Part 1: Overview of Picture 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 difficult to restore.” Successful learners habitually reason by analogy. Good analogies allow them to use what they already know when they are trying to understand new ideas. In the Picture Analogies test, reasoning by analogy requires finding ways in which two things are similar and using these similarities to create a second pair of objects or ideas that are like each other in the same way.

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

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

- Describe, in words, ideas about how the first picture relates to the second picture. For example, a tadpole grows into a frog.

- Test the idea by applying it to the third figure to generate a possible answer. Then look for that answer among the answer choices.

- Look for a different, 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 ignore the relationship between the first two pictures and simply choose an answer they associate with the third picture. For example, in the sample question above, the student might choose the worm because it looks like the caterpillar.

- Students might examine only some of the answer choices and then choose one that partially satisfies the analogy. For example, suppose that one of the options were a larger caterpillar. Small caterpillars do grow into larger caterpillars. This would correctly capture the idea of growth. But the frog is not just a large tadpole. A frog looks very different than a tadpole, so the butterfly would still be the best answer.
Part 2: Picture 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. You should be on the page with the stars across the top.

(Check that all students have the correct page.)

P1

Look at the first practice question. Listen carefully while I answer this practice question. I will tell you how I answer the question so you will know how to answer questions like this one.

(Point to the big box that has pictures inside of it as you SAY:)

Each question has a big box with three pictures and a box with a question mark.

(Point to the box with the question mark.)

You must decide which one of three answer pictures goes in the box with the question mark.

First I’ll look at the pictures in the top row of the big box. The arrow between them means that the two pictures in the top row go together in some way.
How do the man and the house go together?

The man could have built the house. Or he could live in the house.

Next, look at the picture in the bottom row of the big box. It shows a bird. The arrow shows the bird is connected to something else in the same way that the man is connected to the house.

Let’s name the answer pictures. There’s a tree, a birdbath, and a birdhouse.

Which answer picture goes with the bird in the same way that the house goes with the man?

Could the answer be the tree? The tree might be a good answer because it is one of the places that a bird lives. But I do not see a nest in the tree.

Could it be the birdbath? The birdbath is not the answer because birds do not live in birdbaths. They only drink and play in them.

The birdhouse is the best answer because the bird could live inside of it, just like the man could live inside of the house. Also, both homes are built by people.

Do you see how I figured out the answer?

Now fill in the circle under the birdhouse to show that it is the best answer.

(P2) Let’s answer the next practice question together.
(Hold up a practice booklet and point to the top row as you SAY:)

Look at the pictures in the top row of the big box. What does the first picture show?

It shows an empty table.

(Point to the second picture.)

The second picture shows the table covered with a table cloth. So, what changed between the first picture and the second picture?

(Encourage responses.)

The empty table was covered with a table cloth. Did you see the arrow? (Point to the arrow.)

Now look at the first picture in the bottom row. What does this picture show?

(Encourage responses. Then point to the sun as you SAY:)

It shows a sun in the sky. This picture must change in the same way that the empty table changed. How did the table change?

(Encourage responses.)

It was covered up. How can we cover up the sun? We can’t put a table cloth over it. Which answer picture shows something covering the sun?

(Encourage responses. If someone chooses the correct answer, the sun with the clouds, SAY:)

That’s correct. The last answer picture shows clouds in the sky covering the sun. The clouds cover the sun like the table cloth covers the table.

(If someone chooses the sun with the airplane, SAY:)

Does the airplane cover the sun? No. The plane is close to the sun in the picture. It does not cover it.

(If someone chooses the sun with the rainbow, SAY:)

Does the rainbow cover the sun? The rainbow is close to the sun, but it does not cover it.

(Point to the third answer choice as you SAY:)

Fill in the circle under the clouds covering the sun to show that it is the best answer.

(Check to make sure that all students have filled in the third circle.)

P3

Let’s answer the next practice question together.
You must decide which answer picture goes in the box with the question mark.

(Point to the spoon and the bowl in the top row as you SAY:) How do the spoon and bowl go together?

(Encourage responses.) We use a spoon to eat out of a bowl. Now look at the picture in the bottom row. What do we use a straw for?

(Encourage responses.) We use a straw to drink something.

Now look at the answer pictures. What are the choices?

(Point to each of the answer choices as you SAY:) There is a cup of coffee, a glass of ice water, and a carton of milk. Which picture do you think goes with the straw in the same way that the spoon goes with the bowl?

(Encourage responses. If someone chooses the glass of water, SAY:) The glass of ice water is the best answer because you use a straw to drink water from a glass.

(If someone chooses the cup of coffee, SAY:) The cup of coffee is not the best answer because you would not use a straw when you drink something hot. You could burn your mouth.

(If someone chooses the carton of milk, SAY:)
This is not the best answer because we usually do not drink out of a large milk carton.

Fill in the circle under the glass of ice water to show it is the correct answer.

(Check to make sure that all students have filled in the second circle.)

Turn to the next page. You should be on the page with the clouds across the top.

P4

Look at the next practice question. I want you to try this one by yourself. Think about how the first two pictures are like each other. When you think you know, look at the picture in the bottom row of the big box. One answer should go with this picture. If more than one answer works or if none of them work, go back and look at the first row again. Try to think of another way that the pictures in the top row go together. When you find the best answer, fill in the circle under that answer picture.

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

(Point to the flowers in the top row as you SAY:)

How did the flowers change from the first picture to the second picture?

(Encourage responses.)

Someone picked the flowers and then put them into a vase.

What is the picture in the bottom row of the big box?

(Encourage responses.)

It is an apple tree with apples on it.
Look at the three answer pictures. Which answer picture is the best answer?

(Encourage responses. If someone chooses the bowl of apples, SAY:)

*Why is that the best answer?*

*If we pick flowers and put them in a vase, what could we do to the apple tree? We could pick the apples and put them in something. Apples don’t go in a vase (like flowers), but they do go in a bowl. The bowl of apples is the best answer.*

*Why is the tree without leaves not the best answer? The flowers did not lose their petals.*

*Why is the tree without apples not the best answer? The flowers did not disappear, so the apples should not disappear either.*

*Fill in the circle under the bowl of apples to show that it is the correct answer.*

(Check to make sure that all students have filled in the third circle.)

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. Then SAY:)

*Which answer picture is best?*

(Encourage responses. If someone chooses the map, SAY:)

*You are correct. Why is the map the best answer?*

(Encourage responses.)
The sheet music tells the girl what to play on the piano. The map tells the driver where to go when he is driving.

(If someone chooses the globe, SAY:)  
*The globe does not give driving directions like a map does.*  
(If someone chooses the steering wheel, SAY:)  
*The driver uses the steering wheel to drive, but the steering wheel does not give the driver driving directions.*

Fill in the circle under the map to show that it is the correct answer.

(Check to make sure that all students have filled in the first circle.)

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

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

Which answer picture is best?

(Encourage responses.)  
*How did you answer this question?*

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

*How do the runner and the biker go together?*
Who can move faster, the runner or the biker? The biker. Also, the biker is using a machine—the bicycle. Which answer picture goes with the stove in the same way? The stove cooks food, so we need something that cooks food faster.

Is the refrigerator the best answer? The refrigerator does not help us cook, so it is not the best answer.

Is the fire the best answer? The fire could cook food, but you would have to get the wood and build the fire. So building a fire would not be as quick as a stove or a microwave.

(Is the microwave the best answer? A microwave can cook faster than a stove, and it uses more advanced technology. It is the best answer.

Fill in the circle under the microwave to show that it is the best answer.

(Encourage responses.)

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