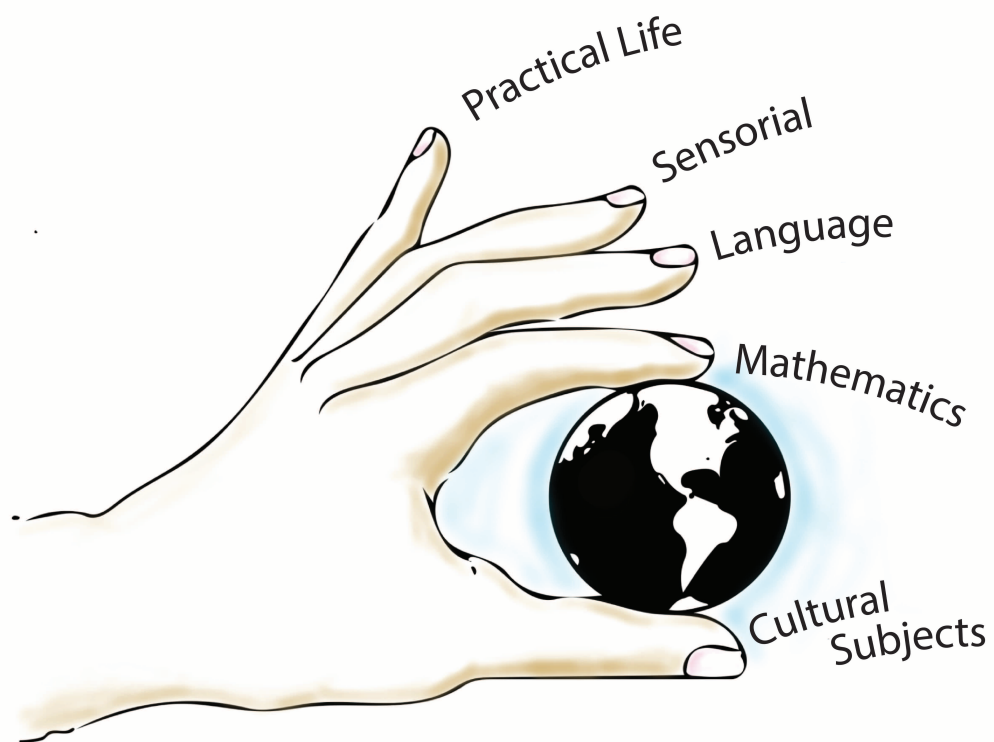


Montessori Educators International, Inc.



Practical Life

Elementary

Lesson Preparation Materials

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manuals
free of charge.**

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Invitations and Replies

Informal invitations may be made by telephone. The advantage is that the response usually is given at that time. The disadvantage is that the occasion may be forgotten.

Informal invitations usually are handwritten. Printed informal invitations may be purchased. These have blanks to be filled in with appropriate information.

Formal invitations usually are printed or engraved with all the information given.

Some invitations are sent six weeks before an event such as a wedding. Invitations for other events should be sent at least two weeks in advance.

Each invitation should state the nature of the occasion. Parties may be held for birthdays, christenings, graduation from high school or college, engagement announcements, anniversaries, to honor special people such as a bride or a famous artist, to celebrate special events or to give an opportunity to socialize with friends.

The name or names of those giving the party must be stated.

The date, time and place of the party are essential.

A request for response by a given date should be made if the host needs to know how many people will be present. This is important if food is to be prepared.

Informal invitations may request that response be made by telephone, in which case, the telephone number must be given. "Please reply" may be written at the lower left.

Formal invitations sometimes enclose a printed response card and even a stamped, addressed envelope to encourage immediate reply. The appropriate places are checked on the card before returning it.

It is polite to explain the reason for declining an invitation. Reasons could be illness, being out of town, commitment to a previous engagement or having guests.

Formal invitations may request response by placing at the lower left corner the letters, R.S.V.P. which is an abbreviation for the French, Repondez, s'il vous plait. "The favor of a reply is requested" may replace R.S.V.P.

An invited guest should reply within five days of receiving an invitation.

Elements of the Informal Invitation

1. What
State the type of party for which the invitation is being issued.
2. When
State the date and the time when the party begins and the time it ends.
3. Where
State the exact address where the occasion is to be held.
4. Host
Give the name of the person hosting the party.
5. Response
State if the invited guest is to respond to indicate that the invitation is or is not accepted (Please respond) is not accepted (Regrets only), is to be answered by mail or telephone. Give the date by which the response is to be made.

Control Model for Informal Invitation

You are invited to a (kind of party) party
on (day) (month and date) at (time, AM or PM)
at (exact address of location).

Please respond to (your name) by (mail or telephone, with either address of place where response is to be sent, or telephone number) before (date response is to be made).

Example of Informal Invitation

You are invited to a swimming party
on Tuesday July 1, 1994, at 2 PM
at 2431 Concord Pike, Smithville.
Please respond to Dottie Black,
654-7890, before June 25.

Regrets only

Elements and Form of the Formal Invitation

1. Host
Give the name of the person hosting the party.
2. What
State the type of party for which the invitation is being issued.
3. When
State the date and the time when the party begins and the time it ends.
4. Where
State the exact address where the occasion is to be held.
5. Response
State if the invited guest is to respond to indicate that the invitation is or is not accepted (R.S.V.P.), is not accepted (regrets only), is to be answered by mail or telephone. Give the date by which the response is to be made.

Control Model for Formal Invitation

(name of person giving the party)
request(s) the honor of your presence at
(name of occasion)
on (date and time)
at (location.)

R.S.V.P.

Example of Formal Invitation

General and Mrs. George Washington
request the honor of your presence at a
reception for Thomas Jefferson, Esq. on
Sunday, May tenth at four o'clock
at 1600 Pennsylvania Avenue
Washington, District of Columbia.

R.S.V.P.

Control Model of Acceptance to a Formal Invitation

(name of invited guest(s))
accept(s) with pleasure
(name of host)'s
kind invitation for (day, date and time.)

Example of Acceptance to a Formal Invitation

Mr. and Mrs. John Quincy Adams
accept with pleasure
General and Mrs. Washington's
kind invitation for Sunday, May tenth
at four o'clock.

Control Model for Declining a Formal Invitation

(name of invited guest(s))
regret(s) that (reason for absence)
prevents their acceptance of
(name of host)
kind invitation for (day, date.)

Example of Declining a Formal Invitation

Mr. and Mrs. John Quincy Adams
regret that absence from the city
prevents their acceptance of
General and Mrs. Washington's
kind invitation for Sunday, May tenth.

Invitations and Replies

Informal invitations may be made by telephone. The advantage is that the response usually is given at that time. The disadvantage is that the occasion may be forgotten.

Informal invitations usually are handwritten. Printed informal invitations may be purchased. These have blanks to be filled in with appropriate information.

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An invited guest should reply within five days of receiving an invitation.

Elements of the Informal Invitation

1. What
State the type of party for which the invitation is being issued.
2. When
State the date and the time when the party begins and the time it ends.
3. Where
State the exact address where the occasion is to be held.
4. Host
Give the name of the person hosting the party.
5. Response
State if the invited guest is to respond to indicate that the invitation is or is not accepted (*Please respond*), is not accepted (*Regrets only*), is to be answered by mail or telephone. Give the date by which the response is to be made.

Control Model for Informal Invitation

You are invited to a (kind of party) party
on (day) (month and date) at (time, AM or PM)
at (exact address of location).

Please respond to (your name) by (mail or telephone, with either address of place where response is to be sent, or telephone number) before (date response is to be made).

Example of Informal Invitation

You are invited to a swimming party on Tuesday, July 1, 1994 at 2 PM at 2431 Concord Pike, Smithville. Please respond to Dottie Black, 654-7890, before June 25.

Regrets only

Control Model for Formal Invitation

(name of person giving the party)
request(s) the honor of your presence at
(name of occasion)
ON (date and time)
at (location.)

R.S.V.P.

Elements and Form of the Formal Invitation

1. Host
Give the name of the person hosting the party.
2. What
State the type of party for which the invitation is being issued.
3. When
State the date and the time when the party begins and the time it
4. Whereends.
State the exact address where the occasion is to be held.
5. Response
State if the invited guest is to respond to indicate that the invitation is or is not accepted (R.S.V.P.), is not accepted (regrets only), is to be answered by mail or telephone. Give the date by which the response is to be made.

Example of Formal Invitation

General and Mrs. George Washington request the honor of your presence at a reception for Thomas Jefferson, Esq. on Sunday, May tenth at four o'clock at 1600 Pennsylvania Avenue Washington, District of Columbia.

R.S.V.P.

Control Model of Acceptance to a Formal Invitation

(name of invited guest(s)
accept(s) with pleasure
(name of host)'s
kind invitation for (day, date and time.)

Control Model for Declining a Formal Invitation

(name of invited guest(s)
regret(s) that (reason for
absence) prevents their
acceptance of
(name of host)
kind invitation for (day, date.)

Example of Acceptance to a Formal Invitation

Mr. and Mrs. John Quincy Adams
accept with pleasure
General and Mrs. Washington's
kind invitation for Sunday, May
tenth at four o'clock.

Example of Declining a Formal Invitation

Mr. and Mrs. John Quincy Adams
regret that absence from the city
prevents their acceptance of
General and Mrs. Washington's
kind invitation for Sunday, May tenth.

Write an informal invitation to a picnic.

Write an acceptance for an invitation to a picnic.

Write a formal invitation to a party for the wedding anniversary of your parents or grandparents.

Write an acceptance to a formal party.

Command Cards for Invitations

Write a response declining an invitation to a formal party.

Command Cards for Invitations

Nutrition

Protein Foods

meat: beef, veal, pork, lamb
game: rabbit, venison, squirrel,
poultry: chicken, turkey, duck, goose, squab, eggs
game birds: duck, goose, pheasant, quail, dove
seafood: fish, clams, oysters, crab, lobster,
scallops, shrimp
nuts: almonds, cashews, pistachios, pecans,
macadamias, Brazil, hazel, chestnuts,
coconuts
seeds: sunflower, pumpkin, sesame, anise,
poppy, caraway
legumes: dried beans, peas, limas, kidney, black-
eyed peas, soybeans, peanuts

Dairy Products: milk, cheese, yogurt,
cottage cheese, cream, ice cream,
butter,

Fruit:

citrus: oranges, grapefruit, tangerines, limes,
lemons, tangelos
from trees: apples, peaches, pears, apricots,
nectarines, plums, cherries
from bushes: blueberries, raspberries,
blackberries, currants, gooseberries from vines:
strawberries, grapes, pumpkins,
watermelons, cantaloupes, honeydews, kiwis
from other plants: pineapple, bananas
fruits considered vegetables: eggplant, peppers,
squash, okra, cucumber, tomatoes, olives

Vegetables:

roots: potatoes, sweet potatoes, beets, onions,
turnips, radishes, carrots stems:
asparagus, celery, rhubarb
leaves: cabbage, lettuce, spinach,
turnip greens, kale, collards, parsley,
Brussels sprouts
flowers: broccoli, cauliflower seeds:
peas, corn, string beans, mung beans,
soybeans

Grains:

wheat, oats, rice, rye, millet, barley, buckwheat
made into cereal or flour for bread, pasta,
cookies, cake

Fats:

vegetable :olive oil, corn oil, soybean oil,
safflower oil, coconut oil, sunflower
oil, sesame oil, cotton seed oil, canola
oil, peanut oil
animal: lard, butter,

tallow Sugar:

refined sugar, brown sugar, honey, maple
syrup, sorghum

Nutrition

protein foods

dairy products

fruit

vegetables

grains

fats

sugars

Water Soluble Vitamins

Vitamin B-1 sources: fish, meat (especially pork), dried beans, peas, nuts, wheat germ, whole grain products such as bread and cereal.

Vitamin B-2 or riboflavin sources: leafy vegetables, legumes, liver, chicken, milk, cheese, whole wheat products such as bread and cereal.

Vitamin B-3 or niacin sources: fish, meat, poultry, greens, sesame seeds, soybeans, peanut butter, bread and cereal.

Vitamin B-6 or pyridoxine sources: fish, meat, organ meats, eggs, seeds, legumes, greens, bananas, yeast, wheat germ, whole wheat bread and cereal.

Pantothenic acid sources: egg yolk, meat, poultry, nuts, broccoli, corn, legumes, whole grain cereal.

Vitamin B-12 or cobalamin sources: meat, fish, oysters, milk and milk products.

Biotin sources: eggs, chicken, liver, pork, sardines, salmon and fresh vegetables.

Folic acid or folacin or folate sources: legumes, greens, broccoli, whole grains, liver and yeast.

Vitamin C or ascorbic acid sources: citrus fruit, cantaloupe, tomatoes, strawberries, greens, broccoli, Brussel sprouts and green pepper.

Fat Soluble Vitamins

Vitamin A sources: liver, egg yolk, whole milk, margarine, butter, dark green vegetables and fruit.

Vitamin D or cholecalciferol sources: milk, fish liver oils, eggs, tuna and salmon.

Vitamin E or tocopherol sources: nuts, liver, wheat germ, leafy vegetables and oils except coconut oil.

Vitamin K sources: leafy vegetables, liver, egg yolk and soybean oil.

Minerals

Calcium sources: greens, legumes, nuts, whole grains, tofu, milk, cheese, egg yolk and meat.

Phosphorous sources: nuts, legumes, whole grains, egg yolk, milk, meat, and cheese.

Iron sources: greens, soybeans, dried fruit, eggs, molasses, liver and meat.

Iodine sources: seafood and iodized salt.

Sodium sources: table salt, baking soda and processed foods.

Potassium sources: beans, tomatoes, spinach, fish, milk, bananas, oranges and grapefruit.

Magnesium sources: nuts, whole grains, pumpkin seeds, green vegetables, eggs and fish.

Chromium sources: whole grains, meat and brewers' yeast.

Zinc sources: oatmeal, whole grains, corn, peas, peanut butter, milk, butter, clams, oysters, liver and beef.

Copper sources: nuts, shell fish, liver, peas,

Energy Foods

Carbohydrate sources: bread, potatoes, corn, legumes, fruit, cereal, and sugar or foods containing sugar.

Protein sources: milk, cheese, yogurt, eggs, nuts, peanut butter, dried peas and beans, poultry, fish and meat.

Fat sources: whole milk, cream, butter, cheese, egg yolk, vegetable oils and meat.

Fiber

Fiber sources: legumes, vegetables, fruit, whole grain foods such as bread and cereal made from wheat, corn, oats, rye or bran.

Water

Water is essential for the digestion and metabolism of food.

About 60% of a human's body weight is water which must be replaced constantly. It is recommended that adults drink eight glasses of water each day.

Water helps regulate body temperature. The evaporation of perspiration on the skin cools the body.

The cells of the body contain bound water which allows cells to function.

Water is necessary for life.

Vitamins

Vitamins are compounds which are essential to the health of all animals. Most vitamins are obtained from food. Some vitamins are produced by bacteria living in the intestines. There are two types of vitamins, fat soluble and water soluble.

Fat soluble vitamins are stored in the tissues of the body. If too much of this type of vitamin is taken, there can be serious toxic effects. If there is an excess of water soluble vitamins taken, these are excreted.

Vitamin B-1 or thiamine is water soluble. It assists with the release of energy from food. Sources: fish, meat (especially pork), dried beans, peas, nuts, wheat germ, whole grain products such as bread and cereal.

Vitamin A is fat soluble. It can be formed in the intestines. It is necessary for vision, smooth skin and the clotting of blood. Sources: liver, egg yolk, whole milk, margarine, butter, dark green vegetables and fruit.

Vitamin B-2 or riboflavin is water soluble. It allows the body's cells to use oxygen and keeps eyes, skin and hair healthy. Sources: leafy vegetables, legumes, liver, chicken, milk, cheese, whole wheat products such as bread and cereal.

Vitamin B-3 or niacin is water soluble. It preserves the health of the skin, digestive tract and nervous system. Sources: fish, meat, poultry, greens, sesame seeds, soybeans, peanut butter, bread and cereal.

Pantothenic acid is water soluble. It allows the body to convert food into energy. Sources: egg yolk, meat, poultry, nuts, broccoli, corn, legumes, whole grain cereal.

Vitamin B-6 or pyridoxine is water soluble. It keeps teeth, gums, blood vessels, nervous system and red blood cells healthy. Sources: fish, meat, organ meats, eggs, seeds, legumes, greens, bananas, yeast, wheat germ, whole wheat bread and cereal.

Vitamin B-12 or cobalamin is water soluble. It is essential for the production of blood and myelin sheaths surrounding nerves. Sources: meat, fish, oysters, milk and milk products.

Biotin is water soluble. It is essential for healthy skin and circulatory system. Sources: eggs, chicken, liver, pork, sardines, salmon and fresh vegetables.

Vitamin C or ascorbic acid is water soluble. It is needed for making collagen which holds cells together and for resisting infection. Sources: citrus fruit, cantaloupe, tomatoes, strawberries, greens, broccoli, Brussel sprouts and green pepper.

Folic acid or folacin or folate is water soluble. It is necessary for production of red blood cells and cell reproduction. Sources: legumes, greens, broccoli, whole grains, liver and yeast.

Vitamin D or cholecalciferol is fat soluble. Exposure to the sun causes it to be formed in the skin. It is essential for the utilization of calcium and phosphorous which is the reason Vitamin D is added to milk. Sources: fish liver oils, eggs, tuna and salmon.

Vitamin E or tocopherol is fat soluble. It keeps body fat from deteriorating by preventing oxidation in cell membranes. Sources: nuts, liver, wheat germ, leafy vegetables and oils except coconut oil.

Minerals

Vitamin K can be produced by intestinal bacteria. It is essential for the clotting of blood. Sources: leafy vegetables, liver, egg yolk and soybean oil.

Calcium is necessary for blood clotting, muscle tone, formation of bone and teeth. Sources: greens, legumes, nuts, whole grains, tofu, milk, cheese, egg yolk and meat.

Phosphorous is essential for bone formation. Sources: nuts, legumes, whole grains, egg yolk, milk, meat, and cheese.

Iodine is a necessary component of the production of thyroxine in the thyroid gland which regulates the body's use of energy. Sources: seafood and iodized salt.

Iron is an essential element of hemoglobin in the blood. Sources: greens, soybeans, dried fruit, eggs, molasses, liver and meat.

Sodium is essential to keep a balance of fluids in the body. It is found in table salt, baking soda and processed foods.

Potassium is necessary for muscle contraction, especially the heart muscle. Sources: beans, tomatoes, spinach, fish, milk, bananas, oranges and grapefruit.

Chromium is necessary for the metabolism of glucose. Sources: whole grains, meat and brewers' yeast.

Magnesium is required for the proper function of the nervous system, heart and muscles. Sources: nuts, whole grains, pumpkin seeds, green vegetables, eggs and fish.

Zinc is essential for growth and healing. Sources: oatmeal, whole grains, corn, peas, peanut butter, milk, butter, clams, oysters, liver and beef.

Copper is necessary in the metabolism of iron and to maintain bones, blood vessels and the nervous system. Sources: nuts, shell fish, liver, peas,

Energy is necessary for living creatures to grow, develop and function. Food energy is measured in kilocalories. A calorie is the quantity of heat needed to raise the temperature of one gram of water one degree Celsius. One kilocalorie is equal to one thousand calories.

Energy Foods

A bomb calorimeter is a device used to determine the number of calories in food. It consists of a tightly closed metal container or "bomb". This is immersed in a container of water in which a thermometer has been placed. A measured quantity of food is burned in the bomb filled with oxygen. The water in the container surrounding the bomb absorbs the heat. The increase in water temperature is recorded. The caloric value of the food is calculated from the amount of food burned in the bomb and the increase in water temperature.

The primary source of energy is from carbohydrates. These should supply about 60% of the calories each day. Sources: bread, potatoes, corn, legumes, fruit, cereal, and sugar or foods containing sugar.

Fats or lipids should supply not more than 25% of the calories each day. Sources: milk, cream, butter, cheese, egg yolk, vegetable oils and meat.

Fiber

Foods containing protein should supply about 15% of the calories each day. Sources: milk, cheese, yogurt, eggs, nuts, peanut butter, dried peas and beans, poultry, fish and meat.

Fiber is an essential part of the daily diet. It allows the digestive system to function properly. It helps to prevent diseases of the digestive tract and to control weight and diabetes. Sources: legumes, vegetables, fruit, whole grain foods such as bread and cereal made from wheat, corn, oats, rye or bran.

breakfast

vitamin 8-6 (pyridoxine)

lunch

vitamin B-12 (cobalamin)

dinner

pantothenic acid

Fiber

biotin

Energy

Fat Soluble Vitamins

Water Soluble Vitamins

vitamin A

vitamin C (ascorbic acid)

vitamin D

vitamin 8-1 (thiamine)

vitamin E

vitamin B-2 (riboflavin)

vitamin K

vitamin 8-3 (niacin)

Minerals

calcium

zinc

chromium

copper

iodine

iron

magnesium

phosphorus

potassium

sodium

Example of daily menus:

Breakfast

fruit or juice:

1/2 cup grain: bread, cornbread, muffins, waffles, pancakes, biscuits
3/4 cup cereal protein: egg, meat, fish, cheese, poultry, peanut butter, milk: 3/4 cup

Lunch:

protein: 1 ounce meat, poultry, fish, cheese, peanut butter, dried peas or beans or 1 egg
vegetable:
1/2 cup fruit:
1/2 cup grain: bread
milk: 3/4 cup

Dinner:

protein: 3 ounces meat, poultry, fish, cheese, peanut butter, dried peas or beans or 1 egg
vegetable:
1/2 cup fruit:
1/2 cup grain: bread
milk: 3/4 cup

Activities for Nutrition

Take the container of nutrition information panels for plain oatmeal and for oatmeal ready-to-eat cereal.

Decide which has the least calories, fat and sodium.

Choose a nutrition information panel from an unsweetened cereal such as Shredded Wheat and a panel from a sweetened cereal such as Honey Nut Cheerios.

Make a chart to compare, on a per serving basis, the following: calories, protein, carbohydrate, fat, sodium, potassium.

Which cereal has the least fat? the least sodium? the least calories?

Choose a nutrition information panel from an unsweetened cereal such as Shredded Wheat and a panel from a sweetened cereal such as Honey Nut Cheerios.

Make a chart to compare, on a per serving basis, the following: vitamin content, minerals, fiber. Which cereal provides the greatest amount of iron? of zinc? of copper? of magnesium? of phosphorus? of calcium?

Choose nutrition information panels from two of your favorite snacks.

Make a chart to compare, on a per serving basis, the following: calories, protein, carbohydrate, fat, sodium, potassium.

Which snack has the least fat? the least sodium? the least calories? the most fiber?

Using the booklet or chart of nutritional information for many kinds of food, compare your favorite fruit with your favorite cereal product snack.

Which has fewer calories? the most fiber? the most vitamin C?

Choose nutrition information panels from several food packages.

Calculate the percent of calories from fat by multiplying the grams of fat by 9 because each gram of fat has 9 calories.

Divide that amount by the total number of calories.

Convert the decimal to percent.

Bar Coding

The Uniform Code Council is the agency that oversees Universal Product Codes. It is located in Dayton, Ohio.

Bar codes are used by airlines, the post office, supermarkets, stores, libraries, warehouses, factories and hospitals*. In 1973, the Universal Product Code was introduced into supermarkets. A description of each product with its price is stored in the memory of a computer. *The postal service uses a special bar code on mail which is sprayed on or printed on an adhesive label.

The digits to the left of the center code designate the manufacturer. For example, Kellogg's products begin with 38000; Quaker Oats, 30000; Kroger "house brands", 11110; Green Giant, 20000.

The digits between the center code and the right start code designate the code of the item. It is given to the item by the manufacturer. There are 99,999 possibilities for codes for items produced by any one manufacturer

If the bar code fails to be read, the clerk keys the numerals from the bottom of the bar code into the cash register to get the cost of the item.

At the checkout counter in a grocery store, the checker or store clerk places the item's bar code over the optical scanner. A laser beam "reads" the code. As the bar code is scanned, information is sent to the cash register where it is displayed on a screen and printed on a paper sales slip. The computer also records the sale so that there is a record of the stock of items in the store.

Automobile factories use bar codes to label parts including engines. Before a part is installed, a scanner reads the bar code to determine if it is the proper part for that particular automobile.

There is a parity bit or check digit usually on the far right beyond the bar code digits. Sometimes the check digit is on the far left beyond the bar code digits. If there are two single separated digits within the bar code, the check digit will be the one at the right. The check digit is designed to be sure that the scanner reads the correct code number.

The code key is based on the binary code used in computers. This uses either 1 or 0 in different combinations. The right start code is 101. The left start code is 101. The center code is 01010.

Each digit is represented by 7 bits which can be black or white. A black bit represents 1; a white bit represents 0. The scanner can read a bar code in less than one second.

Code Key

Digit Value	Left Binary Code	Right Binary Code
0	0001101	1110010
1	0011001	1100110
2	0010011	1101100
3	0111101	1000010
4	0100011	1011100
5	0110001	1001110
6	0101111	1010000
7	0111011	1000100
8	0110111	1001000
9	0001011	1110100

Bar Coding

bar code

pattern of thick and thin lines arranged vertically with numerals at the bottom or at the top.

Universal Product Code (UPC)

pattern of thin lines and thick lines or bars with eleven numerals at the bottom which contain the same information as the lines and bars

bar coding

labeling method for products which allows a computer or computerized cash register to translate the pattern of lines into information about the item on which the bar code appears

optical scanner

device that emits a beam of light, usually through a small window in a check-out counter, which interprets the bar code as a sequence of numbers representing a description of the product

pattern of thick and thin lines
arranged vertically with numerals at
the bottom or at the top

pattern of thin lines and thick lines or
bars with eleven numerals at the
bottom which contain the same
information as the lines and bars

Bar Coding

bar code

Universal Product Code (UPC)

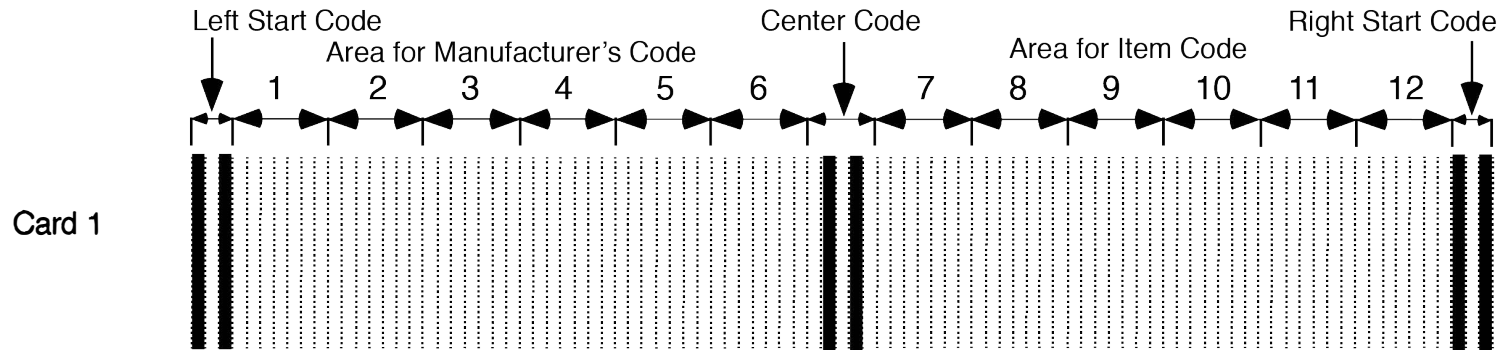
bar coding

optical scanner

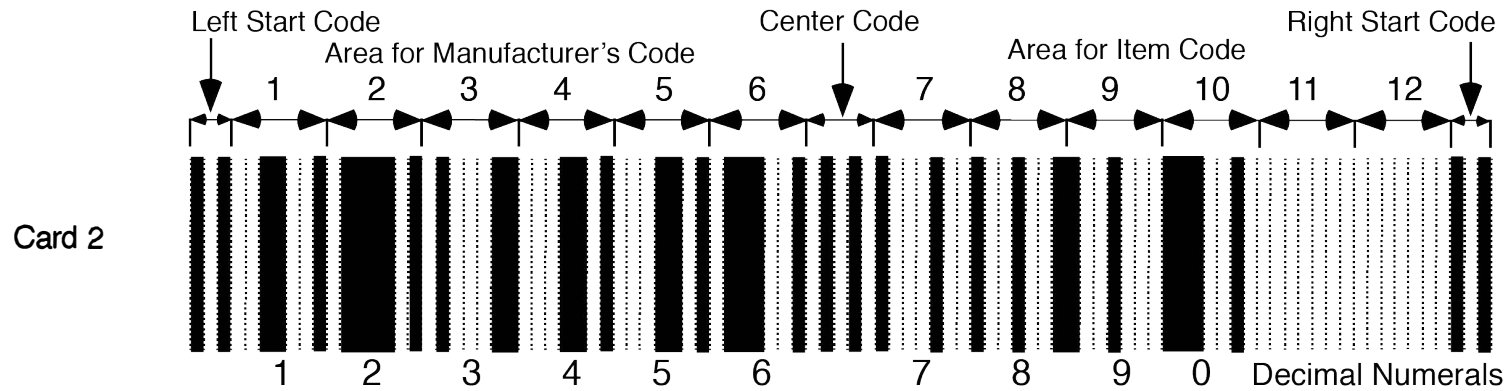
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the bar code as a sequence of
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of the product

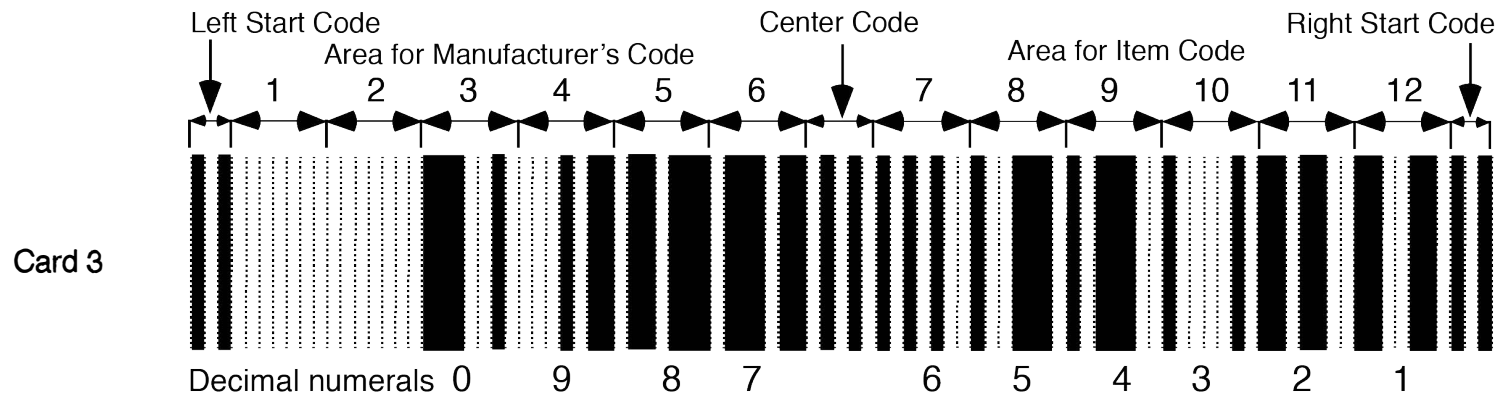
Twelve Digit UPC Code Format

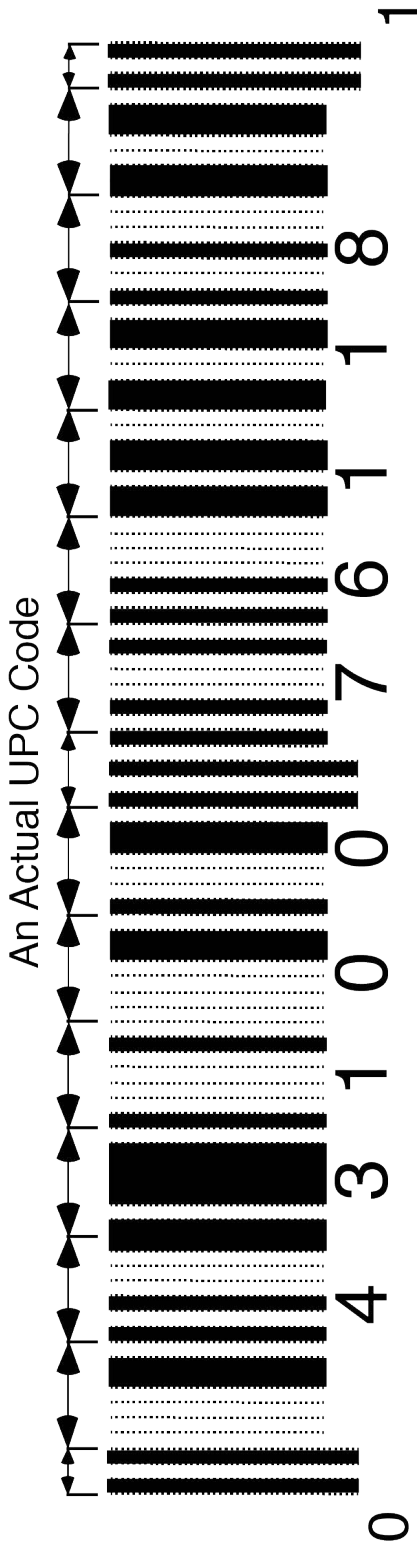


Twelve Digit UPC Code

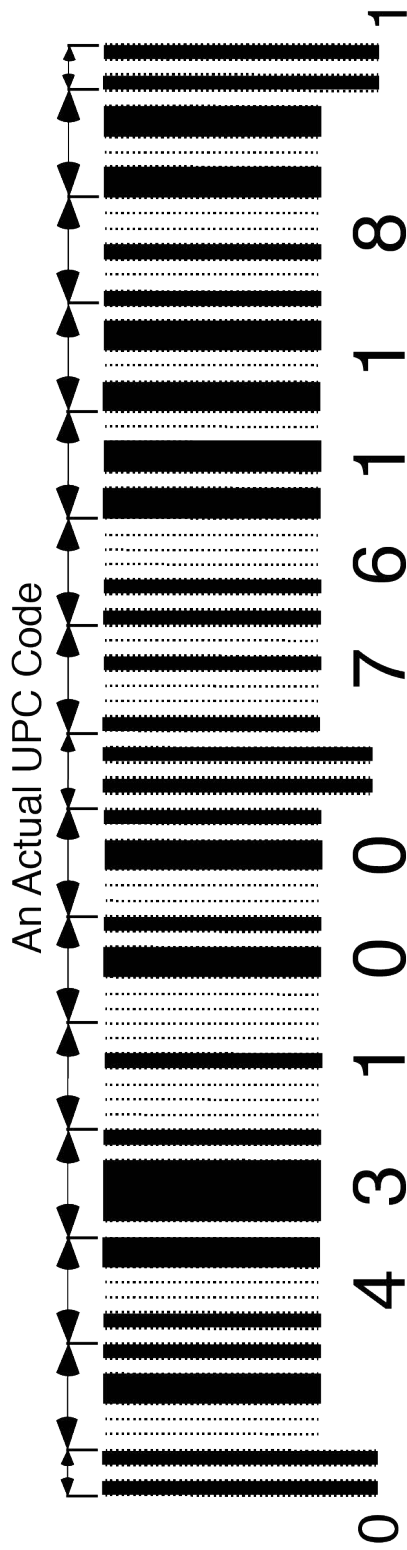


Twelve Digit UPC Code

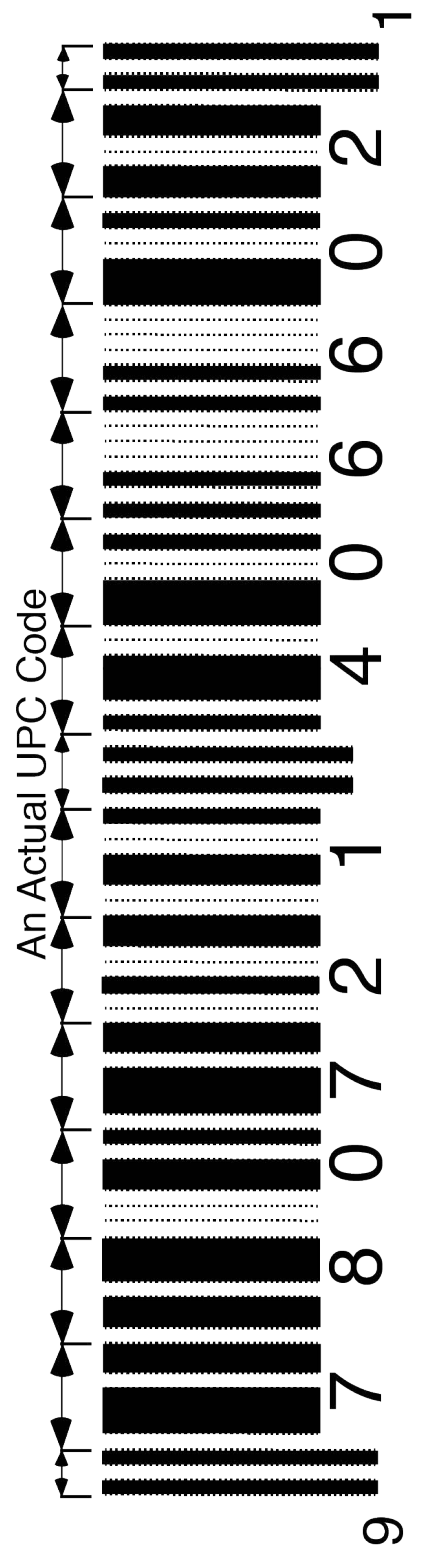




Card 4



Card 5



Card 6

Collect bar codes from labels of different brands of foods. Compare the manufacturer's codes.

Read the digits of a bar code by examining the seven bits into which each digit is divided. If a bit is black, write a 1. If a bit is white, write a 0. Match what you have written with the Code Key to get the UPC.

Find a 12 digit UPC or bar code. Look at the "human readable numbers." Beginning from the right, list the odd-spaced digits and add. Multiply the sum by 3 and save as #1. List the even-spaced digits, add and save as #2. Do not include the check digit in either list. Add #1 and #2. Calculate what must be added to that sum to raise it to the next multiple of 10. The answer will be the check digit.

Collect bar codes from products other than food. Compare the manufacturer's codes.

Command Cards for Bar Codes

Activities for Unit Pricing

Choose any product which is packaged in different size containers.

Calculate the unit price for each size.

Note the size container which represents the best unit price.

Choose any product which is packaged in different types of containers with the same weight in each.

Calculate the unit price for each type of container.

Note if there is a difference in unit price between the containers.

Note which container represents the best unit price.

Choose a brand name product and the same product which is a house brand.

Containers must have the same weight of product.

Calculate the unit price for each brand.

Note which brand has the best unit price.

Take the nutrition information panels for plain oatmeal and for oatmeal ready-to-eat cereal.

Calculate the unit price for each and note which has the best unit price.

History of Ikebana

Ikebana originated in religious practices of Buddhism. Monks gathered flowers and branches which had been broken off by storms. These were arranged on the temple altar as an expression of veneration. Temples were art centers as well as places of worship.

1

The art of arranging living materials in water seeks to achieve perfect harmony, beauty and balance. In addition to plants, pebbles, rocks and wood can be used.

When Buddhism was introduced to Japan in the sixth century, Ikebana arrived with the religion. Ono-no-Imoko, a monk who lived in Kyoto, became famous for his practice of Ikebana. His home was known as Ike-no-bo which meant "priest's lodge by the pond."

His works of art honored Kuan-Yin, Goddess of Mercy. The school of flower arranging established by this monk still exists. Its forty-fifth master is a descendant of Ono-no-Imoko.

2

3

The first arrangements were formally arranged in tall bronze containers.

4

By the fifteenth century, Ikebana had become a methodical art form with many books written on the subject. The earliest style, Rikka or Rikkwa, employed branches, grasses and one or two flowers. The composition represented the Universe. Nine different kinds of tree or shrub branches represented mountains. Grasses represented water, and flowers represented the village and cultivated fields.

5

Each flower was given a different meaning. Iris symbolized patriotism; lotus symbolized purity, sincerity and nobility; plum blossom symbolized courage; pine symbolized longevity; chrysanthemum symbolized immortality. Each arrangement conveyed a message.

6

This art of arranging natural materials was adopted by warriors and nobles. The Shoka or Seika style evolved which was less formal. Ikebana had soothing effects, so it was practiced between battles. Any plants that could be found were arranged in bamboo containers.

7

Eventually the merchant class adopted the method. The arrangements became simpler in a style known as Nageire. About 1860, the first western culture reached Japan and along with it came the flowers of western civilization. The Moribana style evolved in the Ohara School of Ikebana. Flat, shallow containers were used with kenzans and heavy lead shippos to keep plants in position. The arrangements produced a naturalistic style.

8

Today Ikebana embraces Rikka, Shoka, Nageire, Moribana plus other styles. Today's schools of Ikebana are headed by lay persons rather than by priests. It requires five years of training to become a teacher of Ikebana. There are several schools of Ikebana existing in Japan today. Ikenobo, the oldest one, teaches Rikko and Shoka. The Ohara and Sazetsu schools teach Nageire, Moribana and newly developed contemporary styles. The Sazetsu school is considered the best adapted to modern culture.

9

Although Ikebana has lost its religious character, it retains the spiritual experience of beauty and serenity.

10

IKEBANA

Ikebana

Japanese art of arranging living material in water

kenzan

pin holder on which plant material is impaled to keep it into position

shippo

heavy holder for large branch to keep it in position

tomi

materials used to conceal kenzan in a container

goldfish path

space between two kenzans used in the same container

dai

base which completes outline and protects surface on which arrangement is placed

conditioning

methods of treating plant materials with cold water, singeing, chemicals or boiling

singeing

use of flame at tip of plant stem to condition plant before arranging

mizu-giri

cutting stem while immersed in water to prevent air-lock in stem

Rikka or Rikkwa

earliest style of Ikebana, using branches, grasses, one or two flowers in a formal manner

Shoka or Seika

less formal style of plant arrangement

Nageire

simple style developed for use in houses

Moribana

style which evolved after the introduction of Western culture in the 19th century

pool of thought

open space between two main elements of arrangement

Jushi

an extra element such as a flower, a leaf, a root, or a branch

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Conditioning Plant Materials

Never carry plant materials in the bare hands.

Wrap in paper to protect from sun and wind.

If paper is not available, wrap string or cloth strips around stems or branches to carry.

1

Cold water conditioning

Immerse flowers in cold water up to the blossom or flower head for at least one hour.

Branches are treated in the same way.

2

Singeing

Wrap the blossom or flower head in paper to protect it, then hold the stem in an open flame to seal. This is done to plants which produce milky juice when cut. Examples are magnolia, poppy, hydrangea, rhododendron, maple leaves, poinsettia.

3

Boiling

Dip two inches of stem into boiling water for a few seconds, then immerse in cold water up to the blossom or flower head.

Suitable plants for this conditioning are rose and dahlia.

4

Chemical conditioning

Oil of peppermint

Dip stem end into oil of peppermint for two seconds.

Suitable plants are acacia, aster, poppy, canna lily, chrysanthemum, dahlia, gardenia, gentian, geranium, gerbera, honeysuckle, hosta, jasmine, mallow, periwinkle, snapdragon, spirea, wisteria, yarrow, zinnia.

5

Powered alum

Pour a small amount of alum into a lid. Dip stem in alum to coat the end. Suitable plants are maple leaves and canna lilies.

6

Sugar

Pour a small amount of sugar into a lid. Dip stem end in to coat. Suitable plant is the tulip.

7

Trimming of stems or Mizu-giri
Keeping the end of the stem immersed
in water, cut one inch off.

This prevents airlock which does not
allow water to enter the stem.

8

Woody stems are cut at an angle
and split.

9

Do not remove leaves close to flower
head. These act as a natural water
pump.

10

Containers for Ikebana

The container symbolizes the soil.

1

The shape of the container must harmonize with the type of arrangement to be made.

For the Moribana style, the container is flat and shallow, about two to three inches deep. The season determines the material of the container. In Spring and Autumn, pottery in earth colors is appropriate. In Winter, a metal container is used and in Summer, a basket holds the arrangement.

2

3

It is important to choose a kenzan suitable for the container and the type of materials to be arranged. There are many sizes and shapes available. The kenzan must never be conspicuous. It should be painted to match the container or concealed with tomi in the form of leaves, pebbles or pieces of wood.

4

Density, height and thickness of pins must be considered in relation to the stems of the plants. For heavy or thick stems, fewer pins are needed than for thin stems, but they must be longer and thicker.

5

If thick branches are to be used, a shippo is needed.

6

For the Nageire style, a tall container is required.

7

Guidelines for Practicing Ikebana

1. Location

Consider the location where the arrangement will be placed. Plan the height to suit space. Provide an appropriate background if the existing one is not suitable

1

2. Container

Choose a container suitable for the materials to be arranged and season of the year.

In Summer, more water should be visible than in Winter.

Choose an appropriate kenzan or shippo and place in the container according to the angle at which the material will be arranged. Refer to the diagram on positions of the kenzan. The kenzan is in the center only for classical arrangements.

2

3. Preparation of branches

Cut base of branch at an appropriate angle.

Trim branch to produce the best line. Cover cuts with ink or charcoal.

Carefully bend and twist the branch. Provide a supporting stick for the support of heavy branches.

3

4. Placement of materials

Slant in the designated direction according to the selected diagram, being sure that not all blossoms face the same way.

Flowers are grouped as if they are chatting to each other.

A sliver of bamboo may be used to support thin stemmed plants.

Consider the natural growing habit of the plant. Do not bend a straight stem.

Principles of Arrangement

The secrets of grace and elegance in every arrangement are simplicity and perfection of line. No two components are exactly alike. Color is subordinate to line. Empty spaces between elements are part of the composition. This empty space is called pool of thought.

1

The area of water exposed in the container is also an element of the composition. Water must always be clean and free from debris.

The arrangement categories are natural, free style, classical, modern, abstract or avant garde.

2

3

Soe, the second stem or branch, symbolizes man. It is $\frac{3}{4}$ of Shin. Hikae, the third stem or branch, symbolizes earth. It is $\frac{3}{4}$ of Soe except in large arrangements in which it is $\frac{1}{2}$ of Soe.

Jushi may be added to the three main lines. It is $\frac{2}{3}$ of the main line it supports. Materials for jushi may be a flower, a leaf, a root or a branch.

6

There are precise proportions among the three main elements of the composition.

Shin, the first stem or branch, symbolizes heaven. The height of Shin is calculated as follows:

add the diameter of the container to the height of the container, then multiply by $1\frac{1}{2}$.

5

Style categories are:

Risshin Kei or upright,
Keishin Kei or slanting,
Haishin Kei or flat,
Suishin Kei or hanging.

The longest stem or branch determines the style.

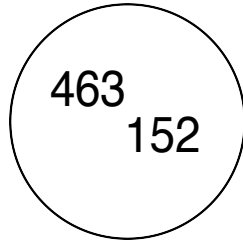
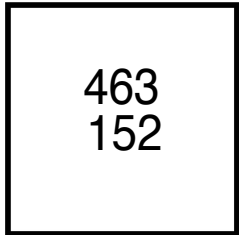
4

In addition to the precise proportions among the elements of the composition, there are designated angles for each element. All angles are measured from an imaginary zero line perpendicular to the center of the kenzan. The horizontal rim of the container represents an angle of 90 degrees.

Angles for Shin in each style are:
Risshin Kei or upright, 5 to 15 degrees from zero;
Keishin Kei or slanting, 45 degrees from zero for tip of Shin;
Haishin Kei or flat, 75 to 85 degrees from zero;
Suishin Kei or hanging, 110 to 130 degrees from zero.

7

Positions of Kenzan in Moribana



A left growing branch or stem is placed in the right position. A right growing branch or stem is placed in the left position.

8

9

Angles

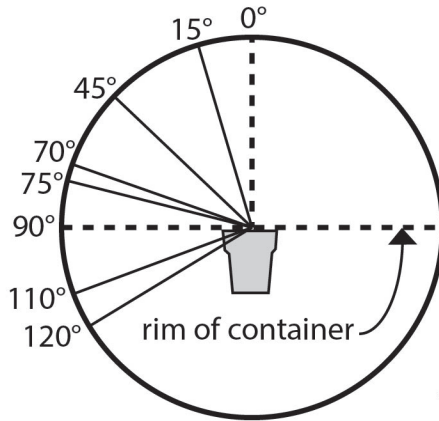
shin= $1 \frac{1}{2}$ x (diameter of container + height of container)



soe= $\frac{3}{4}$ x shin

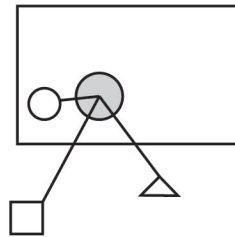
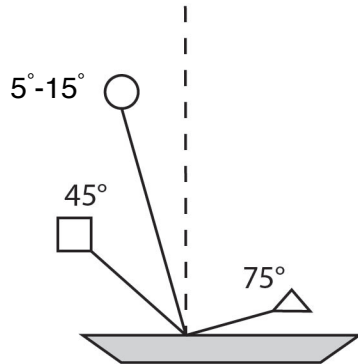


hikae= $\frac{3}{4}$ x soe



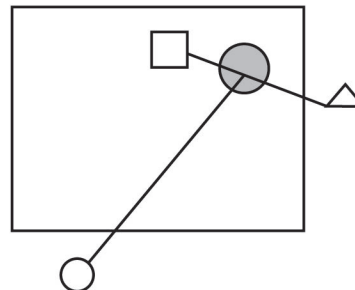
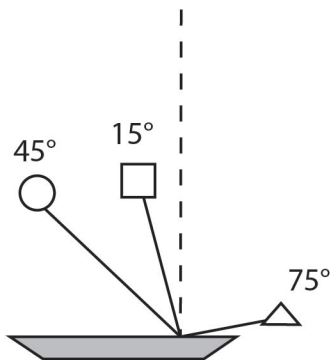
1

Risshin Kei



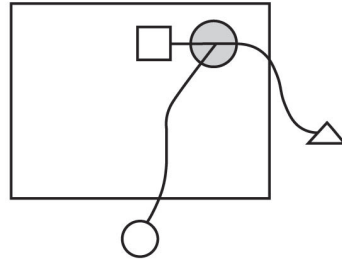
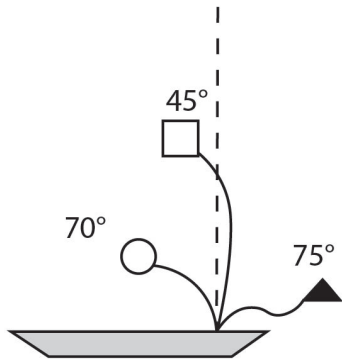
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Keishin Kei



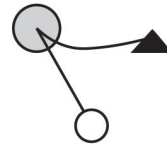
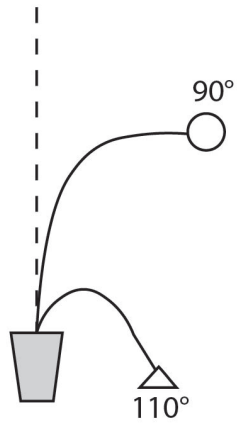
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Haishin Kei



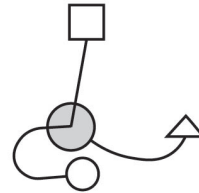
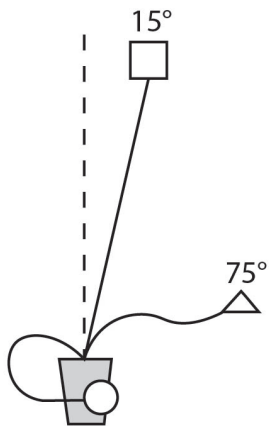
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Nageire



5

Nageire



6