

THINKING OPERATIONS

EXERCISE 1

DEDUCTIONS: With *all* and *every*

The first Thinking Operation today is **Deductions**.

1. I'll say rules with **all** or **every**. You say them the other way. What two words are we going to use? (Hold up one finger.)
All.
 - (Hold up two fingers.) *Every.*
2. Listen. **All people learn.** Say that. (Signal.)
All people learn.
 - Now say it the other way. Get ready. (Signal.) *Every person learns.*
 - (Repeat step 2 until firm.)
3. Here's a new rule: **Every person eats.** Say that. (Signal.) *Every person eats.*
 - Now say it the other way. Get ready. (Signal.) *All people eat.*
 - (Repeat step 3 until firm.)
4. Here's a new rule: **Every year is fifty-two weeks long.** Say that. (Signal.) *Every year is fifty-two weeks long.*
 - Now say it the other way. Get ready. (Signal.) *All years are fifty-two weeks long.*
 - (Repeat step 4 until firm.)

EXERCISE 2

DEDUCTIONS: With *no* and *don't*

Task A

1. I'll say a rule one way with the word **no**. Then I'll say it another way with the word **don't**.
2. Listen. **Babies don't read.** Say that. (Signal.) *Babies don't read.*
 - Now I'll say the same rule with **no**. **No babies read.** Say that. (Signal.) *No babies read.*

Task B

1. Here's a new rule: **No chairs eat.** Say that. (Signal.) *No chairs eat.*
 - Now you're going to say the rule that starts with **chairs**. (Pause.) Get ready. (Signal.) *Chairs don't eat.*

- Now you're going to say the rule that starts with **no chairs**. (Pause.) Get ready. (Signal.) *No chairs eat.*
- (Repeat step 1 until firm.)
- 2. Here's a new rule: **Trees don't read.** Say that. (Signal.) *Trees don't read.*
 - Now you're going to say the rule that starts with **no trees**. (Pause.) Get ready. (Signal.) *No trees read.*
 - Now you're going to say the rule that starts with **trees**. (Pause.) Get ready. (Signal.) *Trees don't read.*
 - (Repeat step 2 until firm.)

Individual test

(Call on individuals to do one step in Task B.)

EXERCISE 3

NEW DEDUCTIONS: With *don't*

1. Listen to this rule. **Dogs don't have wings.** Everybody, say that. (Signal.) *Dogs don't have wings.*
2. **Retrievers are dogs.** So (pause; signal), *retrievers don't have wings.*
 - How do you know that retrievers don't have wings? (Signal.) *Because dogs don't have wings.*
3. Listen. **Dogs don't have wings.** **Beagles are dogs.** So (pause; signal), *beagles don't have wings.*
 - How do you know that beagles don't have wings? (Signal.) *Because dogs don't have wings.*
4. Listen. **Dogs don't have wings.** **Poodles are dogs.** So (pause; signal), *poodles don't have wings.*
 - How do you know that poodles don't have wings? (Signal.) *Because dogs don't have wings.*
5. (Repeat steps 2–4 until firm.)

EXERCISE 4**NEW SAME: Objects**

The next Thinking Operation is **Same**.

1. Anything you can point to is an object. What do we call anything you can point to? (Signal.) *An object.*
 - I'll name some objects. A box, a flower, a rock. When I call on you, name three more objects. (Call on individual students.)
2. I'll name three ways that a banana and a rock are the same. (Hold up one finger.) *They are objects.*
 - (Hold up two fingers.) *They take up space.*
 - (Hold up three fingers.) *You find them in some place.*
3. Do it with me. Name those three ways that a banana and a rock are the same. (Respond with the students. Hold up one finger.) *They are objects.*
 - (Hold up two fingers.) *They take up space.*
 - (Hold up three fingers.) *You find them in some place.*
 - (Repeat until the students are responding with you.)
4. All by yourselves. Name those three ways that a banana and a rock are the same.
 - (Hold up one finger.) *They are objects.*
 - (Hold up two fingers.) *They take up space.*
 - (Hold up three fingers.) *You find them in some place.*
 - (Repeat until the students say the facts in order.)
5. Anything you can point to is an object. Can you point to a horse and a ladder? (Signal.) Yes.
 - So, are a horse and a ladder objects? (Signal.) Yes.
 - So, name three ways that a horse and a ladder are the same. (Hold up one finger.) *They are objects.*

- (Hold up two fingers.) *They take up space.*
- (Hold up three fingers.) *You find them in some place.*
- (Repeat until the students say the facts in order.)

EXERCISE 5**DESCRIPTION**

The next Thinking Operation is **Description**.

1. I'm going to tell you about an object you know. But I'm going to call it a funny name. See if you can figure out what object I'm talking about.
2. (Hold up one finger.) *A lat is made of metal.*
 - (Hold up two fingers.) *A lat has a point and a head.*
 - (Hold up three fingers.) *You pound a lat with a hammer.*
3. Let's say the three things we know about a lat. (Respond with the students. Hold up one finger.) *A lat is made of metal.*
 - (Hold up two fingers.) *A lat has a point and a head.*
 - (Hold up three fingers.) *You pound a lat with a hammer.*
 - (Repeat until the students are responding with you.)
4. You say the three things you know about a lat. (Hold up one finger.) *A lat is made of metal.*
 - (Hold up two fingers.) *A lat has a point and a head.*
 - (Hold up three fingers.) *You pound a lat with a hammer.*
 - (Repeat until the students say the statements in order.)
5. Everybody, tell me what I'm calling a lat. (Signal.) *A nail.*
 - Yes, it's really a nail.

EXERCISE 6

DESCRIPTION

1. Here's the rule. **Yum** is a funny word that we'll use for pencil. What word are we using for **pencil**? (Signal.) *Yum.*
2. Listen to this sentence. A yum is used to cut meat. Is that statement true or false? (Signal.) *False.*
3. Next sentence. You can wear a yum on your foot. Is that statement true or false? (Signal.) *False.*
4. Next sentence. Most yums have a point and an eraser. Is that statement true or false? (Signal.) *True.*
5. Next sentence. You can write with a yum. Is that statement true or false? (Signal.) *True.*
6. Next sentence. A yum can walk. Is that statement true or false? (Signal.) *False.*

EXERCISE 7

STATEMENT INFERENCE

The next Thinking Operation is **Statement Inference**.

Task A

1. Listen. Most reptiles sleep during the day. Say that statement. (Signal.) *Most reptiles sleep during the day.* (Repeat until firm.)

Individual test

(Call on individual students to say the statement.)

2. Everybody, listen. Most reptiles sleep during the day.
 - How many reptiles sleep during the day? (Signal.) *Most.*
 - What do most reptiles do during the day? (Signal.) *Sleep.*
 - When do most reptiles sleep? (Signal.) *During the day.*
 - Where do most reptiles sleep during the day? (Signal.) *I don't know.*
 - What sleeps during the day? (Signal.) *Most reptiles.*

- What kind of reptiles sleep during the day? (Signal.) *I don't know.*
- What do most reptiles do? (Signal.) *Sleep during the day.*
- (Repeat step 2 until firm.)

Individual test

(Call on individual students to answer a question from step 2.)

Task B

1. Listen. His sister saved money to buy hiking shoes. Say that statement. (Signal.) *His sister saved money to buy hiking shoes.* (Repeat until firm.)

Individual test

(Call on individual students to say the statement.)

2. Everybody, listen. His sister saved money to buy hiking shoes. What did his sister do? (Signal.) *Saved money to buy hiking shoes.*
 - Why did his sister save money? (Signal.) *To buy hiking shoes.*
 - What did his sister save? (Signal.) *Money.*
 - How much money did his sister save? (Signal.) *I don't know.*
 - What did his sister save money to buy? (Signal.) *Hiking shoes.*
 - What kind of shoes did his sister save money to buy? (Signal.) *Hiking.*
 - How many hiking shoes did his sister save money to buy? (Signal.) *I don't know.*
 - Who saved money to buy hiking shoes? (Signal.) *His sister.*
 - (Repeat step 2 until firm.)

Individual test

(Call on individual students to answer a question from step 2.)

EXERCISE 8

DEFINITIONS

The next Thinking Operation is **Definitions**.

1. **Amble.** What does **amble** mean? (Signal.) *Walk slowly.*
 - What word means **walk slowly**? (Signal.) *Amble.*
 - (Repeat step 1 until firm.)
2. **Listen.** *Ambling is fun.* Say that. (Signal.) *Ambling is fun.* (Repeat until firm.)
 - Now you're going to say that sentence with different words for **ambling**. (Pause.) *Get ready.* (Signal.) *Walking slowly is fun.* (Repeat until firm.)
 - (Repeat step 2 until firm.)
3. **Listen.** *The pig ambled next to the fence.* Say that. (Signal.) *The pig ambled next to the fence.* (Repeat until firm.)
 - Now you're going to say that sentence with different words for **ambled**. (Pause.) *Get ready.* (Signal.) *The pig walked slowly next to the fence.* (Repeat until firm.)
 - (Repeat step 3 until firm.)

EXERCISE 9

DEFINITIONS

1. **Indolent.** (Pause.) What's a synonym for **indolent**? (Signal.) *Lazy.*
 - And what's a synonym for **lazy**? (Signal.) *Indolent.*
 - (Repeat step 1 until firm.)
2. **Listen.** *When it is sunny, I feel lazy.* Say that. (Signal.) *When it is sunny, I feel lazy.* (Repeat until firm.)
 - Now you're going to say that sentence with a synonym for **lazy**. (Pause.) *Get ready.* (Signal.) *When it is sunny, I feel indolent.* (Repeat until firm.)
 - (Repeat step 2 until firm.)
3. **Canine.** (Pause.) What's a synonym for **canine**? (Signal.) *Dog.*
 - And what's a synonym for **dog**? (Signal.) *Canine.*
 - (Repeat step 3 until firm.)
4. **Listen.** *His canine has a wet nose.* Say that. (Signal.) *His canine has a wet nose.* (Repeat until firm.)

- Now you're going to say that sentence with a synonym for **canine**. (Pause.) *Get ready.* (Signal.) *His dog has a wet nose.* (Repeat until firm.)
- (Repeat step 4 until firm.)
- 5. **Complete.** (Pause.) What's a synonym for **complete**? (Signal.) *Finish.*
 - And what's a synonym for **finish**? (Signal.) *Complete.*
 - (Repeat step 5 until firm.)
- 6. **Listen.** *I can't finish this work.* Say that. (Signal.) *I can't finish this work.* (Repeat until firm.)
 - Now you're going to say that sentence with a synonym for **finish**. (Pause.) *Get ready.* (Signal.) *I can't complete this work.* (Repeat until firm.)
 - (Repeat step 6 until firm.)

Points

(Pass out the Workbooks. Award points for Thinking Operations.)

WORKBOOK EXERCISES

We're going to do the Workbooks now. Remember to follow my instructions carefully.

EXERCISE 10

NEW SOME, ALL, NONE

1. Everybody, touch part A in your Workbook. ✓
 - I'll say statements about the picture. Some of these statements are true, some are false, and some **may be** true or **may be** false.
 - Here's a **maybe** statement about the picture: Some of the trees are five years old. That **may be** true or **may be** false. We don't know.
 - Here's another **maybe** statement: All the trees belong to Mr. Jones. That **may be** true or **may be** false. We don't know.
2. Get ready to make a box around **true**, **false**, or **maybe**. Item 1. **None** of the trees are twenty years old. Make a box around **true**, **false**, or **maybe** for item 1. ✓

3. Item 2. **All** of the trees are peach trees. Make a box around **true**, **false**, or **maybe** for item 2. ✓
4. Item 3. **Some** of the trees have leaves. Make a box around **true**, **false**, or **maybe** for item 3. ✓
5. Item 4. **All** of the trees have leaves. Make a box around **true**, **false**, or **maybe** for item 4. ✓
6. Let's check your answers. Mark any item you missed with an **X**. Everybody, tell me **true**, **false**, or **maybe**.
 - Item 1. **None** of the trees are twenty years old. (Signal.) *Maybe*.
 - Item 2. **All** of the trees are peach trees. (Signal.) *Maybe*.
 - Item 3. **Some** of the trees have leaves. (Signal.) *True*.
 - Item 4. **All** of the trees have leaves. (Signal.) *False*.

EXERCISE 11

CLASSIFICATION

1. Pencils down. Don't write anything yet. Everybody, touch the instructions for part B in your Workbook. ✓
- I'll read the first instruction. Listen. Underline the furniture. What are you going to do to every piece of furniture? (Signal.) *Underline it*.
2. I'll read the next instruction. Make a box around the containers. What are you going to do to every container? (Signal.) *Make a box around it*.
- Everybody, do it. Underline the furniture and make a box around the containers. ✓
3. Get ready to mark your papers. Put an **X** by any object you got wrong.
4. What class is a **glass** in? (Signal.) *Containers*.
- How did you mark the **glass**? (Signal.) *Made a box around it*.
5. (Repeat step 4 for **bowl**, **stool**, **garbage can**, **chest of drawers**, **bookcase**, **vase**, **jug**, **easy chair**, and **table**.)


EXERCISE 12

SAME

1. Everybody, touch part C in your Workbook. ✓
- Some of the objects in Box 1 are made of the same material. **Circle** all the objects that are made of the same material. Do it. ✓
2. Some of the objects in Box 2 are usually found in the same room. **Put a 2 on** all the objects that are usually found in the same room. Do it. ✓
3. Some of the objects in Box 3 are in the same class. **Draw a box around** each object that's in the same class. Do it. ✓
4. Everybody, get ready to check part C. You're going to name the material of the objects you marked in Box 1. (Pause.) Get ready. (Signal.) *Metal*.
- You're going to name the place of the objects you marked in Box 2. (Pause.) Get ready. (Signal.) *Living room*.
- You're going to name the class of the objects you marked in Box 3. (Pause.) Get ready. (Signal.) *Food*.

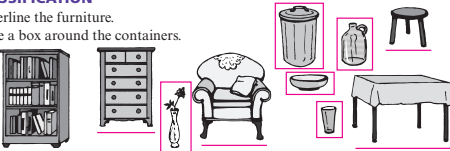
Lesson 8 **Workbook page 10**

A SOME, ALL, NONE
Make a box around the correct answer.

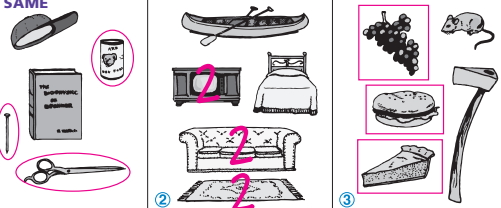


1. true	false	maybe
2. true	false	maybe
3. true	false	maybe
4. true	false	maybe


B CLASSIFICATION
Underline the furniture.
Make a box around the containers.



C SAME




D SOME, ALL, NONE



1. e
2. c
3. e
4. d

E DESCRIPTION



1. d
2. a
3. d

5. Make an X next to any item you miss. Which objects did you mark in Box 1? (Call on one student.) *Can, nail, scissors.*
- What is the same about those objects? (Call on one student.) *They are made of metal.*
- How did you mark each of those objects? (Call on one student.) *Circled it.*
6. (Repeat step 5 for Boxes 2 and 3.)

EXERCISE 13

NEW SOME, ALL, NONE

1. Everybody, touch part D in your Workbook. ✓
- I'll say statements that are true of one of the pictures. You write the letter of the right picture. Don't get fooled, because I may say statements about the same picture twice.
2. Item 1. **Only some** of the bottles are full. Write the letter of that picture on line 1. ✓

3. Item 2. **All** the bottles are empty. Write the letter of that picture on line 2. ✓
4. Item 3. **Only some** of the bottles are empty. Write the letter of that picture on line 3. ✓
5. Item 4. **None** of the bottles are empty. Write the letter of that picture on line 4. ✓
6. Let's check your answers. Mark any items you missed with an X. Tell me the letter of the right picture.
7. Item 1. **Only some** of the bottles are full. (Signal.) E.
8. (Repeat step 7 for items 2–4.)

EXERCISE 14

NEW DESCRIPTION

1. Everybody, touch part E in the Workbook. ✓
- Figure out which woman I describe.
2. Item 1. This woman is smiling. This woman has black hair. This woman is wearing glasses. Listen again. (Repeat the description.)
- Write the letter for item 1. ✓
3. Item 2. This woman is smiling. This woman is not wearing glasses. This woman has light hair. Listen again. (Repeat the description.)
- Write the letter for item 2. ✓
4. Item 3. This woman has black hair. This woman is wearing glasses. This woman is wearing earrings. Listen again. (Repeat the description.)
- Write the letter for item 3. ✓
5. Let's check your answers. Mark any items you missed with an X.
6. Item 1. This woman is smiling. This woman has black hair. This woman is wearing glasses. Everybody, what letter? (Signal.) D.
7. (Repeat step 6 for items 2 and 3.)

Points

(Award points for Workbooks.)

INFORMATION

We're going to work on Information now.

EXERCISE 15

CALENDAR: Seasons in a Year

1. There are four seasons in a year. How many seasons are in a year? (Signal.)
Four.
- Tell me the fact about how many seasons are in a year. (Signal.) *There are four seasons in a year.*
2. My turn to name the seasons in a year. Winter, spring, summer, fall. Your turn. Name the seasons in a year. (Signal.)
Winter, spring, summer, fall. (Repeat until firm.)
3. You named the four (pause; signal) seasons in a year.
4. How many seasons are in a year? (Signal.)
Four.

Individual test

(Call on individual students to do one of the following tasks:)

- a. Tell me the fact about how many seasons are in a year.
- b. Name the seasons in a year.

EXERCISE 16

MEMORIZATION: Poem

Task A

1. Let's see if you remember some information. What does a mechanic do? (Call on a student. Accept reasonable responses.)
- Yes, a mechanic fixes cars.
2. What does an astronomer do? (Call on a student. Accept reasonable responses.)
- Yes, an astronomer looks at stars.
3. How would you recognize a captain in the army? (Call on a student. Accept reasonable responses.)
- Yes, a captain has two bars on each shoulder.

4. What is sparring? (Call on a student. Accept reasonable responses.)
- Yes, sparring is light boxing. Boxers spar a lot when they are getting in shape for a fight.

Task B

1. Here's that poem that tells about the things we've talked about before. Listen.
A mechanic fixes cars,
An astronomer looks at stars,
A captain has two bars,
And a boxer spars and spars.
2. Here's the first line. Listen. A mechanic fixes cars.
- Your turn. Say it. (Signal.) *A mechanic fixes cars.* (Repeat until firm.)
3. An astronomer looks at stars.
- Your turn. Say it. (Signal.) *An astronomer looks at stars.* (Repeat until firm.)
4. A mechanic fixes cars, an astronomer looks at stars. Say it with me. (Signal. Respond with the students.) *A mechanic fixes cars, an astronomer looks at stars.* (Repeat until the students are responding with you.)
- Your turn. (Signal.) *A mechanic fixes cars, an astronomer looks at stars.* (Repeat until firm.)
5. A captain has two bars. Say it. (Signal.) *A captain has two bars.* (Repeat until firm.)
6. A mechanic fixes cars, an astronomer looks at stars, a captain has two bars. Say it with me. (Signal. Respond with the students.) *A mechanic fixes cars, an astronomer looks at stars, a captain has two bars.* (Repeat until students are responding with you.)
- Your turn. (Signal.) *A mechanic fixes cars, an astronomer looks at stars, a captain has two bars.* (Repeat until firm.)
7. And a boxer spars and spars. Say it. (Signal.) *And a boxer spars and spars.* (Repeat until firm.)

8. Here's the whole poem.
A mechanic fixes cars,
An astronomer looks at stars,
A captain has two bars,
And a boxer spars and spars.
Say it with me. (Signal. Respond with the students. Repeat until students respond with you.)
9. All by yourselves. Say the poem. (Signal. The students say the poem. Repeat until firm.)

EXERCISE 17

NEW INFORMATION: Animals

1. You're learning about animals that have a backbone. How many classes of those animals are there? (Signal.) *Five.*
 - You've learned facts about two of those classes. Which classes? (Signal.) *Mammals and reptiles.* (Repeat until firm.)
2. Name a mammal. (Call on individual students. The group is to name at least five mammals.)
 - You learned two facts about **all mammals**. Everybody, tell me those two facts. (Hold up one finger.) *First fact. All mammals have hair.*
 - (Hold up two fingers.) *Second fact. All mammals are warm-blooded.*
 - (Repeat until the students say the facts in order.)
3. Name a reptile. (Call on individual students. The group is to name at least four reptiles.)
 - You learned two facts about **all reptiles**. Everybody, tell me those two facts. (Hold up one finger.) *First fact. All reptiles are cold-blooded.*
 - (Hold up two fingers.) *Second fact. All reptiles are born on land.*
 - (Repeat until the students say the facts in order.)
4. What class are monkeys in? (Signal.) *Mammals.*
 - So, tell me the two facts you know about **monkeys**. (Hold up one finger.) *First fact. Monkeys have hair.*
 - (Hold up two fingers.) *Second fact. Monkeys are warm-blooded.*
 - (Repeat until the students say the facts in order.)
5. What class are alligators in? (Signal.) *Reptiles.*
 - So, tell me the two facts you know about **alligators**. (Hold up one finger.) *First fact. Alligators are cold-blooded.*
 - (Hold up two fingers.) *Second fact. Alligators are born on land.*
 - (Repeat until the students say the facts in order.)

EXERCISE 18

NEW INFORMATION: Animals

1. You're going to learn about another class of animals that have a backbone.
2. Eagles are not mammals or reptiles. They are birds. Name another bird. (Call on individual students. The group is to name at least four birds.)
3. Here's the first fact about **all birds**. Listen. All birds have feathers. Say that fact. (Signal.) *All birds have feathers.* (Repeat until firm.)
 - Yes, even birds that can't fly have feathers.
4. Here's that fact again: All birds have feathers. Eagles are birds. So, eagles (pause; signal) *have feathers.*
 - Robins are birds. So, robins (pause; signal) *have feathers.*
 - Ducks are birds. So, ducks (pause; signal) *have feathers.*
5. Everybody, tell me the first fact about **all birds**. (Signal.) *All birds have feathers.*
 - Here's the second fact about **all birds**. Listen. All birds are warm-blooded. Say that fact. (Signal.) *All birds are warm-blooded.* (Repeat until firm.)

6. Here are the two facts you've learned about **all birds**. (Hold up one finger.) **First fact.** *All birds have feathers.*
- (Hold up two fingers.) **Second fact.** *All birds are warm-blooded.*
 - **Your turn.** Tell me the two facts about **all birds**. (Hold up one finger.) **First fact.** *All birds have feathers.*
 - (Hold up two fingers.) **Second fact.** *All birds are warm-blooded.*
 - (Repeat until the students say the facts in order.)
7. **Penguins are birds. So, tell me the two facts you know about penguins.** (Hold up one finger.) **First fact.** *Penguins have feathers.*
- (Hold up two fingers.) **Second fact.** *Penguins are warm-blooded.*
 - (Repeat until the students say the facts in order.)
8. **Ostriches are birds. So, tell me the two facts you know about ostriches.** (Hold up one finger.) **First fact.** *Ostriches have feathers.*
- (Hold up two fingers.) **Second fact.** *Ostriches are warm-blooded.*
 - (Repeat until the students say the facts in order.)

Individual test

(Call on individual students to do one of the following tasks:)

- a. **Robins are birds. What two facts do you know about robins?**
- b. **Sparrows are birds. What two facts do you know about sparrows?**
- c. **Name three mammals.**
- d. **Name three reptiles.**
- e. **Name three birds.**

Points

(Award points for Information. Direct the students to total their points for the lesson and enter the total on the Point Summary Chart.)

END OF LESSON 8