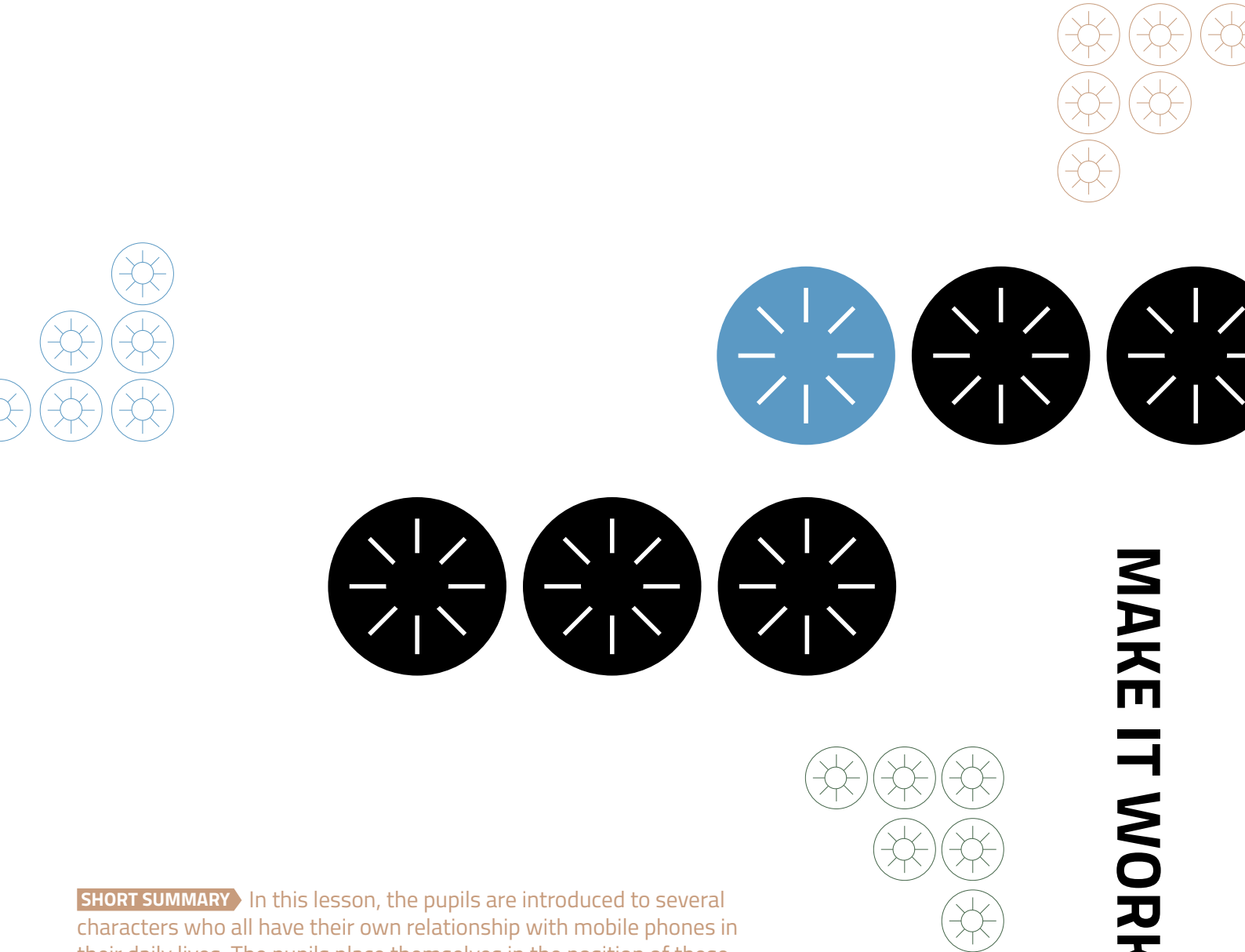


# REPAIR-MINDED

TARGET AUDIENCE 10 to 12 years



**SHORT SUMMARY** In this lesson, the pupils are introduced to several characters who all have their own relationship with mobile phones in their daily lives. The pupils place themselves in the position of these characters and examine their points of view. They then express their own views on repairing mobile phones. Finally, they broaden their perspective on repair options for electrical and electronic devices and come up with ideas for this.

**REQUIRED PRIOR KNOWLEDGE** The pupils know that the growing e-waste mountain is harmful for people and the environment. Electronic and electrical waste contains many valuable and rare raw materials. Repair is a sensible choice to avoid or reduce the growing waste mountain.

MAKE IT WORK! LESSON 2



## MATERIALS REQUIRED

- › Appendix 1: sheets with characters (A different world)
- › Appendix 2: wheel of feelings
- › Appendix 3: word cards with 'with-the-aid-of' words and devices (Repair-minded)
- › A bowl for the 'with-the-aid-of' words
- › A marker for every pupil or a sticker sheet with dots (Dots)

## PREPARATION

- › Read the background information attentively. This text gives you the what, why and how of the subject and the didactic knowledge and insights you need to work with this module.
- › Print the cards with characters (appendix 1) and cut them out.
- › Print the wheel of feelings, if possible on A3 paper (appendix 2)
- › Print the 'with-the-aid-of' words (appendix 3) and cut them out. Put them in a bowl. Consider adding your own words on blank cards.

## BRIEF LESSON PLAN

### 1. Stimulus

Activate prior knowledge by using the post-its.



### 2. Core

#### 2.1 A different world

- › The pupils are introduced to the characters.
- › The pupils move around the class and exchange opinions about smartphones in pairs.
- › Review and reflection.



#### 2.2 Wheel of feelings

- › The pupils express their own feelings/opinion about repairing smartphones.



#### 2.3 Repair-minded

- › The pupils choose a broken appliance and draw a 'with-the-aid-of' word from the bowl.
- › The pupils come up with an idea about repairing this appliance.
- › The pupils present their ideas to each other.



#### 2.4 Dots

- › The pupils choose two ideas that are feasible.



### 3. Conclusion

Review and reflection



# LESSON PLAN



## 1 – STIMULUS

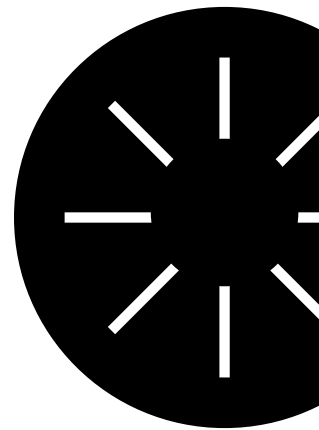
Hand out the post-its the pupils wrote at the end of the first lesson with their answers to the question: 'Why is repairing mobile phones (and other electrical and electronic devices) important?'

Every pupil gets another pupil's post-it. Ask them to split up into pairs and discuss the answers with each other.

Then discuss the answers in class and summarize.

- > If you throw these devices away, this creates more e-waste.
- > Waste from electrical and electronic devices is harmful for people and the environment.
- > If you repair electrical and electronic devices, no valuable raw materials are lost.
- > If you repair electrical and electronic devices, there is no need to mine for new raw materials.
- > Etc.

Conclude by observing that repair is an interesting choice if you have a broken electrical or electronic device. Tell the pupils that they will be exploring and suggesting different opinions on the use of, and ideas about the repair of electrical and electronic devices.



## 2.1 – A different world<sup>1</sup> © Djapo

What do different groups of people think about the use or production of smartphones?

Explain that this is the central question in this assignment. Write it on the whiteboard.

Place a smartphone in the middle of a table or show a picture of one on the whiteboard. Mention that it could also have been a laptop or any other appliance, but that the pupils will be thinking about smartphones today.

Give each pupil a sheet with one of the characters, each of whom has their own relationship to mobile phones. Give the pupils a moment to read the sheet. Then go over them. You could consider asking the pupils to invent other characters; in that case, write down the additional characters on a blank card.

What other people are involved in some way with this smartphone?

The pupils move around the class. At a sign from you, they stand together in pairs or groups of three, and discuss the following two guiding questions, which you write on the whiteboard. They should think and respond in character.

1. What is your relationship to smartphones?
2. What do you think about repairing smartphones?

<sup>1</sup> - The *A different world* formula is part of Djapo's Systems thinking method. Systems thinking helps pupils to explore our complex world by consciously looking for connections. It helps them develop a nuanced perspective on the world, and to remain alert to the various points of view in any story. This helps them to defer judgement before adopting an opinion, and to gain greater insight into complex themes. For more information about systems thinking, visit [www.djapo.be](http://www.djapo.be)

1. The battery of Hakim's mobile phone is broken. Buying a new battery is expensive, but buying a new mobile phone even more so. He doesn't have this kind of pocket money (yet). Hakim can't make up his mind whether he should have his mobile phone repaired or not.

2. Hakim's father receives the latest smartphone model from his boss every two years. He can do what he likes with his old smartphone.

3. Amina has a business of her own where she repairs smartphones and tablets. She's really good at changing batteries and repairing screens.

4. Peter works in a phone shop. The more smartphones he sells, the better his chances of getting a bonus.

5. Julia's parents both have a Fairphone. That is a smartphone made with respect for people and the environment. Moreover, users can easily replace parts, repair them or have them repaired.

6. Joshua collects valuable minerals from electrical waste on the waste mountain in Ghana. He uses the money to buy food for his family. The air around the mountain and the materials he works with are very unhealthy.

7. Mike is 10 years old and works in a mine every day to earn money for his family. He digs for cobalt. This raw material is needed to produce smartphones.

8. Robert has been passionate about technology since he was a boy. Every first Sunday of the month, he volunteers in a Repair Café where he repairs appliances. He often replaces smartphone screens or batteries.

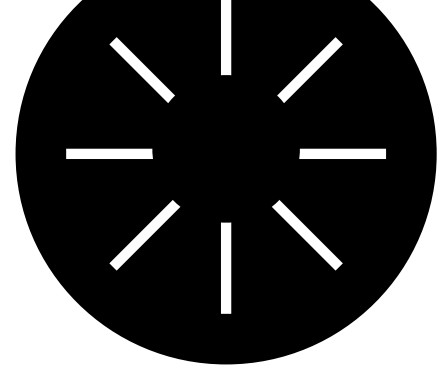
9. Sophie manages a company that grinds electrical and electronic devices into tiny shreds, recycling valuable raw materials from mobile phones for example. These materials are then resold to other companies.

Ask the pupils to return to their places. Briefly review the assignment.

What do the characters think about smartphones? Which characters do you think have the same opinion and which characters have different opinions? Why? Are there characters that might have conflicting views about smartphones? Explain.

### Reflect

Do you recognize any of the situations we have just discussed? Have you experienced this yourself, or seen or read about it somewhere? Have your views on repairing smartphones changed after this assignment? If so, how?



## 2.2 – Wheel of feelings © Djapo

Tell the pupils that they can now express their own opinion or feelings about repairing smartphones. Show them the wheel of feelings (projected or a print version).

What are your feelings or thoughts about repairing smartphones?

The pupils write their names on a post-it. Then they write down why they think what they think or feel what they feel. They stick the post-it to the emoticon that best expresses their feeling.

Review the assignment briefly.

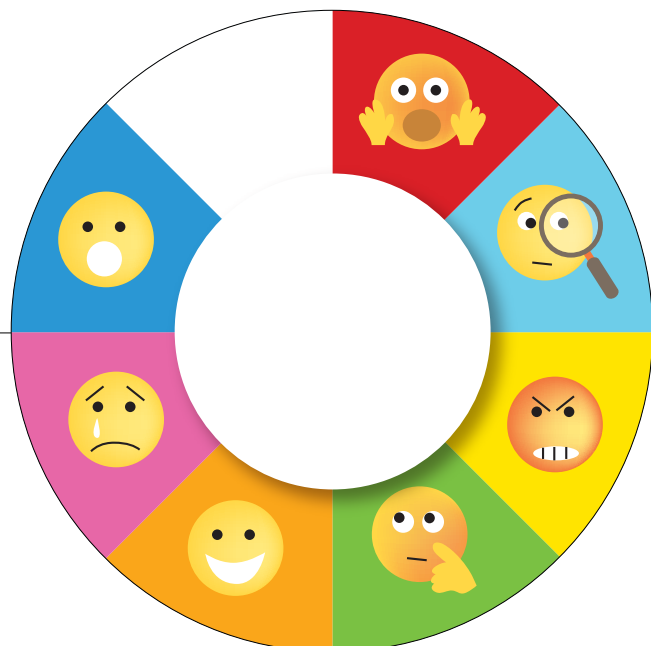
How do most of the pupils feel about this?

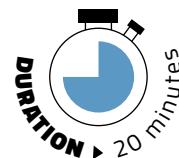
Enquire briefly about the reasons behind their opinion or feeling about the issue.



TIP

If any pupils have chosen the emoticon 'I want to investigate this further', or 'I have questions about this', let them write those questions down somewhere. You could consider discussing these questions later, during another lesson or assignment.





## 2.3 – Repair-minded

Ask the pupils to suggest ideas about how, where, when, etc. you can repair broken devices or have them repaired. Point to the table with the broken electrical and electronic devices with post-its on them explaining what the problem is. Take the bowl of 'with-the-aid-of' words.

Consider doing this assignment with the whole class first. As an example, choose 'a toaster' and the 'with-the-aid-of' word 'local area' from the bowl.

The orientation question is: 'How do you have this device repaired using the 'with-the-aid-of' word?

> How do you have the broken **toaster** repaired **locally**?

Possible ideas:

- > We'll try to find someone **locally** who can disassemble the **toaster**.
- > We're going to see if there is an electrical appliance stall at the **local** market.
- > We're going to ask for information in the **local shop** on whether the **toaster** can be repaired.

Tell the pupils their task is to suggest similar 'repair sentences'. Check to see that everyone has understood the assignment.

Divide the pupils into groups of four to six. Give every group a piece of paper. Appoint one pupil as spokesperson. At your signal, every group chooses a device and draws a card with a 'with-the-aid-of' word from the bowl. The pupils then suggest ideas on how to repair this device; these ideas must contain the 'with-the-aid-of' word so that a 'repair sentence' can be created.

The spokesperson writes down the device and the ideas on repair in a mind map. If possible, give the group access to the internet for further inspiration online.

Ask the spokesperson to write down the ideas legibly, because other pupils will have to read and evaluate them after the assignment.

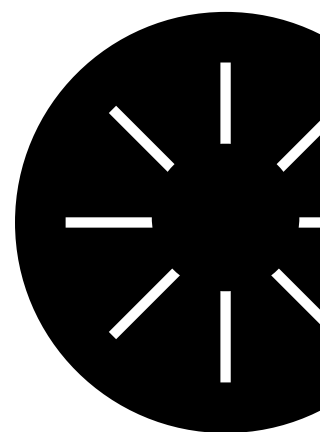
Move around the classroom to help the pupils with their flow of ideas.

*What device have you chosen? What is wrong with it? Who can repair this or what would you need to repair it? Where or when? How can you find out about this? Who could help you with this? Where else would you find this device? Etc.*

If there is enough time, repeat this with another device and 'with-the-aid-of' word.

At the end, ask every group to choose one idea that they are going to present to the class. The spokesperson draws or describes this idea on a new sheet of paper.

Let every group briefly present its chosen idea orally to the class. Collect the 'repair sentences' and hang or place them visibly in the class.



## 2.4 – Dots<sup>2</sup>

Tell the pupils they are going to choose ideas by placing a dot beside the idea of their choice using a marker. You could also use dot stickers from a sticker sheet for this. Give every pupil a marker.

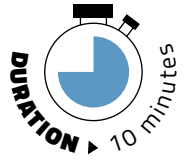
Explain the rules.

- > Choose two ideas that you think are good and practicable, i.e., that you think are good ideas that can be carried out, either by you or someone else.
- > Choose an idea, not the friend who came up with it.
- > Only choose ideas presented by other groups.

Review.

- > Which idea has the most dots? Why did you choose this idea?
- > Which other ideas have many dots?
- > Which ideas have fewer dots? Why?
- > Which ideas are innovative but difficult to put into practice?
- > Do you have any tips about how these ideas could be made more practicable?
- > What ideas would you like to try yourself?

2 ~ Inspired by [ontwerpendlerenindeklas.nl](http://ontwerpendlerenindeklas.nl)



TIP

If there is time left after the assignment, watch one or more videos or clips about Repair Cafés or about repairing electrical and electronic devices.

Club de Reparadores Montevideo  
Inside a London Repair Café

Find other suitable videos by searching for 'repair café', on YouTube for example.

## 3 – CONCLUSION



Reflect on the lesson together.

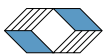
- > How would you describe what you've learned today in two sentences?
- > Have your knowledge and/or your ideas about repairing electrical devices changed compared to before these lessons? How?
- > What did you find most interesting to think or learn about? Why?
- > If an electrical or electronic device in your home were to break in the near future, what tips would you give your parents?

ADDITIONAL ACTIVITY

Check with the pupils whether one or more of the repair proposals can be put into practice. Ask them to draw up an action plan or do this together with them. Link this to an assignment on finding specific information from different sources.

You can extend this lesson with one or more additional activities:

- > Activity 1 – A repair survey or campaign
- > Activity 2 – Having a repairer over/visiting a repairer
- > Activity 3 – Roll up your sleeves! Mini workshop: the flow of water in a coffee machine.



DIFFERENTIATION

Read the character word cards together with pupils who have weak language skills before the lesson. You can also ask the pupils to read the word cards in pairs. Check to see that they understand all the words. Or ask them to choose a card that they are sure to understand.

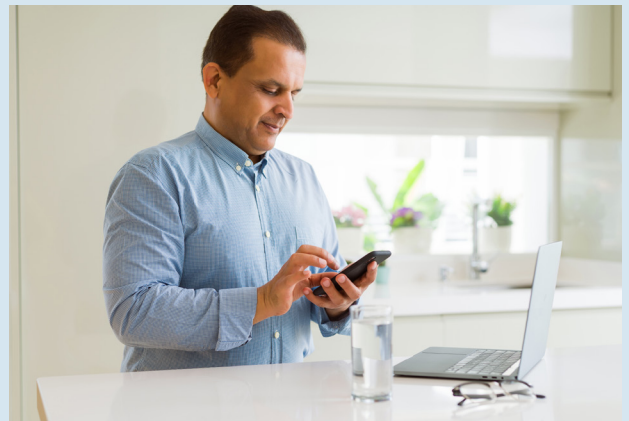
# A DIFFERENT WORLD

## CHARACTERS

Cut out the sheets. Give one to every pupil.



The battery of Hakim's mobile phone is broken. Buying a new battery is expensive, but buying a new mobile phone even more so. He doesn't have this kind of pocket money (yet). Hakim can't make up his mind whether he should have his mobile phone repaired or not.



Hakim's father receives the latest smartphone model from his boss every two years. He can do what he likes with his old smartphone.



Amina has a business of her own where she repairs smartphones and tablets. She's really good at changing batteries and repairing screens.



Peter works in a phone shop. The more smartphones he sells, the better his chances of getting a bonus.





Julia's parents both have a Fairphone. That is a smartphone made with respect for people and the environment. Moreover, users can easily replace parts, repair them or have them repaired.



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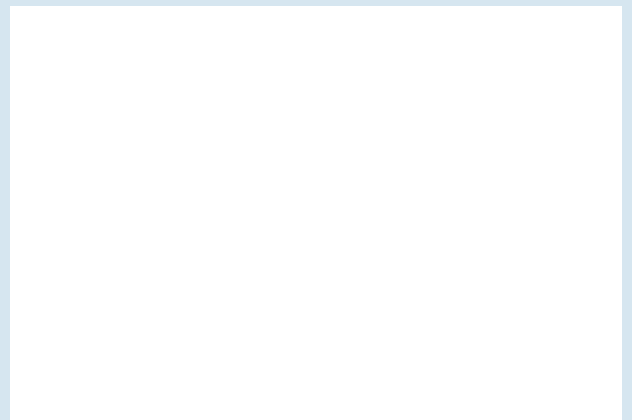
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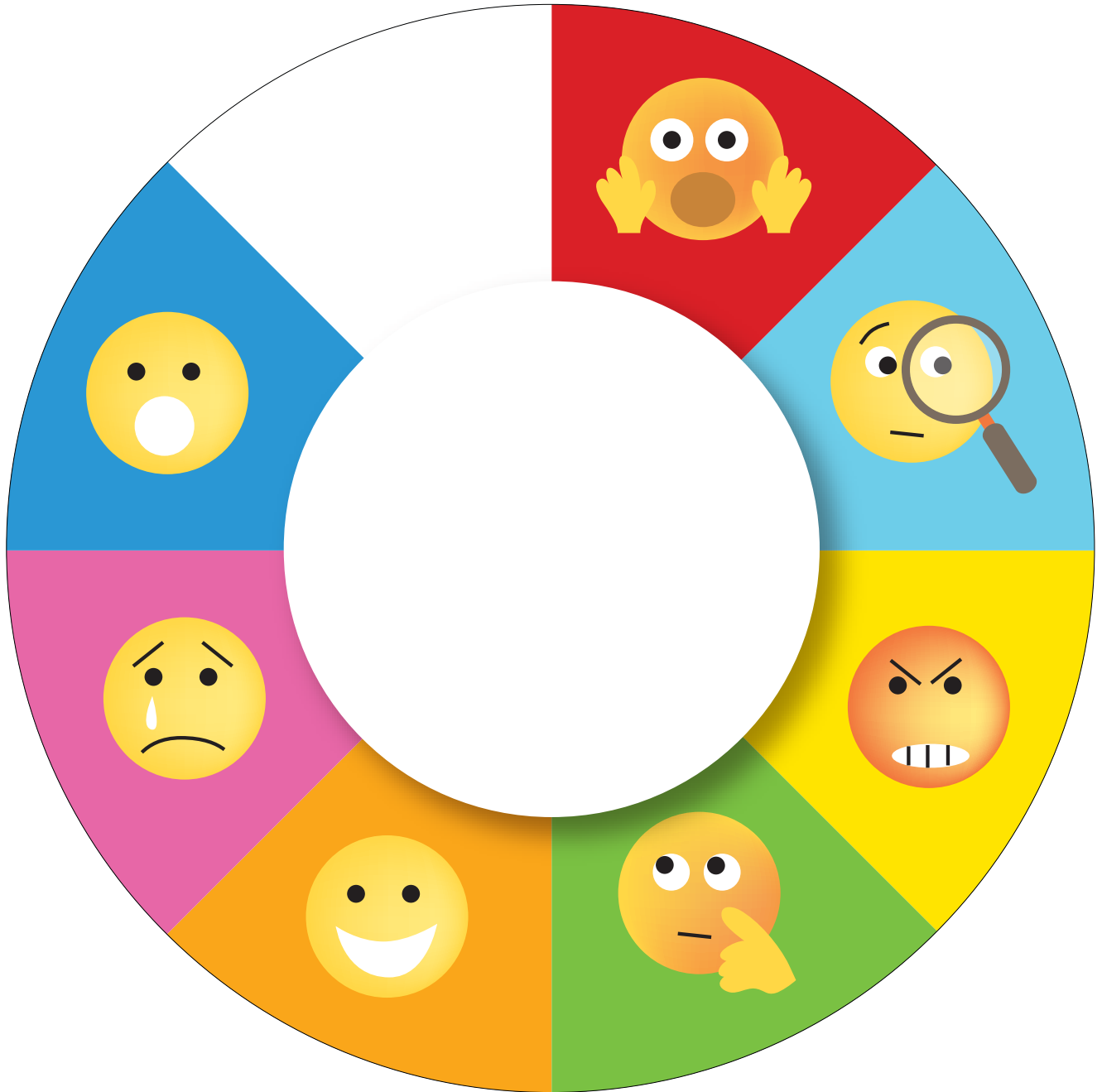


Sophie manages a company that grinds electrical and electronic devices into tiny shreds, recycling valuable raw materials from mobile phones for example. These materials are then resold to other companies.



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# WHEEL OF FEELINGS

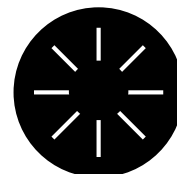


# REPAIR-MINDED

'WITH-THE-AID-OF' WORDS AND DEVICES

Cut out the words. Place them in a bowl.

Local area	Market	Street	TV screen	Blender	Tablet
Grand-parents	Parents	Friends	Mobile phone	Vacuum cleaner	Waffle iron
City	Shop	Library	Toaster	Sandwich grill	Clock radio
Relatives	Letter	School	Nightlight	Hairdryer	Printer
Parents	Game	Competition	Headphones	Electric toothbrush	Phone charger
Poster	Torch	Book	Laptop	Record player	Microwave
Phone	Job	Internet	Desk lamp	Deep fryer	Wireless speaker
Shopping street	Repair Café	Mayor	DVD player	Dustbuster	Game console
Window drawing	Sticker	Company	...	...	...
Factory	Screwdriver	School rules			
Teacher	Manager				



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REPAIR  
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VLAAMS-  
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Vlaanderen  
verbeelding werkt



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ROESELARE  
le y voor jou



elijn  
Ostinghes-Loozele-le-Nooze