

Piagetan Tasks



Part A.

Analyze each of the situations below, and solve each problem.

1. Which row has more circles—Row A or Row B?

Row A O O O O O

Row B OOOOO

2. If Mike is taller than Jim, and Jim is shorter than Dan, then who is the shortest? Who is the tallest?
3. Which is heavier—a pound of feathers or a pound of rocks?
4. Eight ounces of water is poured into a glass that looks like this  and then the same amount is poured into a glass that looks like this . Which glass has more water in it?
5. A lump of clay is rolled into a snake. All the clay is used to make the snake. Which has more clay in it—the lump or the snake?
6. A toy is hidden beneath a blanket. The child has no idea where the toy has gone. Where is it in this child's mind?

Part B.

Arrange the six situations into the order by which an average child could solve the problems.

Part C.

Approximate the earliest age an average child could solve each problem.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Piaget's Stages of Intellectual Development

Carefully read the following information about psychologist Jean Piaget's concept of how children learn. Note the name of each stage of cognitive development, the age of the child at that stage, and the intellectual accomplishments that occur during that stage. You will use this information in the next activity.

How Children Learn

Child develops a system for understanding a situation or a way of knowing (*schema*).

Child fits new information into existing ways of knowing (*assimilation*).

Child develops new schema for new information (*accommodation*).

Stages of Cognitive Development

Sensorimotor—birth to Age 2

Child acts on the environment by knocking down blocks, making sounds, finding toes.

Child sees an object and reaches for it.

By one year of age, a child realizes that objects still exist although the object is no longer seen (*object permanence*).

Child cries when parent is no longer present (*separation anxiety—no person permanence*).

Preoperational—ages 2 to 6

Child starts to represent the world internally through language.

Child cannot take another point of view (*egocentric*).

Child thinks all objects have life (*animism*).

Child thinks human beings created everything (*artificialism*).

Child uses inaccurate logic by assuming that the characteristics of a specific idea can be applied to a similar idea (*transductive logic*). For example, birds fly and airplanes fly; therefore, birds must be airplanes.

Child classifies objects by only one trait; typically, it is by color

Concrete—ages 6 to 12

Child begins to understand that objects can change shape without other changes in their characteristics (*conservation*).

Child understands and performs operations that go in the other direction (*reversibility*). An example is addition and subtraction.

Child draws conclusions from a number of specific facts (*inductive logic*).

Child classifies objects into larger classes of objects.

Child classifies by a number of characteristics.

Formal—from age 12 through life

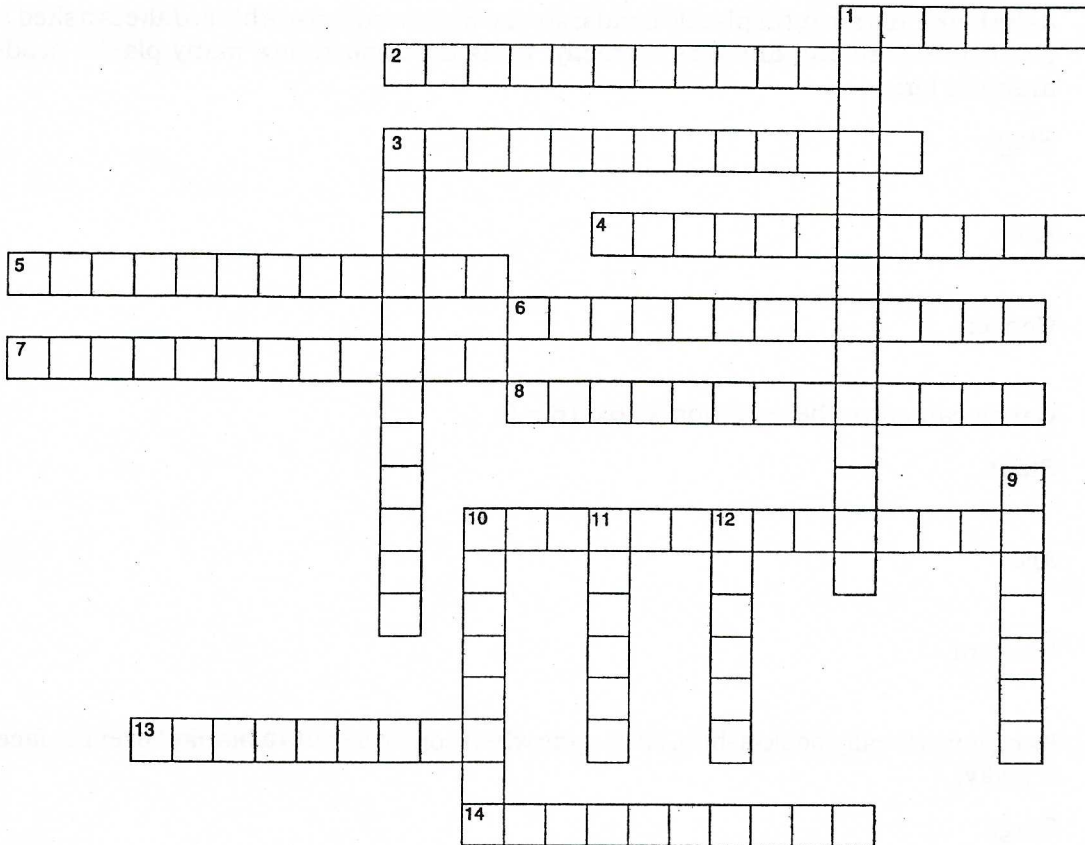
Child thinks abstractly.

Child hypothesizes.

Child derives specific facts from a generalization (*deductive logic*).

Piaget's Terms

Use words from **Handout 40** to complete the puzzle.



Across

1. cognitive psychologist
2. name of the stage for children from birth to age two
3. child makes new schemes for new situations in the environment
4. quality of solving if-then propositions
5. child recognizes that all traits do not change because one quality changes
6. preoperational idea that all objects are made by humans
7. preoperational logic
8. quality that recognizes that operations can be undone
10. ability to categorize
13. type of logic that derives specifics from universals
14. seeing the world from only one point of view

Down

1. second stage of cognitive development
3. fits new situations into existing schemes
9. quality that gives life to all objects
10. third stage of cognitive development
11. ways of knowing
12. last stage of cognitive development

Application of the Stages of Cognitive Development

For each of the situations presented below, indicate the stage, the age, and the concept described. Be prepared to share and explain your responses.

1. Jake looks at a string of plastic beads; six are white and ten are blue. Jake is asked how many white beads there are and answers correctly. He is then asked how many plastic beads there are and answers ten.

Stage

Age

Concept

2. Carrie can solve the equation $x^2 - 6x - 16 = 0$.

Stage

Age

Concept

3. Kang loves to play peek-a-boo. He laughs when someone puts a blanket over his face and then pulls it away.

Stage

Age

Concept

4. Paolo sees a piece of ribbon tied in a bow. He unties the bow and stretches the ribbon to its full length. His mother asks him which is longer—the ribbon in the bow or the ribbon stretched out. Paolo answers that they are the same.

Stage

Age

Concept