

# Many robotic hands make light work

Zak, please accept our apologies. We are deeply sorry if we have hurt your feelings. Anna and I were just being silly thinking how great it would be to have a robot to do all of our household chores. We both can honestly say that we don't think of you as a robot. So, please put the mop down.



**LINKS TO:**  
Stage 2, Module 13  
Learning Object 4: Help your community

**PRIOR LEARNING:**  
**Stage 2**  
Module 5 Work Sheet 2: *Expressing obligation*  
Module 13 Work Sheet 5: *Helping around the house*



## 1 Living below the breadline

In Module 1, Work Sheet 1, *Come to school with me*, you learnt that in contemporary Indonesia primary school enrolment is as high as 96 per cent of the eligible population, but there is a significant drop-out rate. Eight per cent of students do not complete primary school due to poverty in their families. Children in families living below the poverty line often work to help their family financially. Most children are taught how to earn money by their parents.

It is not only poor families living in Jakarta's many urban *kampung* who struggle to make ends meet. Through the principle of *gotong royong*

at least these people can rely on the communal support of other *kampung* dwellers. However, when normal, urban families fall on hard times, they have to rely on each other.

In a traditional Indonesian family, everyone contributes to the household in whatever way they can. The children might sell homemade cakes and cookies on the streets, as well as to their friends at school. They would also help their mother with washing the dishes, cooking, doing the laundry and other household jobs, while their father works outside the home.

## 3 We should, we must ...

In Module 5, Work Sheet 2, you learnt three ways of expressing obligations.

1. By using the modal auxiliary verb *harus*, which means 'must' or 'have to'.

➔ For example:

*Anak-anak Indonesia harus membantu orangtua di rumah.*

Indonesian children must help their parents at home.

2. By adding the prefix *se-* and suffix *-nya* to the base word *harus*. *Seharusnya* means 'should'.

➔ For example:

*Seharusnya kita membantu orangtua di rumah.*

We should help our parents at home.

3. By using either *mesti* or *semestinya*, which are synonyms for *harus* and *seharusnya*, or by using *perlu*, which means 'need to'.

➔ For example:

*Saya perlu membersihkan kamar tidur saya.*

I need to clean my bedroom.

### Note:

In Indonesian, a list of chores, which is a set of instructions, is written in the imperative, so you should use the base form of the verb, without the *meN-* prefix.

**Exercise 1**

Peter has just received the latest edition of the *Jembatan Sains* magazine. The title of an article on the front cover of the magazine has caught his eye. He reads out the article to Anna.

Let's read it too.

### **Banyak tangan robotik memudahkan pekerjaan rumah tangga**

Kalau Anda benar-benar tidak suka pekerjaan rumah tangga, silakan baca terus. Ilmuwan saat ini sedang mengembangkan robot yang akan membantu manusia dengan bermacam-macam pekerjaan yang membosankan di rumah.

Kita tahu bahwa ada robot yang bisa memotong rumput dan menyedot debu di rumah. Tapi apa Anda tahu bahwa dalam waktu 5 sampai 10 tahun ilmuwan percaya bahwa robot akan bisa menata meja makan, mengepel lantai, mencuci pakaian, mencuci piring, membenahi tempat tidur dan menyeterika pakaian?

Ilmuwan juga percaya bahwa mereka akan mampu mengembangkan sebuah robot yang bisa mengerti suara yang memberikan perintah untuk melakukan hal-hal tertentu seperti menyalakan mesin cuci, mengubah saluran televisi atau meredupkan lampu.

Jadi di masa depan, kalau Anda mengunjungi rumah orang lain, jangan heran kalau melihat beberapa robot mengerjakan pekerjaan harian rumah tangga.

Terima kasih kepada robot-robot itu, tampaknya kehidupan kita sebagai manusia akan menjadi jauh lebih baik.

Use the information in the text to answer the following questions in English.

**1.1 List the jobs that robots already do to help people around the house.**

---



---

**1.2 What do scientists believe robots will be able to do in the next five to ten years?**

---



---



---

**1.3 Scientists believe that they can program robots to do household chores. What effect do you think this will have on everyday life?**

---



---

(continued on following page)

(continued from previous page)

1.4 What are the advantages and disadvantages of having robots do household chores?

**Exercise 2**

Peter has just finished reading the article in Exercise 1 to Anna. Zak has also been listening.

Read Zak's response:

Peter dan Anna, bagaimana kalian bisa membaca artikel seperti itu? Aku pikir kalian temanku? Apa aku di sini hanya untuk memudahkan kehidupan kalian? Robot mempunyai perasaan juga.

Percayalah kepadaku kalau aku bilang kehidupan robot tidaklah mudah. Jadi manusia hanya menginginkan robot melakukan semua pekerjaan rumah tangga mereka yang membosankan? Coba dengarkan aku. Kalau aku pulang ke stasiun ruang angkasa, aku juga harus mengerjakan banyak hal. Setiap hari aku harus memasak, bersih-bersih, mencuci piring, mengeluarkan sampah dan mengurus robot-robot yang baru. Setiap minggu aku harus membersihkan kamar mandi, membersihkan kamar tidurku, menyedot debu, mengepel lantai dan mengelap peralatan makan perak. Aku menghabiskan waktu berjam-jam di luar di tengah suhu yang panas atau dingin sekali setiap minggu untuk membetulkan kerusakan di stasiun ruang angkasa. Ibuku bilang bahwa setiap bulan aku harus membersihkan dinding, mencuci kaca jendela, membersihkan saringan stasiun ruang angkasa dan membersihkan wajah, tangan dan tubuh robotku.

Percayalah kalau aku bilang ibuku perlu pertolonganku. Aku tidak mengerjakan semua ini karena dibayar. Aku melakukan semua ini karena inilah caraku mengatakan terima kasih kepada ibu tersayang. Lagi pula, siapa yang mau tinggal di tempat sampah? BUKAN AKU!

Peter dan Anna, setiap hari kalau kalian diminta mengerjakan sesuatu kalian selalu bertanya, 'Apa aku harus mengerjakannya?' Jangan begitu! Kerjakan sajalah pekerjaan itu! Menyalahgunakan tenaga anak-anak, kudengar kalian bilang. Kupikir ini lebih seperti menyalahgunakan tenaga robot!

Now answer the following questions in English.

**2.1 Zak is expected to do many household chores. List the chores he needs to do.**

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

**2.2 What inference can you draw about Zak's personality from his response?**

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

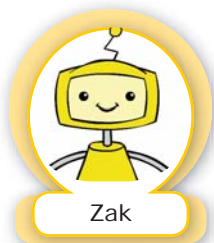
---

---

---

**Exercise 3**

---



You think that your life is so hard! Peter and Anna to the kitchen right now. Look! The list of your household chores on the fridge door has all the evidence I need. Let's read through this together.

(continued on following page)

(continued from previous page)

	Peter	Anna	Check
<b>Minggu</b>	Masak makan malam	Cuci piring	
<b>Senin</b>	Siram bunga	Sapu lantai	
<b>Selasa</b>	Cuci piring	Bersihkan kamar mandi	
<b>Rabu</b>	Cuci pakaian	Cuci piring	
<b>Kamis</b>	Cuci piring	Angkat dan lipat jemuran	
<b>Jumat</b>	Buang sampah	Seterika pakaian Cuci piring	
<b>Sabtu</b>	Bersihkan kamar tidur Cuci piring	Bersihkan kamar tidur Masak makan malam	

Use the information from the list on the fridge door to answer the questions below in English.

**3.1 Peter and Anna are expected to do household chores. Which jobs are similar to the ones you are expected to do in your family?**

---

---

---

---

---

**3.2 Are there differences in the kinds of jobs that Peter and Anna are each expected to do around the house? Use specific examples to support your answer.**

---

---

---

---

---

---

---

---

---

---

---

**3.3** Based on the information in Exercise 2, how do Peter and Anna's household chores compare to those that Zak is expected to do on the space station?

---

---

---

---

---

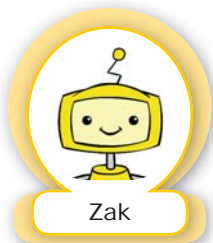
---

---

---

### Exercise 4

**4.1** Tick the box that corresponds with the answer that is most appropriate for you.



I wonder if you are expected to do more or less jobs around the house than Peter and Anna. What, exactly, are human teenagers expected to do? To help me find out please answer the questions below.

**4.1.1** Di kamar mandi saya harus:

- membersihkan bak mandi
- membersihkan wastafel
- membersihkan jamban
- mengelap cermin
- mengepel lantai
- lainnya

---

**4.1.2** Di kamar tidur saya harus:

- membenahi tempat tidur
- mengganti seprei
- membersihkan debu
- menyedot debu
- merapihkan lemari pakaian
- meletakkan cucian kotor di tempatnya
- lainnya

---

(continued on following page)

(continued from previous page)

**4.1.3 Di dapur saya harus:**

- mencuci piring
  - mengelap meja
  - membersihkan tempat cuci piring
  - mengosongkan mesin cuci piring
  - menyapu dan mengepel lantai
  - membuang sampah
  - lainnya
- 

**4.1.4 Di tempat mencuci pakaian saya harus:**

- mencuci pakaian
  - melipat pakaian
  - menyeterika pakaian
  - lainnya
- 

**4.1.5 Di ruangan lain di rumah kami saya harus:**

- membersihkan debu
  - menyedot debu
  - lainnya
- 

**4.1.6 Di halaman rumah saya harus:**

- memotong rumput
  - menyapu daun-daun kering
  - menyiram kebun
  - menyangi kebun
  - lainnya
- 

**4.1.7 Saya juga harus:**

- memberi makan binatang piaraan
  - membawa anjing berjalan-jalan
  - menyiapkan makan siang
  - mencuci mobil
  - lainnya
- 

**4.2**



Zak

**What household chores have you done this week?**

Fill in the spaces below, in Indonesian, with this information.

**Minggu**

---

---

---

---

(continued on following page)

(continued from previous page)

**Senin**

---

---

---

---

**Selasa**

---

---

---

---

**Rabu**

---

---

---

---

**Kamis**

---

---

---

---

**Jumat**

---

---

---

---

(continued on following page)



(continued from previous page)

**Sabtu**

---

---

---

---

**4.3** Use the information from Exercises 4.1 and 4.2 to answer the following questions in English.

**4.3.1 Identify the household chores you're expected to do:**

**Daily**

---

---

---

---

---

---

---

---

**Weekly**

---

---

---

---

---

---

---

---

**4.3.2 Looking at the table you filled out in Exercise 4.2, can you estimate how much time you spend doing the various household chores that are expected of you?**

---

---

---

(continued on following page)

(continued from previous page)

**4.3.3 How does that compare with your estimation of the time you spend on leisure activities?**

---

---

---

---

**4.3.4 How do you feel about doing these jobs?**

---

---

---

---

---

---

**4.3.5 Do you think doing chores is beneficial for children? Give reasons to support your answer.**

---

---

---

---

---

---

---

---

---

---

**4.3.6 Should doing jobs be linked to earning pocket money? Give reasons to support your answer.**

---

---

---

(continued on following page)

(continued from previous page)

---

---

---

---

---

---

---

---

**4.4 Read the list of household chores below. Which of the household chores would you be happy to let a robot help with?**

**Using the scale of 1–15 (where 1 is where you would like a robot to do the chore most, to 15 where you would like a robot to do the chore least) rank these household chores in the order that you would like to give them to a robot helper.**

Saya ingin sebuah robot membantu saya:

- |   |   |
|---|---|
| <input type="checkbox"/> membenahi tempat tidur   | <input type="checkbox"/> menyedot debu            |
| <input type="checkbox"/> mencuci piring           | <input type="checkbox"/> memasak makan malam      |
| <input type="checkbox"/> mencuci pakaian          | <input type="checkbox"/> membersihkan kamar mandi |
| <input type="checkbox"/> membersihkan kamar tidur | <input type="checkbox"/> membersihkan jamban      |
| <input type="checkbox"/> membuang sampah          | <input type="checkbox"/> mengepel lantai          |
| <input type="checkbox"/> memotong rumput          | <input type="checkbox"/> mengganti seprei         |
| <input type="checkbox"/> menyeterika pakaian      | <input type="checkbox"/> lainnya:                 |
| <input type="checkbox"/> membersihkan debu        |   |

**4.5 Look at your answers for Exercise 4.4 once more. What were the three jobs you were most likely to give to a robot helper? Write your reasons for choosing these in Indonesian.**

**Pilihan pertama:**

---

---

---

---

**Pilihan kedua:**

---

---

(continued from previous page)

(continued on following page)

---

---

**Pilihan ketiga:**

---

---

---

---