud. Feel free to modify the script to ensure that students understand what they are supposed to do and how to do it.

It may be helpful to make copies of the practice questions in order to display them one at a time on an overhead projector. If this is not possible, hold up a copy of the student practice booklet and point to different parts of each practice question as you discuss them with the class.

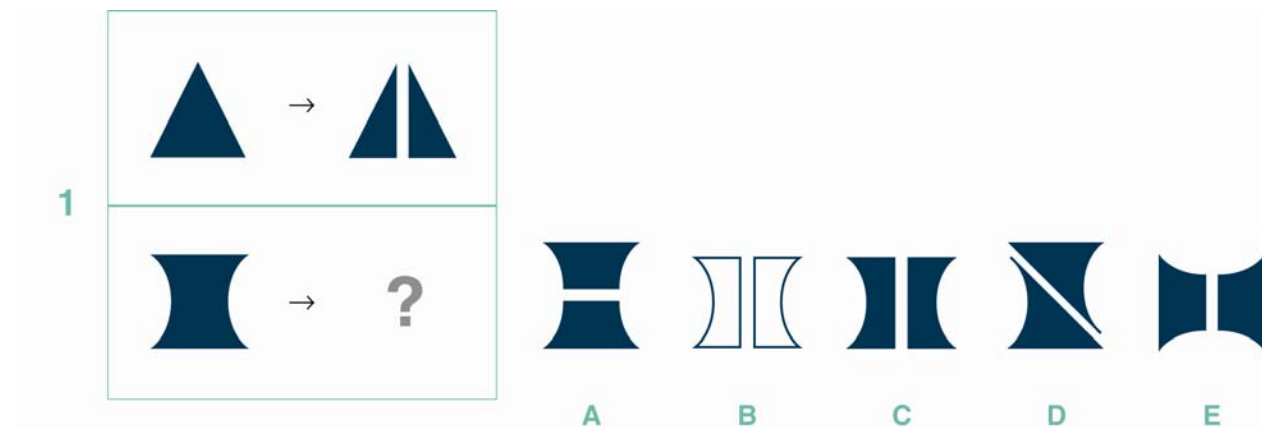
(Make sure each student has a practice booklet. Then **SAY**.)

Open your practice booklet to page 1.

(Check that all students have the correct page.)

P1

Let's do the first practice question.



(Point to the large box that has pictures inside of it as you **SAY**.)

The large box has two rows. We must decide which answer choice goes in the space with the question mark.

(Point to the top row of the large box as you **SAY**.)

Look at the shapes in the top row. The first picture is a triangle, and the second picture is two triangles. How do the first and second pictures go together?

(Encourage responses.)

The second picture looks like the triangle in the first picture, but it is cut in half.

(Point to the bottom row of the large box as you **SAY**.)

The two pictures in the bottom row must go together in the same way.

What would we get if we cut the first shape in the bottom row in half?

(Encourage responses. Then point to the answer choices as you **SAY**.)

Let's look at the answer choices.

- *The first answer choice shows a shape cut in half, but the cut goes the wrong way.*
- *The second answer choice shows a shape cut in half, but the shapes aren't darkened like the first one.*
- *In the third answer choice, the shape is cut in half from top to bottom and the two new shapes are darkened.*
- *The fourth answer choice shows a shape cut in half diagonally*
- *The last answer choice shows a shape cut in half, but the shape goes the wrong way.*

Which answer choice follows the same rule as the triangles in the top row of the large box?

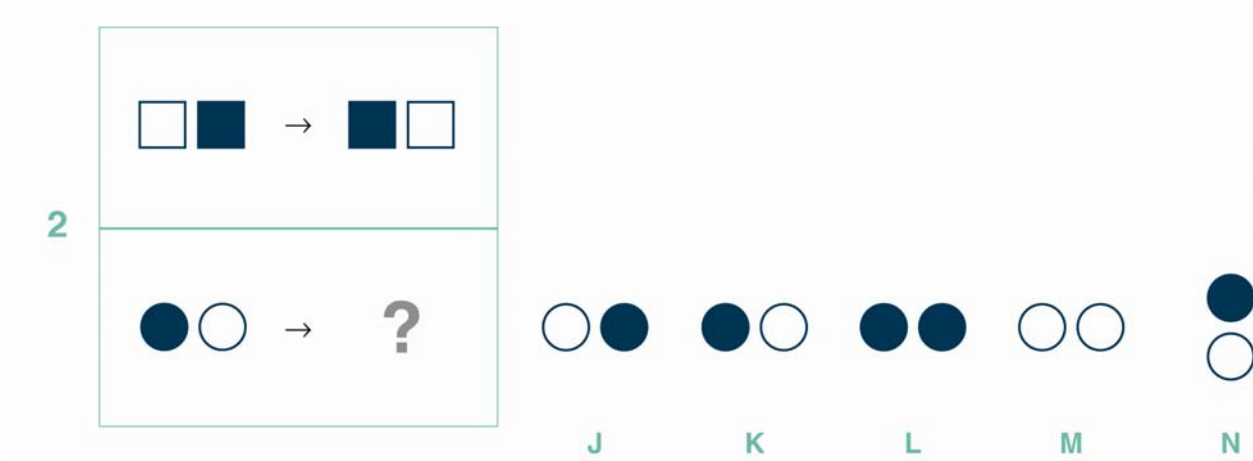
(Encourage responses. Then point to the third answer choice as you **SAY**.)

The third answer choice is the correct answer because it's cut in half from top to bottom, just like the triangles. It's also darkened like the triangles.

(Check to make sure that all students have selected answer choice C.)

P2

Let's do the second practice question.



(Point to the large box as you **SAY**.)

The large box has two rows. We must decide which answer choice goes in the space with the question mark.

(Point to the top row as you **SAY**.)

Look at the top row of the large box. The first picture shows a white square and a dark square. The second picture shows a dark square and a white square.

How do these pictures go together?

(Encourage responses.)

The squares in the second picture are the same but are in the opposite order.

(Point to the bottom row as you **SAY**.)

The shapes in the bottom row must go together in the same way.

In the first picture we see a dark circle and a white circle. What shapes should go in the space with the question mark?

(Encourage students to say the rule. Then point to the answer choices as you **SAY**.)

Which answer choice shows that?

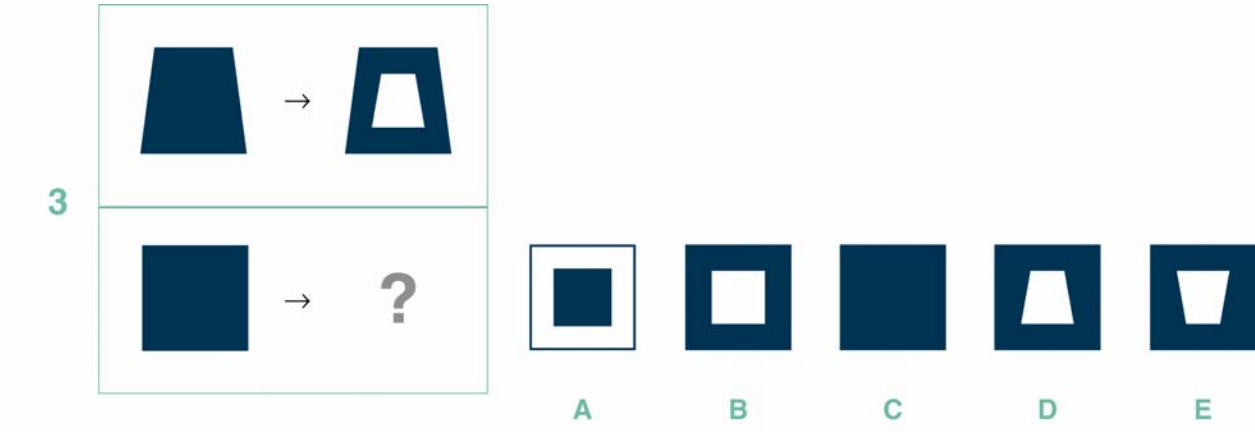
(Encourage responses. Then point to the first answer choice as you **SAY**.)

The two circles are in the opposite order than they are in the first picture in the bottom row. This is just what happened to the squares in the top row. So the first answer choice is correct.

(Check to make sure that all students have selected answer choice J.)

P3

Let's do the third practice question.



(Point to the top row as you **SAY**.)

Look at the two shapes in the top row of the question. How do these shapes go together?

(Encourage responses.)

The second shape looks like the first one but with the middle cut out.

(Point to the bottom row of the question as you **SAY**.)

The two shapes in the bottom row of the question must go together in the same way.

Look at the dark square in the bottom row. How would the square look if we cut out the middle?

(Encourage responses. Then point to the answer choices as you **SAY**.)

Which answer choice shows that?

(Encourage responses. Then point to the second, fourth, and fifth answer choices as you **SAY**.)

These three answer choices have the middle cut out, so which do we choose? We need to find another rule so we can decide which answer choice is correct.

(Point back to the top row as you **SAY**.)

Do you notice anything else about the part that was cut out of this shape?

(Encourage responses.)

The part that was cut out is the same shape as the part that is still there. So which answer choice should we choose?

(Encourage responses. Then point to the second answer choice as you **SAY**.)

We should choose the second answer choice. It is a square with a cut-out that is also a square.

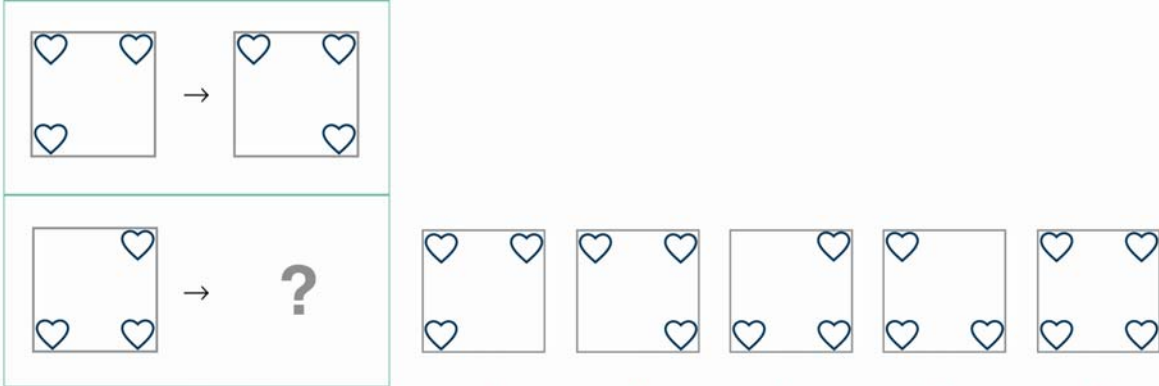
(Check to make sure that all students have selected answer choice B.)

Turn to the next page.

P4

Let's do the fourth practice question.

4



J K L M N

(Point to the top row of the question as you **SAY**.)

Look at the pictures in the top row. Both pictures show squares with hearts in three corners.

How do these pictures go together?

(Encourage responses. Note that there are several different rules that would produce this change. For example, the single heart moves to the empty space. Or the single heart switches corners. Or the entire picture was flipped about the vertical axis.)

The second picture looks like the first one but it has been flipped over.

(Demonstrate with your hand. If necessary, draw 3 hearts on a transparent sheet and flip it. Then point to the bottom row as you **SAY**.)

The two pictures in the bottom row must go together in the same way. What would happen if we flipped the picture in the first box?

(Encourage responses. Then point to the answer choices as you **SAY**.)

Which answer choice shows that?

(Encourage responses.)

The fourth answer choice shows the three hearts flipped over.





Are there any other rules that would work for this question?

(Try other rules that students suggest. Then check to make sure that all students have selected answer choice M.)


P5

Look at the next practice question. Try to solve this practice question on your own.

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A B C D E



(Make sure students have enough time to solve the problem. Then **SAY**!)

Which answer picture is correct?

(Encourage responses.)

How did you solve this question?

(Encourage responses. If there are students who don't understand how to solve the question, go through the process as follows.)

Look at the two shapes in the top row of the question. How do they go together?

(Encourage responses.)

The second shape looks like the first one but it has been flipped over and then a line has been drawn through it.

(Point to the bottom row of the question as you **SAY**!)

The two shapes in the bottom row of the question must go together in the same way.

The first shape looks like an "S." Which answer choice shows what happens when we flip the

“S” and draw a line through it?

(Encourage responses. Then point to the second answer choice as you **SAY**.)

The second answer choice shows the “S” flipped over with a line drawn through it.

(Check to make sure that all students have selected answer choice B.)

P6

Let's do the last practice question.

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(Point to the top row as you **SAY**.)

Look at the boxes in the two pictures in the top row of the question. Each box is divided into four boxes with shapes inside. How are the pictures the same? How do they differ?

(Allow students time to study the pictures. Then encourage responses. Try to get students to focus on what changes and what stays the same between the two pictures.)

The second picture looks like the first except the square and triangle changed places inside the box. The diamond and the circle stayed in the same place.

(Point to the bottom row of the question as you **SAY**.)

The two pictures in the bottom row of the question must go together in the same way. So what shapes must stay the same?

(Encourage responses. Point to the two “X’s” as you **SAY**.)

The two “X”s must stay in the same place in the answer. Which answer choices show this?

(Encourage responses.)

Only the second and fourth answer choices show the “X’s” in the same place. This tells us that the other answer choices cannot be correct. We do not need to look at them again.

What must happen to the other two shapes in the picture? Do you remember the rule?

(Encourage responses.)

Those shapes must switch places. Which answer choice shows this?

(Encourage responses. Then point to the fourth answer choice as you **SAY**.)

The fourth answer choice shows what happens.

(Check to make sure that all students have selected answer choice M.)