

# gateway

to the world



**Learning to Think  
Thinking to Learn**  
**Dave Spencer**

Why are Thinking Skills so important for teens today?









## ‘PROGRESSIVE’

Questioning

Understanding principles

Active participant

Deep Learning

VERSUS

## ‘TRADITIONAL’

Memorising facts

Retaining knowledge

Empty receptacle

Surface Learning

‘Teach children what to think and you limit them to your ideas.

Teach children how to think and their ideas are limitless.’

Sandra Parks, Educational Author

Thinking is now part of evaluation and exams



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## Scrap GCSEs and A-levels, says Tony Blair Institute in call for 'radical reform'

**TBI recommends English schools focus on aspects such as critical thinking and creativity to ready pupils for jobs in digital world**

**Gemma McSherry**

Tue 23 Aug 2022 00.01 BST



Students looking at their GCSE results. The report from the TBI says schools should be ready to





UNIVERSIDADES PÚBLICAS DE LA COMUNIDAD DE MADRID  
PRUEBA DE ACCESO A LAS ENSEÑANZAS UNIVERSITARIAS  
OFICIALES DE GRADO

Curso 2015-2016

MATERIA: INGLÉS

OPCIÓN A

Modelo

INSTRUCCIONES GENERALES Y VALORACIÓN

Después de leer atentamente los textos y las cuestiones siguientes, el alumno deberá escoger una de las dos opciones propuestas y responder en INGLÉS a las cuestiones de la opción elegida.

**CALIFICACIÓN:** Las cuestiones 1ª, 2ª y 4ª se valorarán sobre 2 puntos cada una, la pregunta 3ª sobre 1 punto y la pregunta 5ª sobre 3 puntos.

**TIEMPO:** 90 minutos.

How Would We Live in a World Without Oil?

What would happen if our oil supply were shut off in a day? First, there is transportation. With the overwhelming majority of the oil we produce devoted to powering our vehicles, the impact on getting around would be most dramatic. Price-speculation would begin right away, and long lines would form at gas stations. Soon, we would all be looking for an electric car or converting our vehicles to run on natural gas. But it would not be long before natural gas supplies were also driven to extinction.

Fuel shortage is not the only problem our enslavement to black gold would cause. We also need to keep the lights on and blackouts would soon begin. It gets much worse still, of course, because a world without oil would quickly become a world without all of the products made from petroleum that we have come to know, love and depend upon. The list of essentials that we would soon be doing without is prodigious: medicines, paints, utensils and equipment, virtually all plastics, etc.

Eating would get tougher, too. If no one can truck fresh vegetables from across the country, we might be inclined to go back to basics and grow our own food. Local farmers would become a necessity, not just people who sell us honey at the street fair. It is an interesting thought experiment to picture such a world. Though the scenario is unreal, of course, taken to its logical conclusion, it encompasses so much more. A complete extinction of oil would lead to a rapid breakdown of society, desperation, lawlessness, wars and untold suffering.

QUESTIONS

1.- Are the following statements TRUE or FALSE? Copy the evidence from the text. No marks are given for only TRUE or FALSE.

- a) Most petroleum supply goes to producing plastics and medicines.
- b) If fuel suddenly disappeared, our daily life would be affected but social order would remain intact.

(Puntuación máxima: 2 puntos)

2.- In your own words and based on the ideas in the text, answer the following questions. Do not copy from the text.

- a) Give two consequences that a lack of oil would have on transportation.
- b) What consequences would oil extinction have on our eating habits?

(Puntuación máxima: 2 puntos)

3.- Find the words in the text that mean:

- a) immediately (paragraph 1)
- b) tools (paragraph 2)
- c) collapse (paragraph 3)
- d) anarchy (paragraph 3)

(Puntuación máxima: 1 punto)

4.- Complete the following sentences. Use the appropriate form of the word in brackets when given.

- a) You can save money by \_\_\_\_\_ (grow) fruits and vegetables; it's actually much simpler \_\_\_\_\_ it sounds.
- b) Last year, a research team \_\_\_\_\_ (find) signs that the amount of oil left in the world's reserves has decreased \_\_\_\_\_ (significant) since the 1990s!
- c) By growing food organically, that is to say, \_\_\_\_\_ pesticides or herbicides, you're \_\_\_\_\_ ensuring the quality of your products, but also growing healthier food.
- d) \_\_\_\_\_ would happen if oil \_\_\_\_\_ (run) out in 100 years?

(Puntuación máxima: 2 puntos)

5.- Write about 100 to 150 words on the following topic.

What should local authorities do to improve transport and mobility in large cities?

(Puntuación máxima: 3 puntos)

**One out of the total of three marks for the essay:**

The message is clear, precise and coherent, with interesting ideas which are relevant to the question.

The candidate can develop a personal point of view with original opinions which are adequately backed up.

## Developing Students' Thinking Skills



## Developing Students' Thinking Skills

Step One: The teacher's most useful tool – the question WHY

## WHY?

- WHY do you think this is the correct alternative?
- WHY do you say the answer is True?
- What's your favourite school subject? WHY?
- WHY is it a good idea to read the text once quickly before you try to complete the gaps?
- WHY do we double the consonant here?
- WHY do we use a gerund here?
- WHY are we doing this?

## Developing Students' Thinking Skills

Step Two: Encourage students to use WHY questions too



## Developing Students' Thinking Skills

Step Two: Encourage students to use WHY questions too

TIP: Instead of asking 'Has anybody got a question?'  
say 'Ask me a question!'

## 'FIVE WHYS' or 'THE WHY CHAIN' (Sakichi Toyoda)

**WHY** is the traffic so bad in big cities?

Because there are so many people driving cars nowadays.

**WHY** are there so many people driving cars nowadays?

Because.....

## CRITICAL THINKING: 'WHAT MAKES YOU SAY THAT?'

Encouraging students to think in a rational and open-minded way, being informed by evidence rather than feelings.



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## Should school start later for teenagers?

What time do you have to get up during the week? Would you prefer to spend an extra hour in bed? If so, there's good news for you. Many scientists and researchers think that secondary school should start later in the morning.





## Reading

1 **READING** Look at the title of the text and the photos above. What arguments do you think the text is going to give for schools starting later for teenagers?

2 Read the text and check your predictions.

3 **3** Read the text again and answer the questions.

- 1 What do schools in East Sussex, Paris and Singapore have in common?
- 2 Why do teenagers generally fall asleep later than adults?
- 3 Why is the experience of a school in North Tyneside important?
- 4 What effect did new school times for teenagers have in Seattle?
- 5 How can new school times affect teenagers' eating habits?
- 6 Why do some people think it's good for teenagers to get up early?
- 7 What negative effects can later school times have on teenagers?
- 8 If schools can't start later, how could they help with students' tiredness in the morning?

4 What do the underlined words in the text mean? Guess and then check in your dictionary.

### 5 **Critical thinkers**

In your opinion, should school start later to allow teenage students to sleep more?

#### What makes you say that?

Use ideas in the text and/or other facts, opinions and experiences to justify your opinion. Then share your ideas with a partner.

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## Should school start later for teenagers?

What time do you have to get up during the week? Would you prefer to spend an extra hour in bed? If so, there's good news for you. Many scientists and researchers think that secondary school should start later in the morning.



At one secondary school in East Sussex the director is thinking of changing the timetable to allow students to sleep an extra hour. At the moment, students must arrive at 8.25 am and they can't go home until 3 pm. But with the new timetable they might start at 9.25 am and finish at 4 pm. In 2018, the French education minister approved an idea where older students in Paris can start school at 9 am instead of 8 am. Meanwhile, in Singapore, they are considering putting back the start of lessons by 45 minutes. At the moment, many schools there begin at 7.30 am.

People are rethinking school hours because they have found that when you are a teenager the biological rhythms of your body (called circadian rhythms) are different. The release of melatonin, a chemical in the brain that controls sleep, happens later in the day than in adults. This means that teenagers find it hard to sleep in the evening and don't wake up completely until later in the morning. So, to help students pay more attention in class, they think schools ought to start later.

There is some evidence that a later school start does help. At a school in North Tyneside, teenage students don't have to start lessons until 10 am. In 2010, when the school changed to this later start, the percentage of good exam grades rose from 34% to about 50%. And it isn't only a question of student assessment. The quality of students' sleep can also change significantly when they get up later, helping their general health. This was discovered in a study carried out by the University of Washington in 2018. It focussed on a group of teenagers in the US city of Seattle. A later start also means teens have more time for a healthy breakfast before school. All things considered, the more that teenagers sleep, the healthier and happier they seem to be.

However, not everybody is in favour of changing school times. Some think that getting up early is part of the discipline that we all have to learn as we grow up. They say that if teenagers feel tired in the morning, they should go to bed earlier and catch up on sleep at the weekend. Also, starting school later means finishing later. That means you have less time for extra-curricular activities, hobbies, dinner, homework and time with your family. And we mustn't forget that any change to the school timetable has a big effect on parents and the typical working day for all sorts of employees.

For these reasons, it may be a problem to start school later. But there are other things that can help. Some people think that the first class of the day shouldn't need too much mental effort. So they say that, if possible, the day ought to begin with a subject like PE, not maths or physics. Anyway, whatever time school starts and whatever your first lesson is, experts recommend getting eight to nine hours' sleep on weekdays. And remember – you'd better not sleep in class. Not many teachers like that!

5

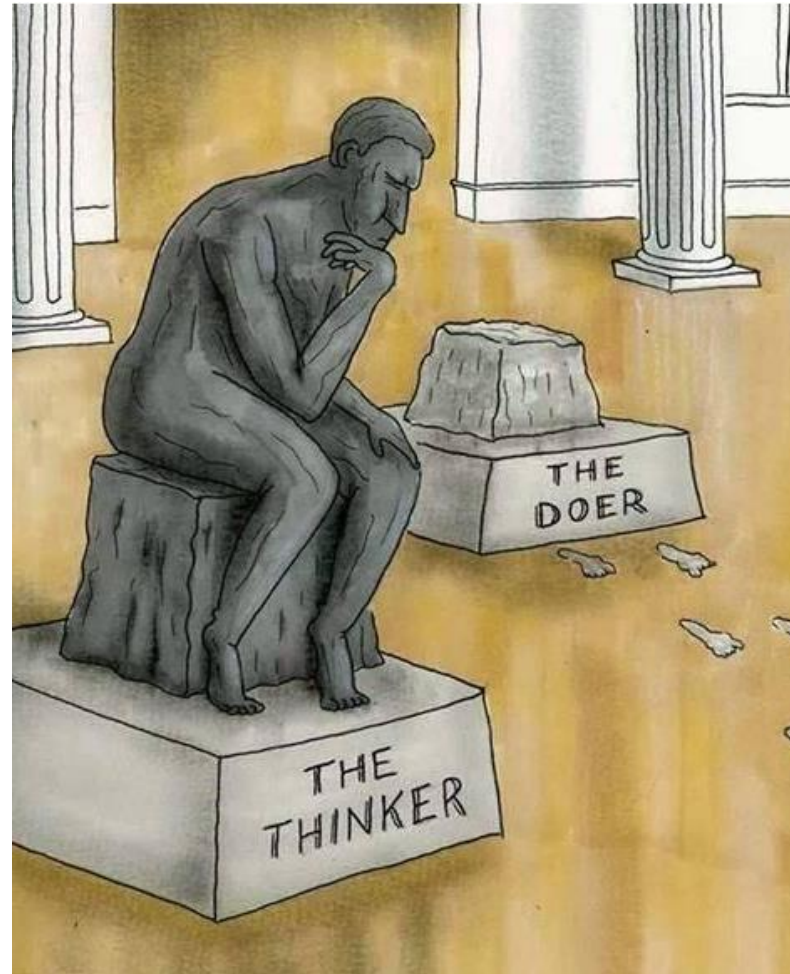


## Critical thinkers

In your opinion, should school start later to allow teenage students to sleep more?

### What makes you say that?

Use ideas in the text and/or other facts, opinions and experiences to justify your opinion. Then share your ideas with a partner.





### Show What You Know

Use a table to solve.

X Megan put some crayons in a box. She recorded the outcomes of 10 pulls.

pull	1	2	3	4	5	6	7	8	9	10
color	green	orange	orange	orange	orange	green	orange	orange	orange	orange

Which color does the data show was pulled less often?

green

**Explain** how you know that your answer is correct.

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Which color does the data show was pulled less often?

green

**Explain** how you know that your answer is correct.

my brain is  
always right

There are less green

### Constructed Response

Mike saw 17 blue cars and 25 green cars at the toy store. How many cars did he see? Write a number sentence with a  for the missing number. Explain how the number sentence shows the problem. (CC.2.OA.1, CC.2.NBT.5)

17  
+ 25

### Constructed Response

Mike saw 17 blue cars and 25 green cars at the toy store. How many cars did he see? Write a number sentence with a  for the missing number. Explain how the number sentence shows the problem. (CC.2.OA.1, CC.2.NBT.5)

$$\begin{array}{r} 17 \\ + 25 \\ \hline \end{array}$$
  
 $17 + 25 = 42$  I got the answer by talking in my brain and I agreed of the answer that my brain got.

98.

4. How many days are in a week? 7

5. How many months are in a year? 12

6. Is this number even or odd? 68 even



98.

4. How many days are in a week? 7

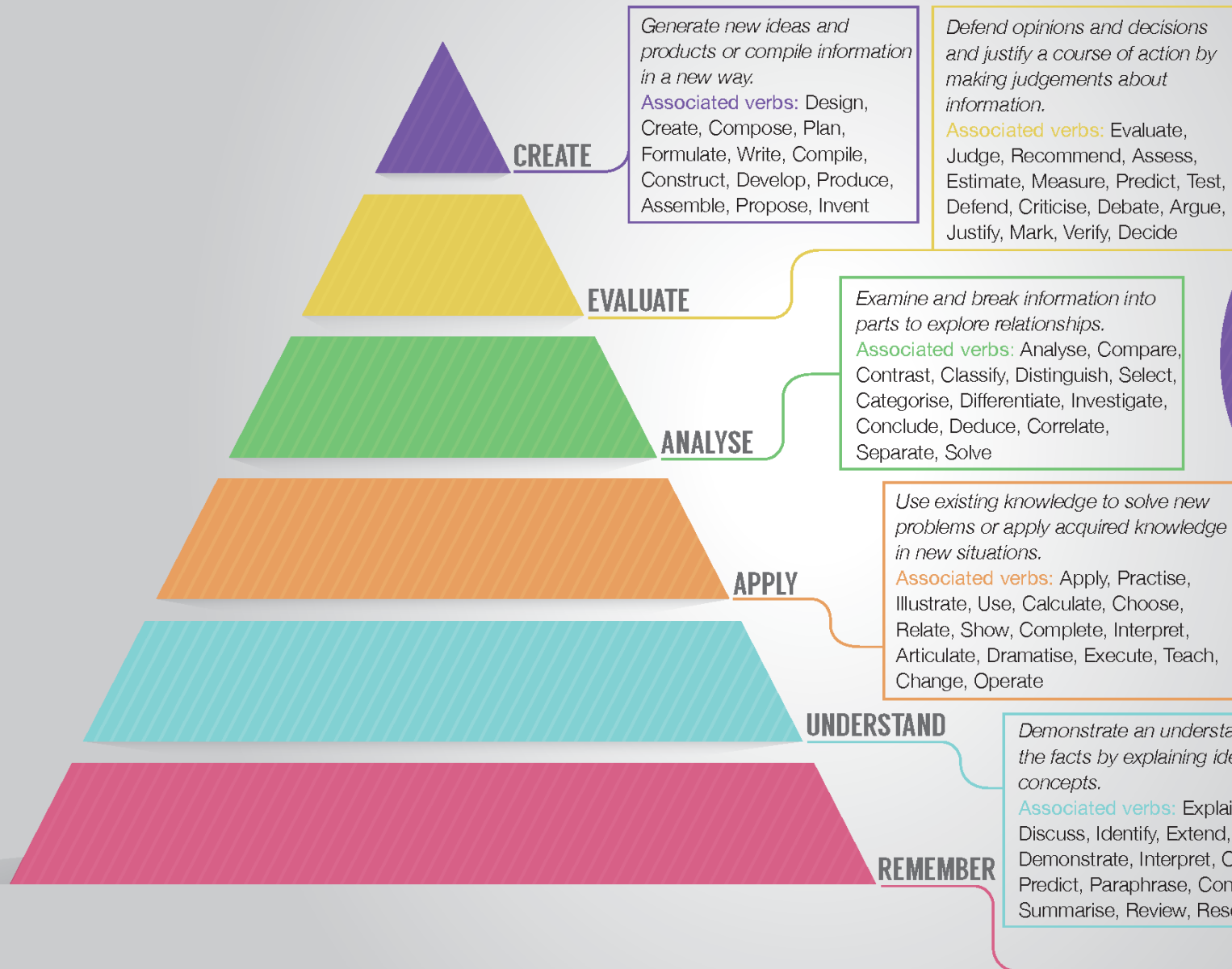
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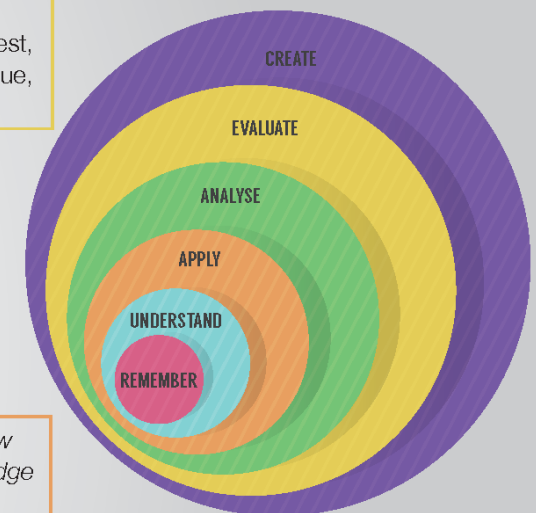
7. How do you know? Because I'm

smart +, Because the number in  
the one's place is even. X

# BLOOM'S REVISED TAXONOMY: RELATED VERBS



## BLOOM'S TAXONOMY: MASTERY LEARNING



## The Harvard Graduate School of Education – Project Zero

*‘Thinking doesn’t happen in a lockstep, sequential manner, systematically progressing from one level to the next. It is much messier, complex, dynamic, and interconnected than that.’*

‘Making Thinking Visible’ by Ron Ritchart, Mark Church, Karin Morrison  
Joey Bass, 2011

## **A MAP OF THINKING INVOLVED IN UNDERSTANDING**

1. Building explanations and interpretations
2. Reasoning with evidence
3. Making connections
4. Considering different viewpoints
5. Capturing the heart (i.e. key points) and forming conclusions
6. Wondering and asking questions
7. Uncovering complexity and going below the surface of things

'Making Thinking Visible' by Ron Ritchart, Mark Church, Karin Morrison  
Joey Bass, 2011

## **OTHER KINDS OF THINKING USEFUL FOR PROBLEM-SOLVING, DECISION MAKING AND FORMING JUDGEMENTS**

1. Identifying patterns and making generalisations
2. Generating possibilities and alternatives
3. Evaluating evidence, arguments and actions
4. Formulating plans and monitoring actions
5. Identifying claims, assumptions, and bias
6. Clarifying priorities, conditions, and what is known

‘Making Thinking Visible’ by Ron Ritchart, Mark Church, Karin Morrison  
Joey Bass, 2011



Harvard Graduate School of Education – Project Zero

## Visible Thinking Routines

Make thinking visible by naming and noticing it

Further reading:

‘Making Thinking Visible’ by Ron Ritchart, Mark Church, Karin Morrison (Joey Bass, 2011)

<http://pz.harvard.edu/projects/visible-thinking>

*How can we make thinking visible?*

**MGSE1.NBT.7**

11. Bobby has four dimes. Amy has 30 pennies. Which child has more money?

Bobby ✓

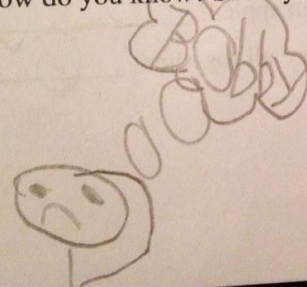
How do you know? Show your thinking.

**MGSE1.NBT.7**

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Bobby ✓

How do you know? Show your thinking.



*How can we make thinking visible?*

## **MIND MAPS**





# GREAT LEARNERS GREAT THINKERS

## SUSTAINABLE FOOD SOLUTIONS

Lesson aim: To think about ways we can feed the planet in a sustainable way

Video: A different kind of school lunch

**SEL** Social and emotional learning: Making decisions

### 1 **SPEAKING** Ask and answer these questions.

- 1 How do you feel about eating insects?
- 2 Why do you think some experts are very interested in us eating more insects in the future?

2a You are going to watch a video about a school that has prepared dishes with insects for school lunch. What do you think the students are going to say about eating insects before they try them? And after trying them?

2b **VIDEO** Watch the video and check your ideas in 2a. Were your predictions right?

3 **VIDEO** Here are some statements that are very similar to things that people actually say in the video. Watch it again and put them in the order you hear the ideas.

- |         |         |         |         |
|---------|---------|---------|---------|
| 1 ..... | 3 ..... | 5 ..... | 7 ..... |
| 2 ..... | 4 ..... | 6 ..... |         |

- a "The food wasn't bad but I prefer not to eat it again."
- b "My feeling about insects in general (not just as food) has changed."
- c "It doesn't taste strange but it has an unusual texture."
- d "I don't feel so nervous about eating insects now but I don't want to eat them again."
- e "I'm nervous about trying insects but I know that people say it's morally right."
- f "Eating insects is horrible but I'm going to try them."
- g "Eating insects can help us to think again about what different groups of people eat."

4 Read the text. What is the connection between eating insects and being careful about the food we throw away?

## WHAT A WASTE!

Insects could be one solution to the problem of feeding the world because they help us to get the protein we need without using a lot of water, energy or land. Another solution is to be more careful about all the food we waste. When we throw food away, we are also unnecessarily wasting the water, energy and land that went to produce the food. An organisation called "Love Food Hate Waste" says that in the UK we throw away one of every five bags of food that we buy. That's seven million tonnes of food a year! We need to think of different ideas that help us to throw away less food ... now!



"In the UK we throw away one of every five bags of food that we buy"

## GREAT THINKERS

**SEL**

Generate-Sort-Connect-Elaborate

5 **SPEAKING** Work in small groups. Follow these instructions to solve the problem at the end of the text in 4.

- 1 Generate ideas. Make a list of any ideas you can think of to waste less food.
- 2 Sort your ideas into groups. Decide your different categories and put your ideas into the categories in diagram form.
- 3 Connect any ideas from different categories that you think have a link.
- 4 Elaborate any of your ideas by expanding them and taking them in new directions.

6 **SPEAKING** In your group, create a mind map with as many ideas for throwing away less food as possible. Start doing some of your ideas today!



## GREAT LEARNERS

Great learners are active global citizens

With problems like food waste, why is it so important to think of ourselves as all citizens of just one global community?

Learner profile page 150



## GREAT THINKERS

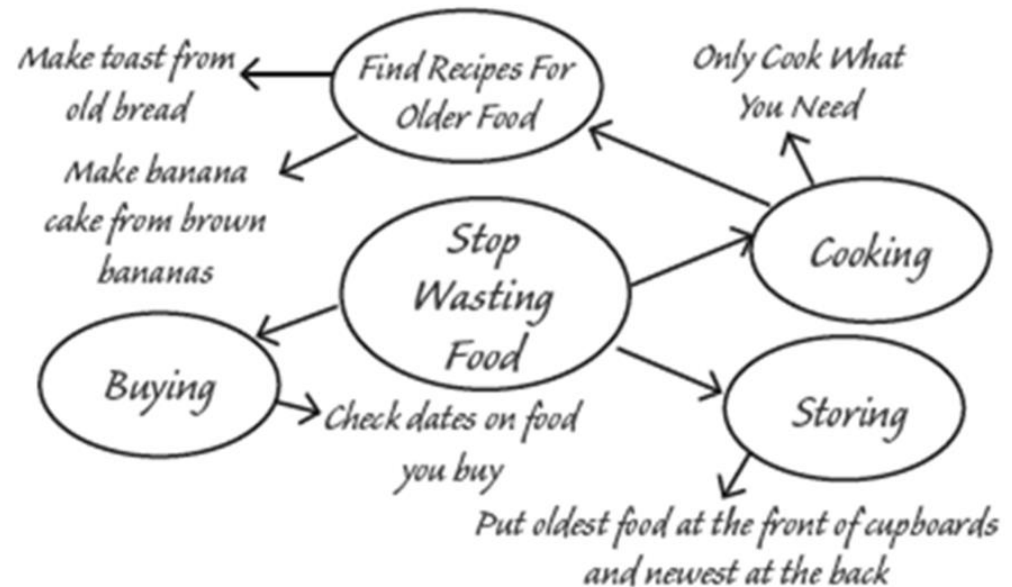


### Generate-Sort-Connect-Elaborate

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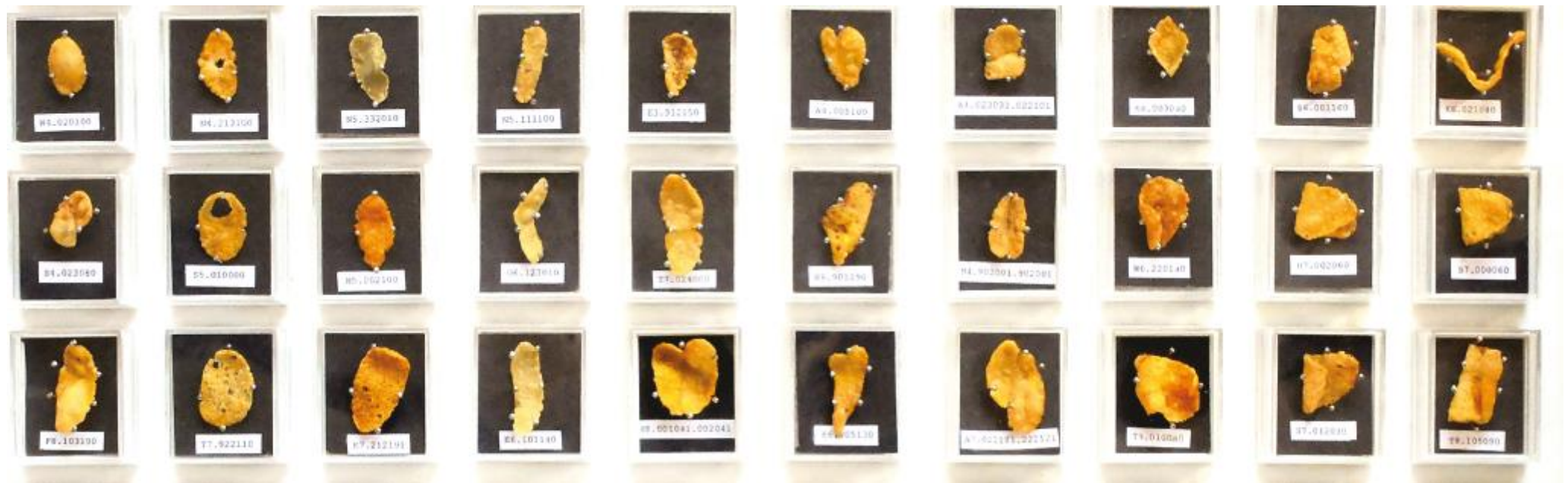
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‘Gateway to the World’ B1+

*How can we encourage students to think about what they see?*

**SEE-THINK-WONDER**



## 5 Critical thinkers

Are the works of art in the text serious?

What makes you say that?

Use ideas in the text and/or other facts, opinions and experiences to justify your opinion. Then share your ideas with a partner.

‘Gateway to the World’ B1+



## Reading

1 **SPEAKING** Look at the photo above. Describe what you can see. Look at the title of the text. What do you think it is going to be about?

2 Read the text. Were your predictions correct?

3 **CHOOSE** Choose the best answer.

- 1 Anne Griffiths works with cornflakes because ...
  - a when she adds milk to them she is inspired.
  - b she wanted to do an artistic experiment with everyday objects.
  - c she had found a lot of special ones and needed to do something with them.
- 2 Anne thinks people become interested in seeing the cornflakes in her work of art because ...
  - a they always find cornflakes beautiful.
  - b the way the cornflakes are organised is unusual.
  - c cornflakes are a popular and unique type of food.
- 3 Stephan Brusche ...
  - a had always wanted to work with bananas.
  - b immediately enjoyed making complicated works out of bananas.
  - c thinks bananas have a variety of qualities that make them good to work with.
- 4 Because bananas go brown when they get older, Stephan ...
  - a has to use a different art form to preserve his work.
  - b cannot make any mistakes.
  - c feels frustrated because his works disappear.
- 5 Kevin Abosch's photo was so expensive because ...
  - a it was totally unique.
  - b Kevin himself really liked the photo.
  - c Kevin needed exactly one million euros.

4 What do the underlined words in the text mean? Guess and then check in your dictionary.

## 5 Critical thinkers

Are the works of art in the text serious?

What makes you say that?

Use ideas in the text and/or other facts, opinions and experiences to justify your opinion. Then share your ideas with a partner.

## AN APPETITE FOR ART

Artists can be as inspired by food as top chefs. Take **Anne Griffiths**. Most of us just add milk to cornflakes and eat them. Not Anne. She looks at each cornflake carefully to choose special examples. She has produced a unique work of art called "Taxonomy of the cornflake" – 84 cornflakes all organised inside a frame. Anne said she had decided to use cornflakes because she had wanted to question how we see the typical things that are always around us. She wants to know: Does the way that we display something change our attitude to it?

An art collector was very impressed by the work when he saw it at the Royal Academy Summer Exhibition and bought it for £900. Anne used eleven different brands of cornflakes. She said: "If you look at them, they are amazing shapes. There are so many variations and every single one is unique. Once something is put in a display cabinet and pinned precisely with a number, then people become interested." She told the press that she didn't usually eat cornflakes for breakfast. She prefers marmalade on toast.

If you think making art out of cornflakes is bananas, wait until you see what artist **Stephan Brusche** uses. His works are drawings on ... bananas! They're also a type of sculpture as he often cuts some of the skin off the fruit. Stephan, who is from the Netherlands, has over 117,000 followers on Instagram.

He started by just drawing a little happy face on a banana. He went on to experiment more and more, gradually producing some very complex designs. He said he liked the 3D effect he could get, and also the bright colour of the banana contrasting with the black or blue pen. He liked the feel and texture of bananas, too. He said he could walk through the supermarket and see a particular banana and just get inspired by the shape. One problem with banana art is that when you make a mistake you can't just erase it and do it again. Another is that bananas won't last forever so you have to work quite fast, and the works will go bad in the end. But Stephan told an interviewer that that didn't bother him. The important thing for him is the photo of the banana art when it's finished.

In 2016, a wealthy businessman bought a photo of a potato... for one million euros! It was taken by world-famous Irish photographer **Kevin Abosch**. Kevin didn't become famous for making art out of food. He's well-known for the photographic portraits he takes of famous people. These are easy to identify because they usually have a black background. He used the same technique in 2010 for 'Potato #345'.

One day a German businessman saw the photo in Kevin's studio, loved it and offered to buy it. Kevin said the photo was very special for him and he wouldn't take less than a million euros for it. So that was the price they agreed. There are two other versions of the photo, one which Kevin still has and another in a museum in Serbia. Kevin's studio commented: 'He has photographed many potatoes. This is one of his favourites.'



*How can we encourage students to think about what they see?*

## SEE-THINK-WONDER



*How can we encourage students to show they've thought about what they've read, seen, or heard?*

**SENTENCE-PHRASE-WORD**

## SENTENCE-PHRASE-WORD

- 1 Choose one **SENTENCE** from the text that you think talks about a key concept.
- 2 Choose one **PHRASE** from the text that moved you, interested you, or provoked you.
- 3 Choose one **WORD** from the text that you think was central to the idea(s) in the text.
- 4 Share your sentence, word and phrase with other students. Are they similar or different? What important ideas or themes come out of your discussion?

*How can we encourage our students to extend their thinking, 'dig deeper', and make personal connections?*

### **3-2-1 BRIDGE**



# GREAT LEARNERS GREAT THINKERS

## TIME MANAGEMENT

Lesson aim: To think about how you can manage study time effectively

Video: Please take my phone, teacher!



Please take  
my phone, teacher!



## 3-2-1 BRIDGE

1 Think of **3 WORDS** that quickly come to your mind when you think about [the use of smartphones in school].

2 Think quickly of **2 QUESTIONS** you have about this topic.

3 Think of **1 SIMILE** to describe using a smartphone:  
'Using a smartphone at school is like...'

4 Share your ideas with other students.

5 Now read the text/watch the video. Does it make you want to change any of your WORDS or your SIMILE? Does it answer your QUESTIONS? If not, where could you find the answers?



## THE 4 Cs: CONNECTIONS, CHALLENGES, CONCEPTS, CHANGES

- 1 Make **CONNECTIONS** between what you learned in the text/video and your life and/or the life of people you know.
- 2 Think about ideas or opinions that you want to **CHALLENGE** or argue with in the text/video.
- 3 Decide which key **CONCEPTS** or ideas you think are important and useful to remember.
- 4 Consider what **CHANGES** you and/or others could make based on what you learned in the text/video.
- 5 Now share your ideas in small groups.

*How can we encourage our students to think positively and constructively?*

**COMPASS POINTS (W-E-N-S)**

## COMPASS POINTS (W-E-N-S)

- 1 What **WORRIES** do you have about (starting school this year)?
- 2 What do you find **EXCITING** about (starting school this year)?
- 3 What do you **NEED** to know to help you (prepare for school this year)?
- 4 What **STEPS** can you take to prepare for (school this year)?

## **COMPASS POINTS (W-E-N-S)**

Starting a new school year

Starting a new school

Starting a new stage of education

Making new friends

Getting in the zone for exams

## **TODAY'S THINKING ROUTINES**

- **WHY**
- **WHAT MAKES YOU SAY THAT**
- **FIVE WHYS**
- **GENERATE-SORT-COLLABORATE-ELABORATE (MIND MAPS)**
- **SEE-THINK-WONDER**
- **SENTENCE-PHRASE-WORD**
- **3-2-1 BRIDGE**
- **THE 4Cs: CONNECTIONS, CHALLENGES, CONCEPTS, CHANGES**
- **COMPASS POINTS (W-E-N-S)**

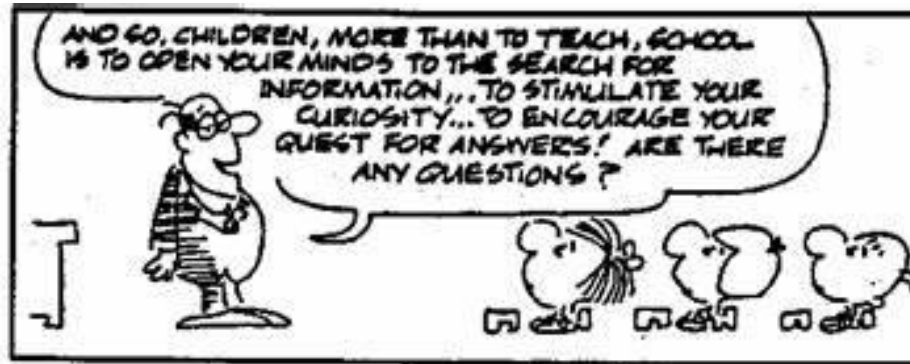
Teacher, you opened my eyes to the world and showed me how to question things and think critically...

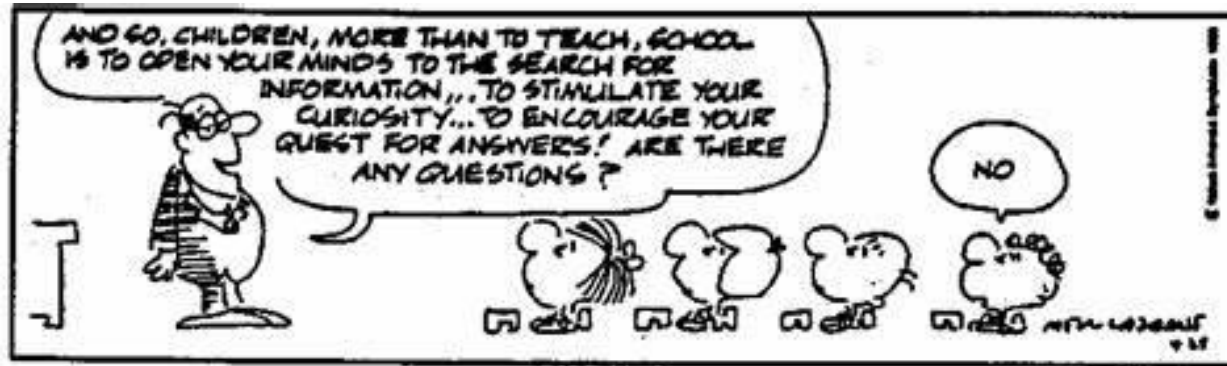




I was happy until I met you!!







Ask me a question!

Thank you!

Please stay in touch.

[www.facebook.com/teachwithdave](https://www.facebook.com/teachwithdave)

