



Toolbox

The Ideal Menu Game

Quiz questions

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#livingSTEM



CITIZENS
IN POWER



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Trànsit Projectes



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1. How much calcium does your body need per day?

100 g

100 mg

700 mg

400 mg

Answer: 700 mg is the recommended daily calcium allowance, to maintain healthy teeth and bones. You can get your daily amount by eating for example 30 g of hard cheese, 200 ml glass of milk, 125 ml carton of yogurt.

2. Which food item is richer in Calcium?

100 g Spinach

100 g Skim Milk

Answer: Spinach: 100 g spinach - 136 mg
100 g skim milk - 122 mg

3. Which is healthier to eat for breakfast: Oatmeal or Cornflakes?

Oatmeal: fibre and protein and a lot of vitamins, minerals and antioxidants.

Cornflakes: high in sugar and low in fibre, too much salt, causing heart diseases and diabetes.

4. Name 3 healthy nutrients of Broccoli!

Answer: fibre, protein, iron, potassium, calcium, selenium and magnesium, vitamins A, B, C, E, K, folic acid, good for the heart, bones, prevents diabetes and cancer

5. Name 3 reasons why salmon is a healthy superfood!

Answer: omega-3 fatty acid, high quality protein, many B vitamins.

6. Choose the healthiest set for your second breakfast.

- a) Crisps & Coke
- b) Graham crackers & yoghurt
- c) Doughnut and kefir
- d) Fruit juice and chocolate bar

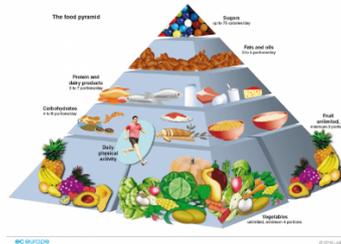
Answer: b) Graham crackers & yoghurt - best wholemeal and organic

7. What form of food preparation is healthiest?

- a) Frying
- b) Baking
- c) Steaming
- d) Microwave cooking

Answer: c) Steaming

8. What is the name of this?



Source: <https://www.ec-europe.com>

- a) Food pyramid
- b) Food and health pyramid
- c) The nutritional triangle
- d) The vitamin triangle

Answer: a) Food pyramid

9. The biggest source of protein is in:

- a) legumes
- b) chocolate
- c) tomato soup

Answer: a) legumes

10. What is glucose?

- a) a protein
- b) a carbohydrate
- c) a fatty acid

Answer: b) a monosaccharide carbohydrate, i.e. a simple sugar

11. How much sugar is recommended per day?

- a) 2 teaspoons
- b) 6 teaspoons
- c) 10 teaspoons

Answer: b) - too much sugar causes heart diseases, diabetes and make you addicted, so you want to eat more and more

12. Honey versus sugar - which is better and why?

Answer: They have about the same amount of calories, but you need much less honey to sweeten your food, honey needs longer to break down into sugars in your body, high quality honey contains antioxidants, vitamins and minerals, it fights infections, is antibacterial and antifungal

13. In which products can you find palm oil?

- a) chocolate
- b) soap
- c) pizza

Answer: All of them, nearly 80% of supermarket products contain palm oil

14. What's the problem with palm oil?

Huge areas of tropical rainforests have been cut down to plant palm trees for the global food market, destroying biodiversity, the habitat of many animals, like the orang utan and the habitat of many people.

15. Which products are high in saturated fat?

- a) fatty meat
- b) whipped cream
- c) processed meat: sausages

16. What is the problem with unsaturated fat?

Answer: Too much saturated fat raises cholesterol and the risk of heart disease

17. Name 2 products, which are high in unsaturated fat - like omega fatty acids and why are they good for you?

Answers: fatty fish, like herring, salmon, mackarel, nuts, almonds, seeds, like chia, flax, plant oils
They are inflammatory and good for your heart

18. Name 3 high protein foods!

Answers: Almonds, nuts, eggs, oats, lentils, beans, quinoa, chicken breast, cottage cheese, yogurt, fish, shrimp

19. What are possible health problems with eating too much protein?

Possible answers: Kidney damage, heart problems, calcium loss, weight gain

About 0.8 gr per kilo body weight are healthy: Try to eat in a balanced way - half of your daily food vegetables and fruit, a quarter proteins, a quarter carbohydrates

20. Can you eat dandelions?

Yes, you can make a salad with the young leaves (good for your kidneys), honey with the flowers (good for your stomach and immune system) and cook the roots like carrots and parsnips or make tea from the roots. You can also decorate your food with the flowers.



Note: Make the students aware of how important physical exercise, mindfulness and hydration is for feeling well and being smart!

1. Mindfulness: Deep breathing

Open the window (optional). Relax totally! Observe your breath. Breathe in fresh air and slowly breathe it out again.

Repeat this 10 times and return to the game board. You may take a team mate with you.

2. Mindfulness: Awe

Go outside: Look at a natural spot - a flower, a tree, a plant. Relax and observe for 3 minutes. Return to the class and tell about your experience. You may take a team mate with you.

3. Physical exercise

Hop like a frog through the classroom or outside. Take one team member with you!

4. Physical exercise

Walk like an elephant through the classroom. Take one team member with you!

5. Physical exercise

Crawl like a crab through the classroom. Take one team member with you!

6. Physical exercise

Jump and twist like a dolphin: Take one team member with you!

7. Drink a class of water!

(Your team mates may join you.)

8. Do a few steps of mindful walk!

As you begin, walk at a natural pace. Place your hands wherever comfortable: on your belly, behind your back, or at your sides.

Count steps up to 10, and then start back at one again. If you're in a small space, as you reach ten, pause and then turn around.

With each step, pay attention to the lifting and falling of your foot. Notice movement in your legs and the rest of your body. Notice any shifting of your body from side to side.

Whatever else captures your attention, come back to the sensation of walking.

Your mind will wander, so without frustration, guide it back again as many times as you need.

9. Mindfulness: What are you most grateful for at this very moment?

You may choose to share your answer to the class or keep it yourself.

10. Self-massage is an excellent health practice that stimulates acupoints to bring quietness to the mind and awaken and refresh the body with renewed vital energy.

Thank your body and perform a self-massage your right arm and hand!

You can do this by rubbing, tapping, pressing, gently kneading, gently pinching with a thankful attitude.

11. Walk and talk about biodiversity!

Take a team mate with you and walk for 3 minutes discussing biodiversity. Tell the others about your findings!

12. Physical exercise

Find your favourite music on your smartphone and dance 2 minutes freestyle! Take a team mate with you!

13. Mindfulness: Do nothing for one minute!

Tell us, if you want to, about your thoughts.

14. Mindfulness

Take 3 deep breathes, each held for 3 seconds!

15. Cross the feet and hands!

Clasp hands and bend the elbows up so that hands are under the chin.
Then breath in deep for 3 breaths

16. Stretch break!

Slowly stretch your neck, chest, shoulders, and hips!

17. Calm down!

Reach for the sky - and hold the position for 30 seconds!

18. Calm down!

Touch your toes - and hold the position for 30 seconds!

19. Calm down!

Circle your neck for 30 seconds!

20. Yoga pose!

Tree pose: Fold your hands and hold your arms horizontally, bend your left leg and hold your foot above your right knee!



The objective is to reflect about the way we exploit our nature, damage biodiversity, contribute to global warming and also to discuss and find alternatives.

There are many challenges in #LivingSTEM, covering the issues and permaculture principles make a huge contribution to reducing our footprints.

Practical information can be found here:

https://wwfeu.awsassets.panda.org/downloads/opl_ebooklet.pdf

and here: <http://shrinkthatfootprint.com/food-carbon-footprint-diet>

1. What is the difference between the eco- and carbon-footprint?

Answer: The **ecological footprint**: the total resources people consume with the land and water area that **is** needed to replace those resources, measured in gha (global hectares, i.e. land used)

The **carbon footprint**: focuses on the greenhouse gases released, e.g. energy used, burning fossil fuels, for transport, feed production, gases emitted by the animals, measured in (t CO₂e - tons CO₂ emissions)

2. Which is better for the ecology - an organic avocado or a tomato from your permaculture garden?

Answer: An avocado, although very healthy, needs a lot of water to grow is usually imported from a long distance, so the eco-/and carbon footprint is high, whereas the eco-/carbon footprint of the carrot is near zero.

3. What is the average carbon "food" print per year of a meat lover, eating meat, mainly beef every day?

- a) 3.5 t CO₂e b) 2 t CO₂e c) 1.5 t CO₂e

a) is correct - especially cattle in intensive farming emit many greenhouse gases

4. What is the average carbon "food" print per year of a vegan, eating no animal products?

- a) 0.5 t CO₂e b) 1.5 t CO₂e c) 2 t CO₂e

b) is correct, you can reduce this emission rate, if you plant your own food, using permaculture principles

5. What is the carbon intensity of eating fruit, measured in grams of carbon dioxide equivalents per kilocalorie of food eaten (g CO₂e/kcal)?

- a) 0.6. b) 2.8. c) 4.6

c) is correct, actually higher than eating sweets, since many of the fruits we buy in the supermarket are imported. You can reduce this to nearly zero, when eating fruit grown in permaculture gardens.

6. What is the carbon intensity of eating meat - beef and lamb, measured in grams of carbon dioxide equivalents per kilocalorie of food eaten (g CO₂e/kcal)?

- a) 6.8 b) 14.1 c) 18.7

b) is correct, yet the carbon footprint is lower, if the animals are part of a biodiversity or permaculture cycle and do nature maintenance. The biodiversity they create reduces more greenhouse gases than they emit.

7. It is a building, room, or area, usually chiefly of glass, used for growing tender plants or plants out of season.

- A) A greenhouse
- B) A compost
- C) A raised garden bed

Answer: A greenhouse

8. The term "regenerative" describes processes that restore, renew or revitalize their own sources of energy and materials. Regenerative design uses whole systems thinking to create resilient and equitable systems that integrate the needs of society with the integrity of nature. Give one example of a regenerative system!

Possible answers: 1) the human body, 2) a permaculture farm 3) a primary forest 4) a natural ecosystem

9. What do you call a mixture of various decaying organic substances, as dead leaves or manure, used for fertilizing soil?

- A) compost
- B) hay
- C) hugelkulture

A) is correct

10. What is Permaculture?

- A) Gardening inspired by nature.
- B) Gardening that protects from the rain.
- C) Gardening without chemicals.

A) is correct

11. What makes "Eating in Season" such a good idea?

Different possible answers:

- *Seasonal food is fresher, tastier and more nutritious than food consumed out of season.
- *Supports our body's natural cycle - Each season's produce is "designed by nature" to support our bodies in making the transition from one season to another.
- *Helps to support the environment because it reduces the number of miles your food has to travel before it reaches your plate.

- *Supports your local farmer and the local economy
- *Reduces pollution

12) What is a fractal?

A fractal is a never-ending pattern. Fractals are infinitely complex patterns that are self-similar across different scales. They are created by repeating a simple process over and over in an ongoing feedback loop. Fractals are as important in physics, mathematics as they are in the study of permaculture.

13) Cite an example of fractal in food!

Possible answers: broccoli, Romanesco broccoli, cauliflower, inside of a halved kiwi fruit, inside a halved cabbage...

14) Give an example of fractal in nature!

Possible answers: examples of fractals in nature would include branches of trees, animal circulatory systems, snowflakes, lightning and electricity, plants and leaves, geographic terrain and river systems, clouds, crystals.

15) What is the Fibonacci sequence?

The Fibonacci Sequence: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55...

or the formula $X_n = X_{n-1} + X_{n-2}$

16) Give one example of a Fibonacci sequence in nature!

- The spirals formed by individual flowers
- The number of petals of flowers. Most have three (like lilies and irises), five (parnassia, rose hips) or eight (cosmea), 13 (some daisies), 21 (chicory), 34, 55 or 89 (asteraceae).
- The leaves on a stem.

17) In what ways does Permaculture reduce your eco-footprint? Give one example!

It is regenerative agriculture, it builds up the earth instead of destroying it.

It does not use poisonous fertilizers or pesticides.

It fills each niche of the ecosystem with productive and supportive species to create a natural system, providing nourishment for us.

18) In what ways does Permaculture reduce your carbon footprint? Give one example!

No-dig gardening: Carbon remains in the soil!
Composting your kitchen and garden waste reduces methane gas emissions!
Mulching and cover crops store carbon!
Polycultures and diversity make nature resilient!
No food imports.

19) What is the Greenhouse Effect?

The infusion of greenhouse gases (mainly fossil fuels, methane) into the atmosphere prevent the heat of sunrays to reflect back into space.
It gets warmer, we get more droughts, storms, heavy rain, rising sea levels, pandemics, ...). Deforestation, large scale agriculture, rapidly growing economies are some of the causes.

20) What is biodiversity and why does it matter?

It is the variety of life on Earth, in all its forms and all its interactions. The air you breathe, the water you drink and the food you eat all rely on biodiversity, but right now it is in crisis. About 1.7 million species have been recorded, but there are probably 100 million, many of them in tropical rainforests.



Note: These should be fun cards! Here are just some examples. You can add and create more cards. Students can also make their own photos when they explore junk foods and make fun cards. Students should learn that once in a while it is OK to have fun and have some junk food, but they should also reflect about why they can make us addicted to them and realize the damage they do to our health and to the environment. They should learn to prepare delicious alternatives, tastier than the sugary, fatty chemical stuff.

1.

You spent all Sunday playing computer games and drinking sugary soft drinks.



2.

You watched a Harry Potter film and ate a whole package of jelly bellies!



3.

You were hungry yesterday and ate three chocolate bars.



4.

You ate fast food burgers, sweets and soft drinks two days in a row.



5.

You ate a frozen pizza from the supermarket with lots of fatty stuff on!



6.

You drank a liter of Monster energy drinks.



7.

You were hungry after school and ate two sandwiches you bought in the supermarket on the way home!



8.

You had lots of French fries with ketchup for dinner.



9.

You played computer games with your friends and empty two big packs of sweets.



10.

You ate a whole family pack of ice cream tacos yesterday.



11.

You emptied half a jar of chocolate cream yesterday!



12.

You watched Netflix series all day yesterday with lots of popcorn and coke!



13.

You played computer games and emptied two big bags of potato chips last night!



14.

You went two town and ate two Hot Dogs for lunch.



15.

Your friend visited you. You had a take-away Chinese meal.



16.

You went to a Burger bar and had lots of chicken nuggets!



17.

You had another Burger dinner!



18.

You went to a fun park and had lots of slush ice!



19.

You had a huge cone with soft ice!



20.

You had a huge Burger meal with milk shake!

