Unit 10 TECHNOLOGY

Have you ever played with a building set? What type of models have you built?

My Choice of Building Set

A building set is a set of components that is used to build several types of models and it includes an illustrated manual.

You can choose the model you want to build from the pictures on the building set box.

What is the model you want to build?

Teacher's Notes

10.1.1

- A building set allows you to build several models, but a model kit only allows you to build one model.

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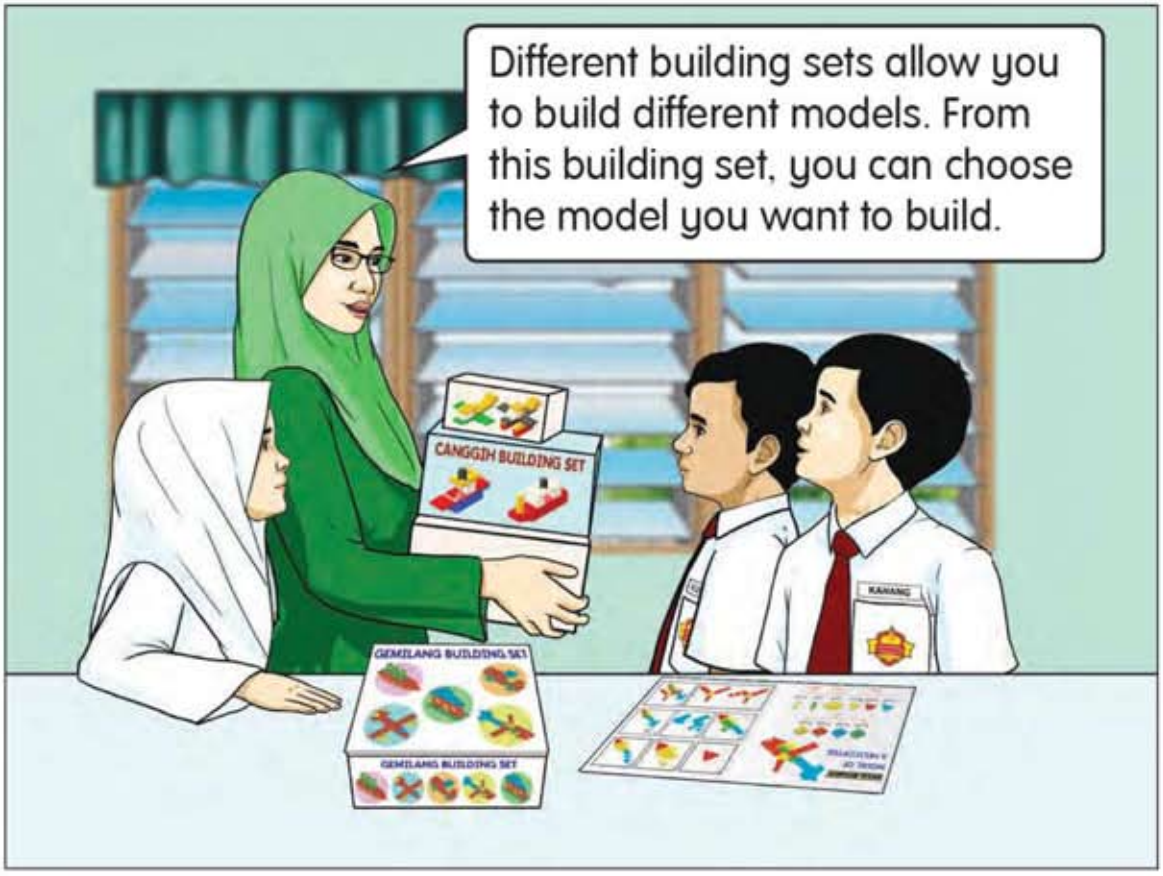
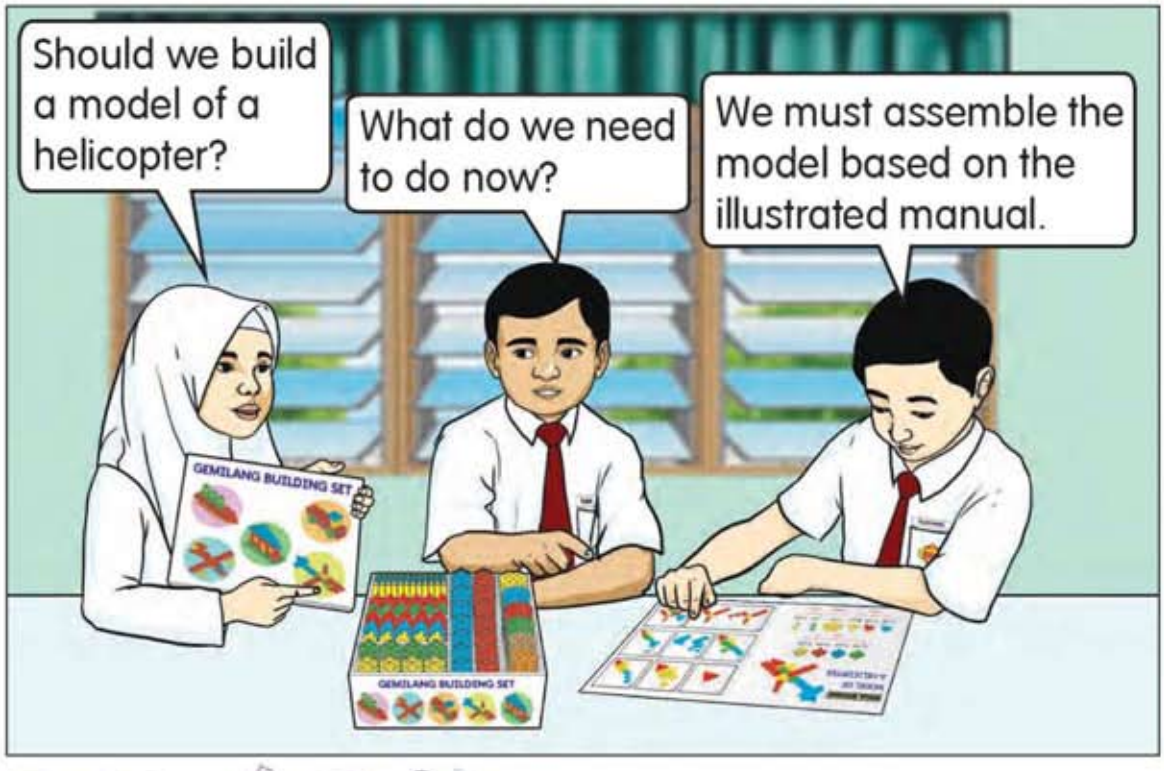
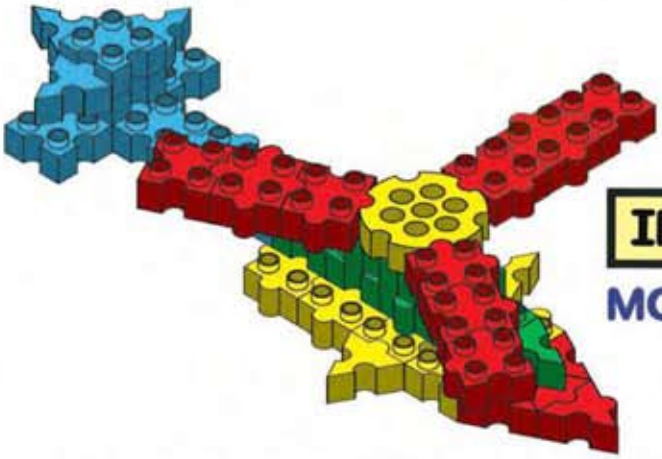

Different building sets allow you to build different models. From this building set, you can choose the model you want to build.
CANGGIH BUILDING SET
KAWANG
GEMILANG BUILDING SET
GEMILANG BUILDING SET


Should we build a model of a helicopter?
What do we need to do now?
We must assemble the model based on the illustrated manual.
GEMILANG BUILDING SET
GEMILANG BUILDING SET

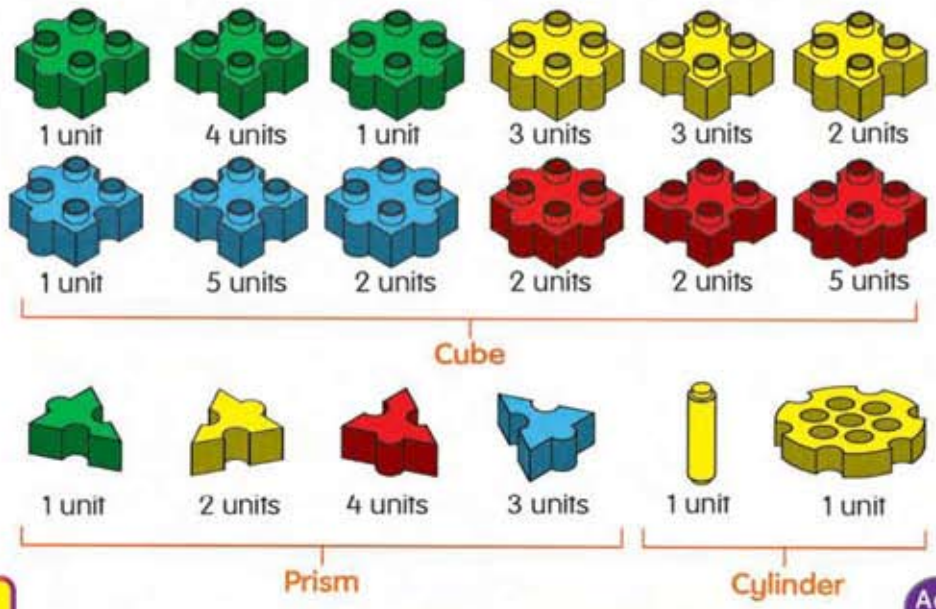
Identifying Components in the Illustrated Manual

A manual is a guide to help you to assemble a model from a building set correctly. You can identify the required building components. Building set model can be assembled easily by referring to the illustrated manual.



ILLUSTRATED MANUAL

MODEL OF A HELICOPTER



10.1.2

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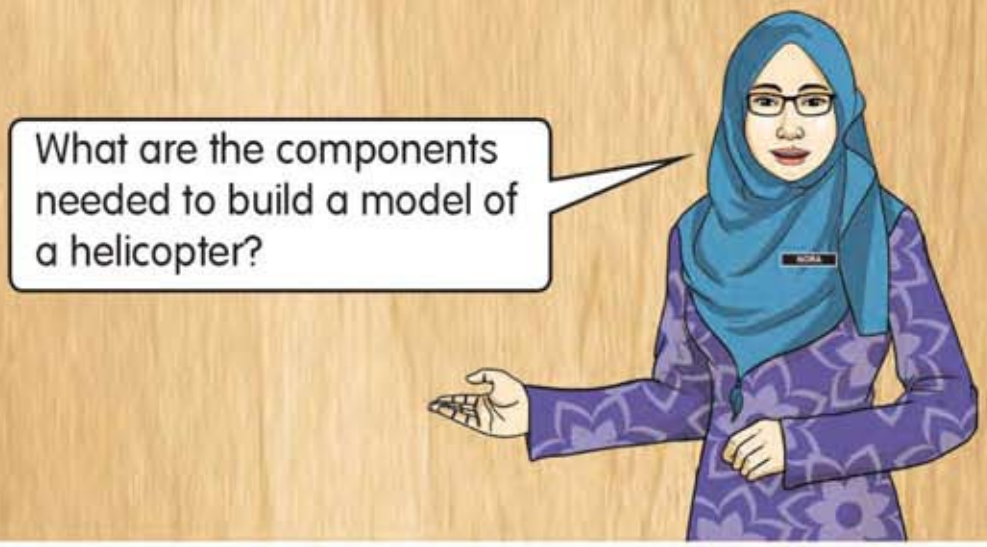
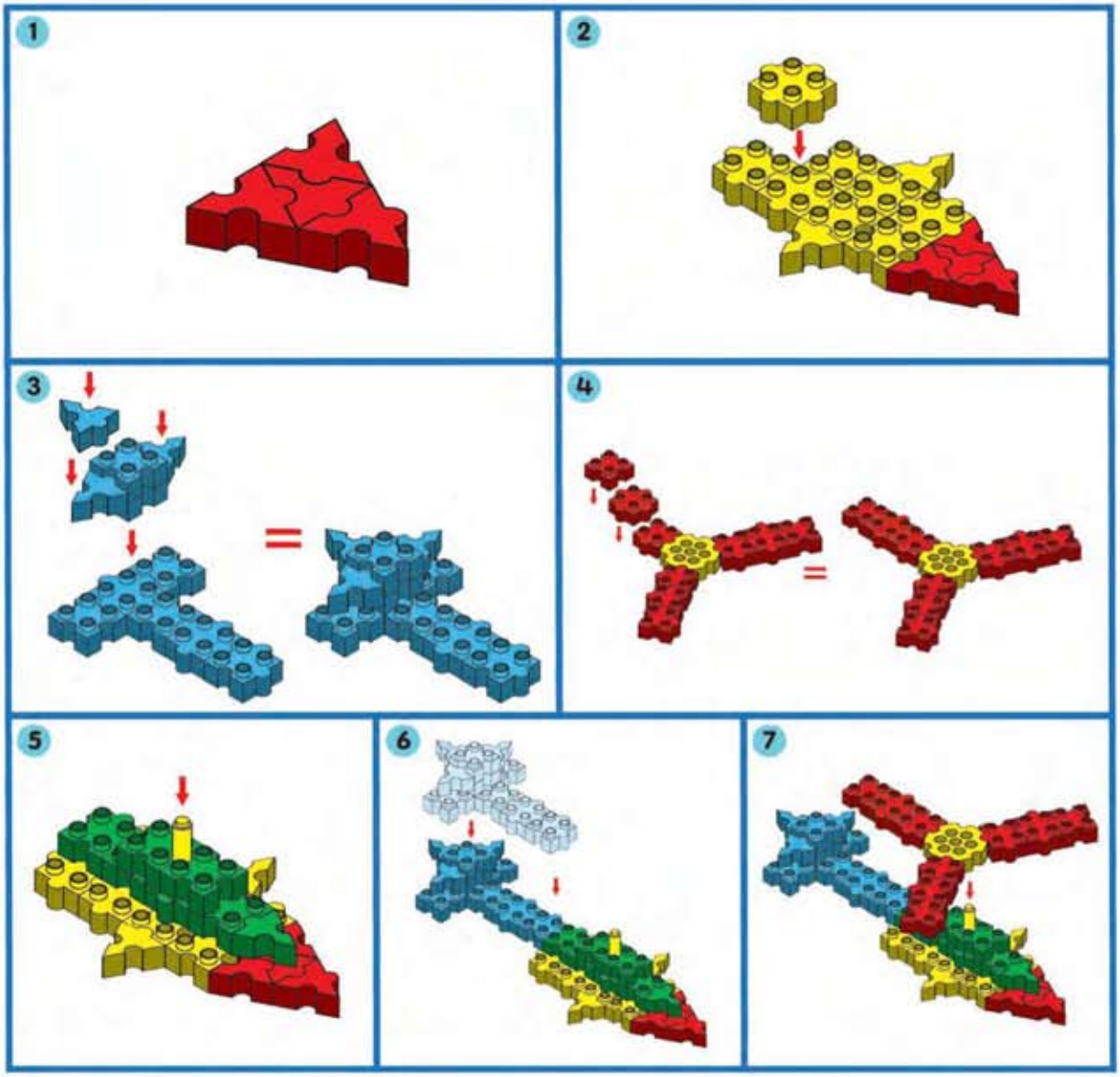
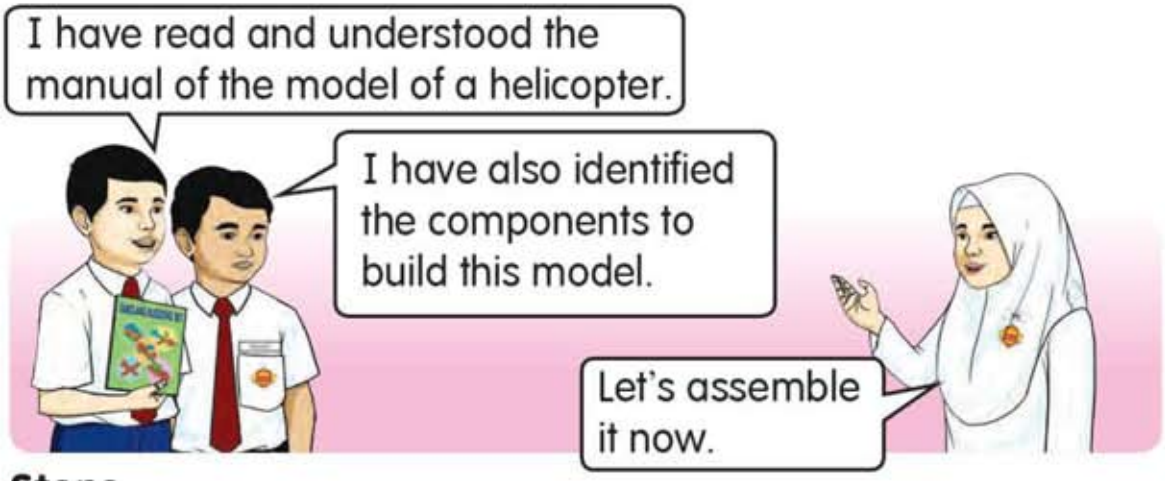

What are the components needed to build a model of a helicopter?


1
2
3
=
4
=
5
6
7

Junior Engineer

After the manual is read and understood, we can now assemble the model of a helicopter.



Steps

1

Take out the required components from the building set box.

2

Assemble the head, body, tail, and blade sections of the helicopter.

10.1.3

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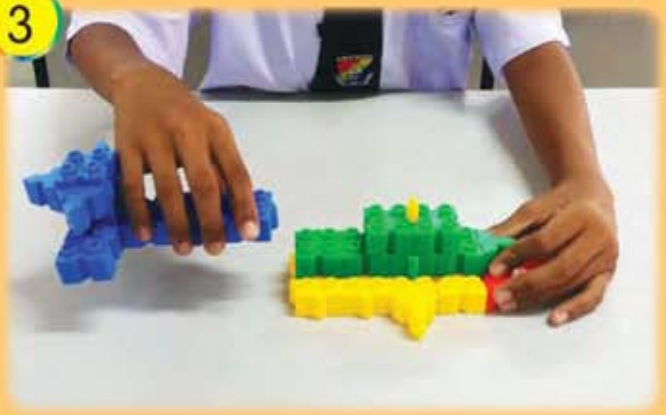
3

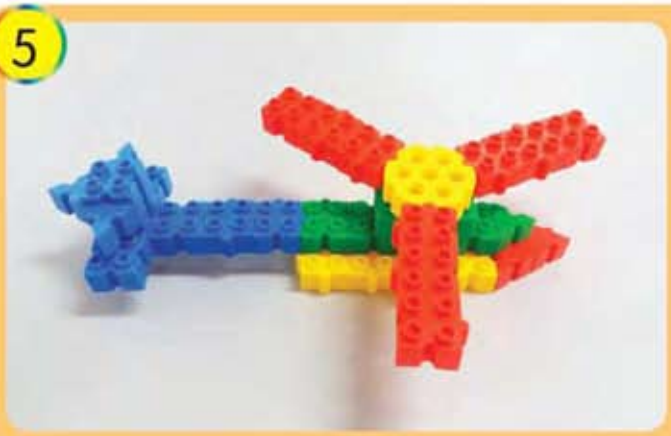


Combine the head, body, and tail sections of the helicopter.

4

Combine the blade section.

5



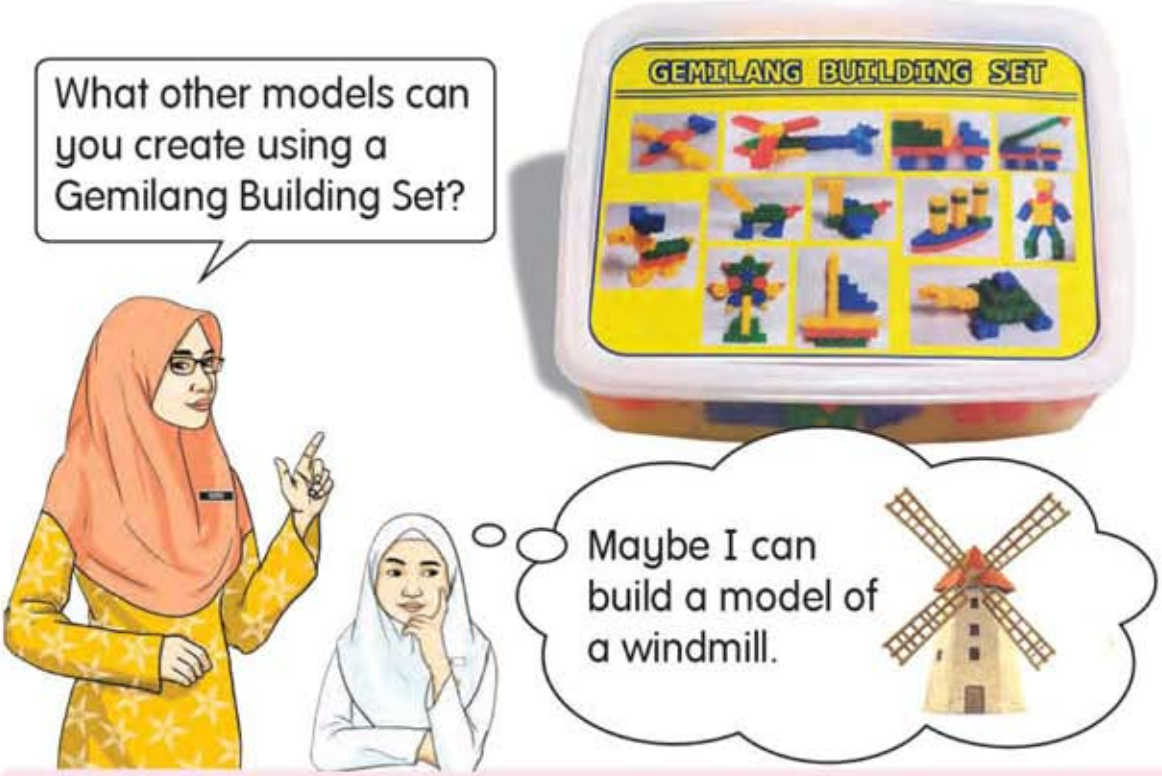
The model of the helicopter based on the illustrated manual.

HOTS

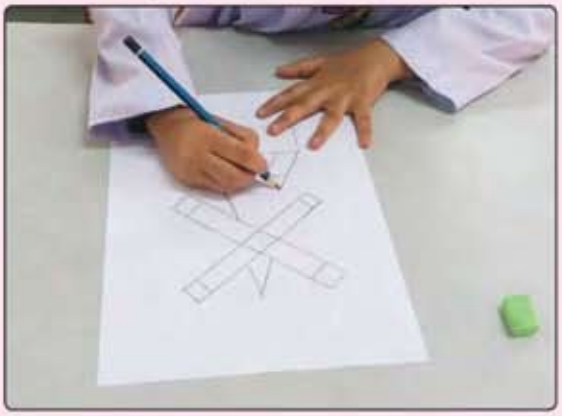
What will happen if a model from a building set is assembled without referring to the illustrated manual?

I Am Creative

The components of a building set can be assembled into various structures. Can you create another model that is not in the illustrated manual?



Planning, sketching, and preparing tools and materials



10.1.4
10.1.6

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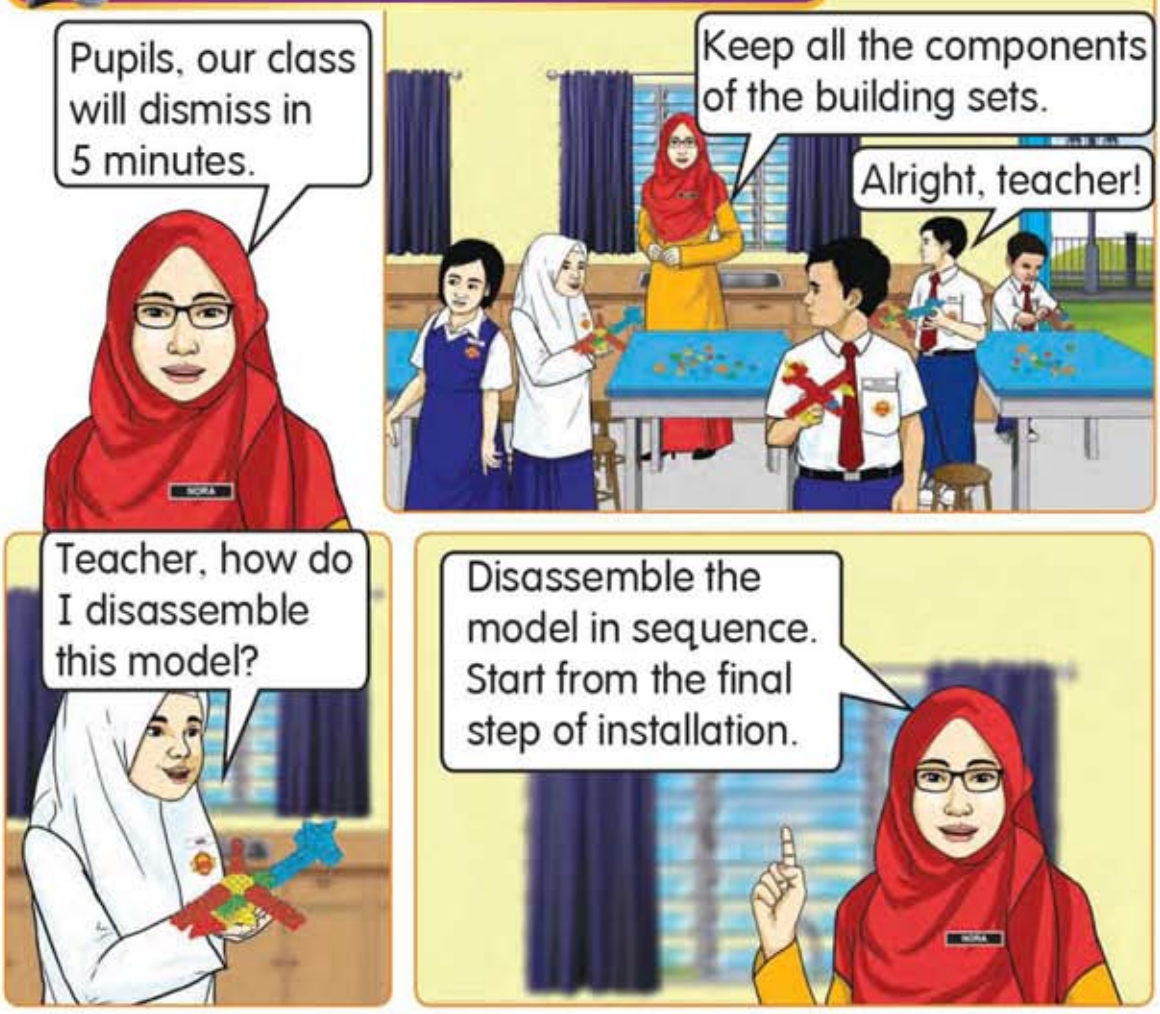
Structuring a model

What is the model built by the pupil above?
Is the model above found in the illustrated manual?

HOTS

Using the building set in your Science Room, build a model that is not in the illustrated manual. Tell us about your newly built model.

Disassemble and Store



10.1.5

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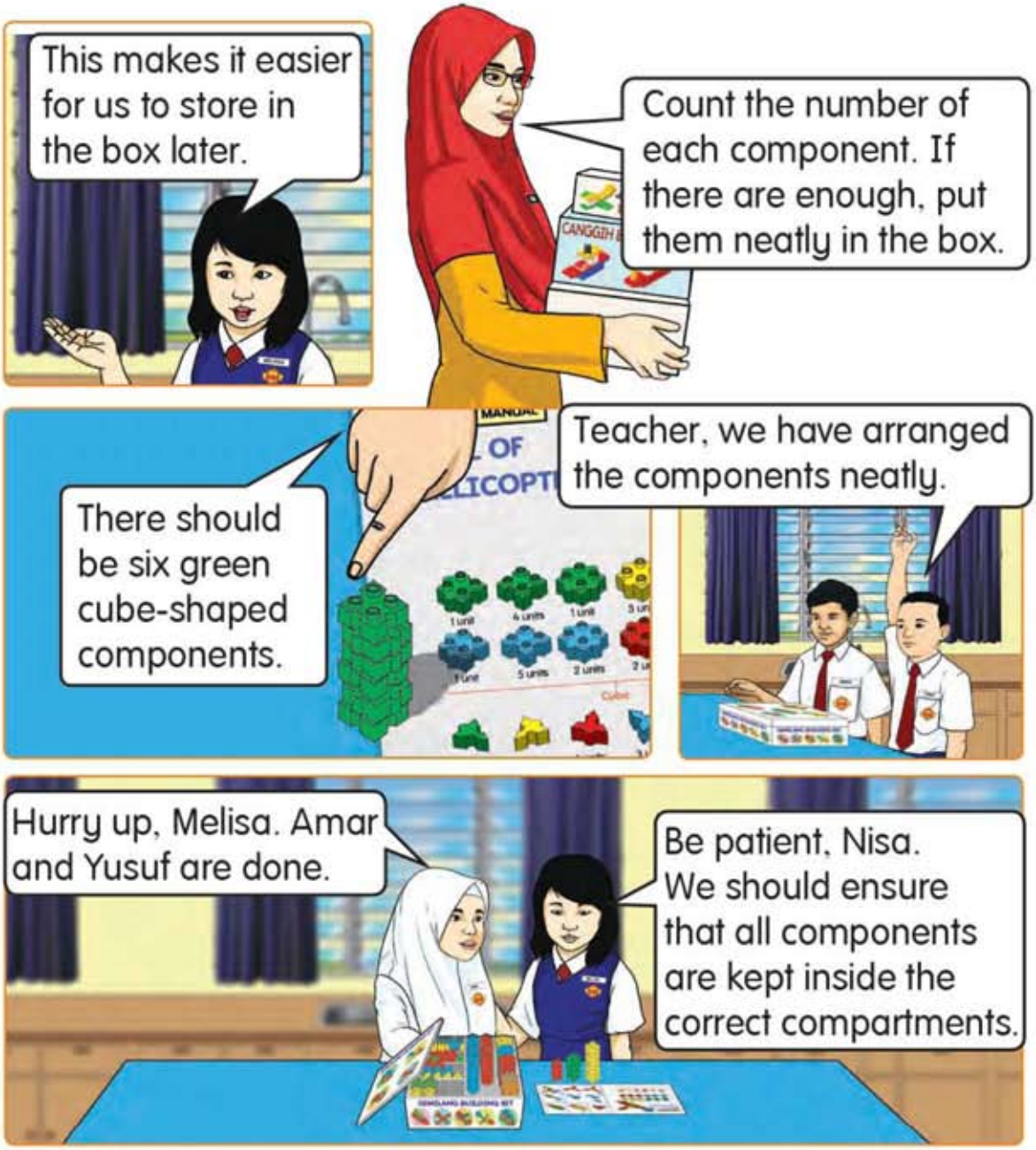


How do you arrange the used components of a building set?

HOTS

You noticed that one of your group's building set components is missing. What would you do? Why?

Science Recreation

My Flower Pot

Produce a flower pot using ice cream sticks. Arrange the flowers creatively.

I Remember

1. A building set is a set of components that is used to build several types of models and it includes an illustrated manual.

2. A building set has components of various shapes and colours, such as:

cube-shaped

prism-shaped

cylinder-shaped

3. The components of a building set are assembled based on the illustrated manual.
4. The illustrated manual is a guide to assemble a model correctly.
5. A new model can be built by using components of different models.
6. The components should be disassembled and stored neatly.
7. Make sure all components are counted and are in good condition before storing inside the building set box.

I Answer

Answer all the questions below in your Science activity book.

1. The models below can be built from a building set.

   a) Name the following models:

   b) Name two other models that can be built.

2. Name the shape of these components.

   a) 

   b) 

   c) 

3. What is an illustrated manual?
4. Why should you arrange all components neatly after using them?
5. What should you do when you find that all the components are scattered in the building set box?

HOTS

You are given the components below.

 10 units  10 units  10 units

Sketch a model that can be built using these components based on your creativity.

ANSWERS

Unit 1: SCIENTIFIC SKILLS

Suggested answer for HOTS (page 10)
No. Human growths are different among individuals of the same age because of the difference in day of birth, food consumption, lifestyle, environmental factors, and others.

Suggested answer for HOTS (page 14)
The garden snail is a live specimen. Releasing the snail after conducting an experiment is an ethical practise and it is vital to maintain a balanced habitat.

I Answer (page 16)
1. a) Stethoscope – hearing
   b) Magnifying glass – sight
2. Similarities: All of them have legs and tails.
   Differences: The eagle, duck, and chicken have wings, but the lizard, monitor lizard, and crocodile have no wings.
3. a) 120 cm b) 25 kg
4. Sketching a specimen correctly

Unit 2: SCIENCE ROOM RULES

Let's Think (page 21)
Report any damaged equipment or apparatus to the teacher immediately.

I Answer (page 22)
1. To ensure their safety and the safety of other users.
2. No. Liquid wastes should be disposed of in the sink.
3. To make it easy for other users.

Unit 3: HUMANS

Suggested answer for HOTS (page 30)
No. The palm size, height, and weight are not the same as these traits are inherited from our own parents and ancestors. Furthermore, food consumption and environmental factors also affect the different traits in individuals.

I Answer (page 34)
1. a) size, height, and weight
   b) same, different
2. features, ancestors

Suggested answer for HOTS (page 34)
Some people may be able to do certain activities such as sports activities better than others.

Unit 4: ANIMALS

I Answer (page 48)
1.

Lay eggs		Give birth	
lizard	crab	bat	deer

2. Some animals lay a few eggs because the eggs are taken care of by the parents. Examples are chickens, birds, and penguins.
3. Some animals lay many eggs because the eggs are not taken care of by the parents. The eggs are easily eaten by other animals. Examples are fish, frogs, and turtles.
4. egg: 1, chicken: 4, chick: 3, hatchling: 2
5. young squirrel and duckling
6. The life cycle of the butterfly starts with the eggs. When the eggs hatch, they become larvae. The larvae change to pupae. Finally, they turn into butterflies.

Suggested answer for HOTS (page 48)
Monkeys reproduce by giving birth to a few young. The young are similar to their parents. The parents take care of their young until they reach adulthood to ensure the young survive.

Unit 5: PLANTS

I Answer (page 59)
1. Food, medicine, habitat, and air to breathe.
2. Water, air, and suitable temperature.
3. A-D-C-B
4. Increase in the number of leaves, size of leaf, height of plant, and circumference of stem.
5. Water, air, and sunlight.
6. C-B-A-E-D

Unit 6: LIGHT AND DARK

Suggested answer for HOTS (page 63)
Fireflies are not a source of light as they emit light at certain times only.

Suggested answer for HOTS (page 65)
Yes. Light is important to humans because most of the daily activities are done in the presence of light. For example, to see, play sports, complete works, have fun, and others.

Suggested answer for HOTS (page 69)
Two shadows are formed because the light from two sources are blocked by the tree.

I Answer (page 72)
1. a) sun, fire, lamps b) light c) objects
2. a) easy b) difficult
3. Position A – torch
   Position B – paper windmill
4. tracing paper – less clear frosted glass - less clear
   pencil – clear steel ruler -clear
   glass – less clear

Suggested answer for HOTS (page 72)
Human daily activities need to be done in bright conditions. Light is reflected into our eyes and enable us to see. If there is no light, it would be hard for us to conduct our daily activities.

Unit 7: ELECTRICITY

Suggested answer for HOTS (page 78)
The brightness of the bulb will decrease because the dry cell will run out of energy.

Let's Think (page 78)
Dry cell, bulb, and switch.

Suggested answer for HOTS (page 80)
The other predictions could be due to faulty bulb holder, wire, dry cell holder, and switch.

I Answer (page 85)
1. a) dry cell
   b) complete and break an electric circuit.
2. a) Circuit C because the circuit is complete.
   b) Circuit A and B because the circuits are incomplete.
3. a)

Electrical conductors	Electrical insulators
fork	banknotes
nail	leaf
screw	thread

4. a) An electrical conductor is a material or an object that allows electric current to flow through it.
   b) fork, nail, and screw
5. a) An electrical insulator is a material or an object that does not allow electrical current to flow through it.
   b) banknotes, leaf, thread

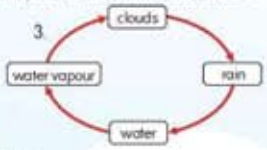
Unit 8: MIXTURE

I Answer (page 100)
1. a) Hand-picking
   b) Magnetic attraction
   c) Floatation
   d) Sieving
2. Sugar and salt
3. i. Using hot water
   ii. Stirring
   iii. Using small-sized materials

Unit 9: EARTH

Suggested answer for HOTS (page 103)
The earth would dry up. All humans, plants, and animals would die.

I Answer (page 116)
1. A - lake
   B - river
   C - spring
2. Q → R [✓]
   R → S [✓]
3.



4. i. It helps to dry clothes.
   ii. It helps to fly the kites in the sky
5. A strong wind produces big waves.

Unit 10: TECHNOLOGY

Suggested answer for HOTS (page 123)
You will take a long time to finish.

Suggested answer for HOTS (page 127)
I will inform the teacher immediately because a model cannot be assembled if there is not enough components.

I Answer (page 129)
1. a) aeroplane, deer, ship, tree, tortoise
   b) helicopter, lorry
2. a) cube
   b) prism
   c) cylinder
3. An illustrated manual is a guide to assemble a model correctly.
4. So that the building set looks neat and tidy./We will know which component is missing.
5. I will arrange every component according to its shape, size, and colour.