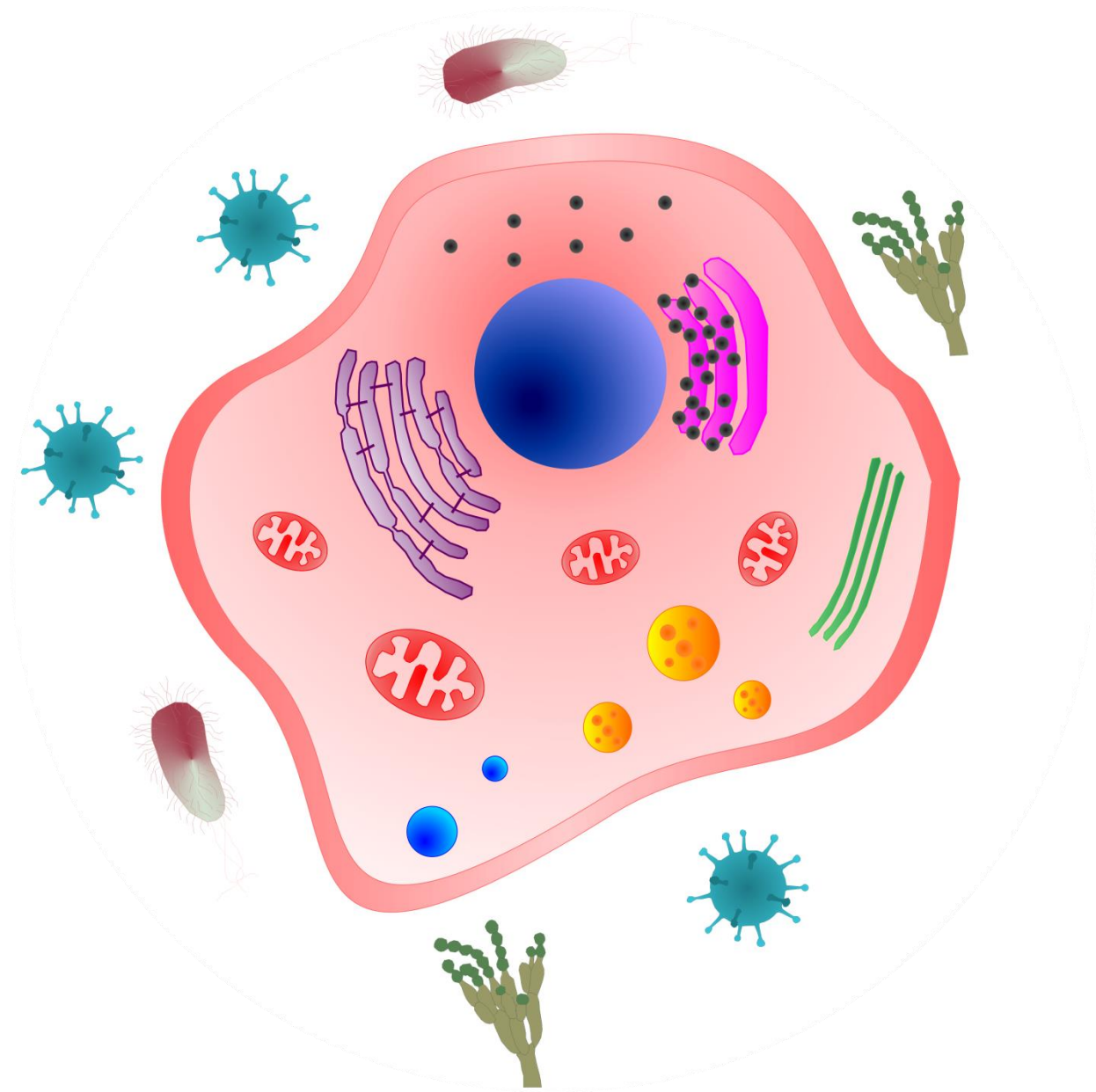




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Bugs and you: The microbiome

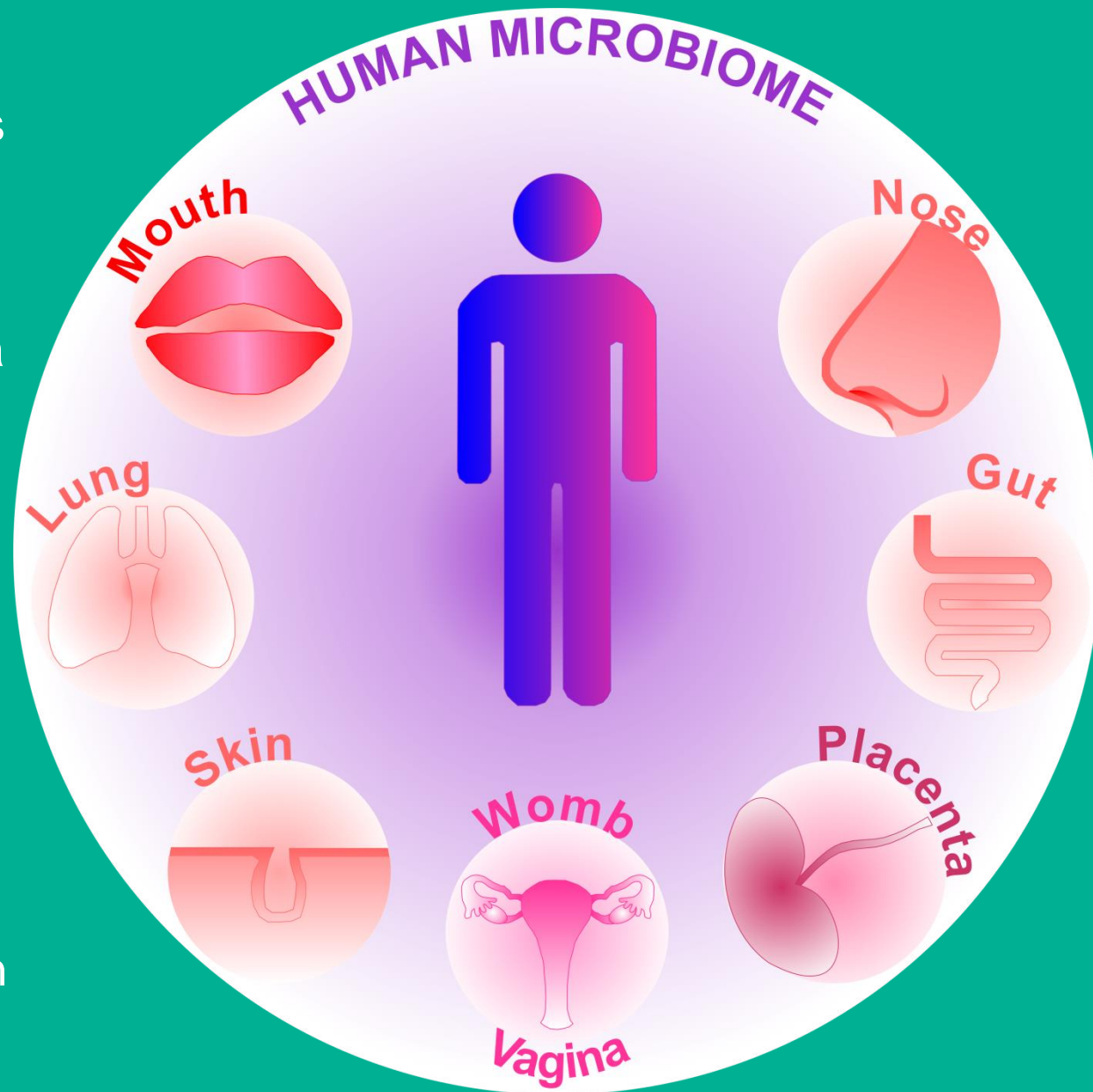


Where do our bugs live?

We live in a microbial soup containing millions of microbes (bacteria, viruses & fungi)

The mere presence of a person in a room can add 37 million bacteria to the air every hour, largely by stirring up what was left by the previous occupants!

For every 1 of our cells there are around 7 microbial cells living on/within us (our human microbiome)

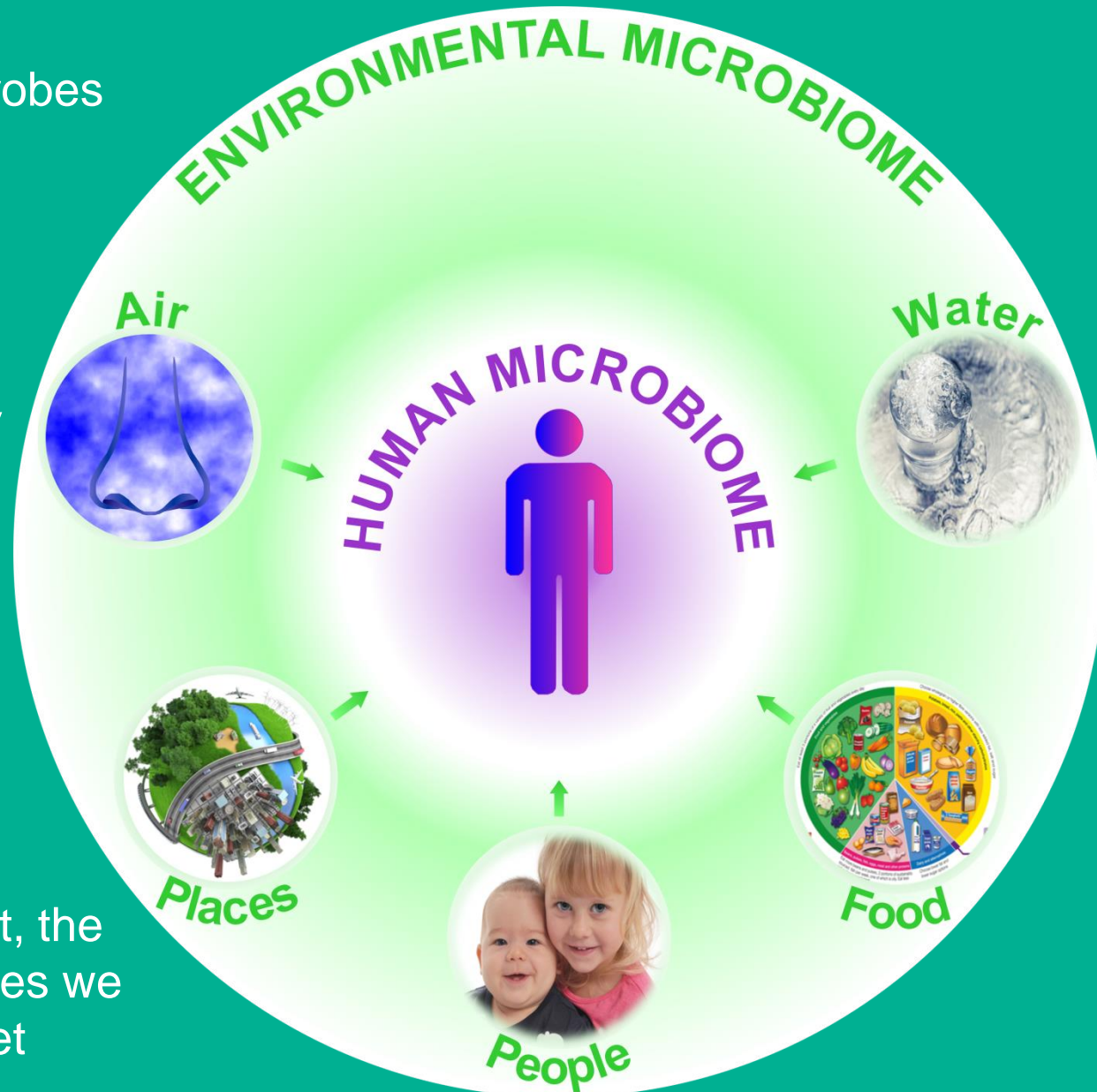


Where do they come from?

We are exposed to microbes throughout our lives, beginning in the womb

Our personal human microbiomes are established during early childhood and continue to change as we are exposed to microbes in our environment (our environmental microbiome)

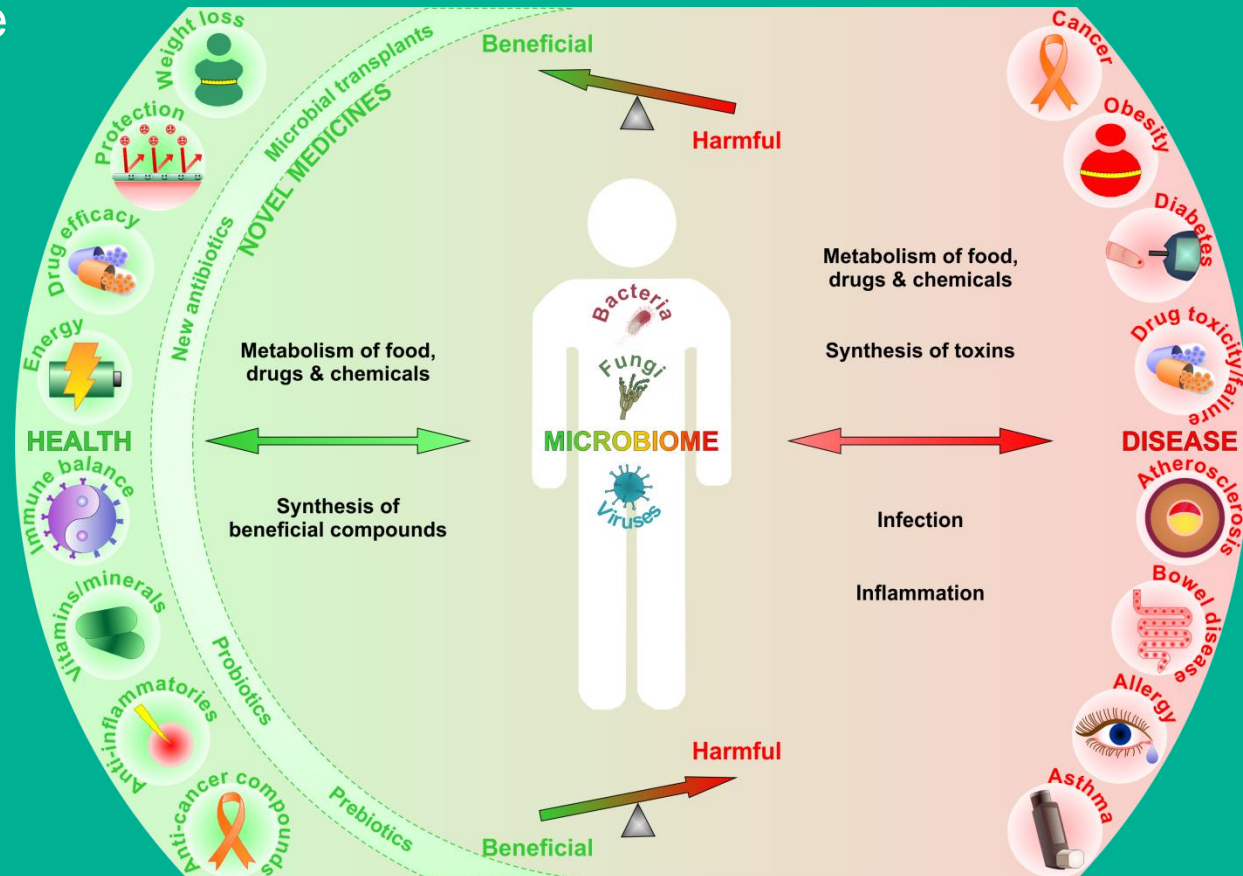
We really are the air we breathe, the food we eat, the water we drink, the places we go & the people we meet



How can they affect health?

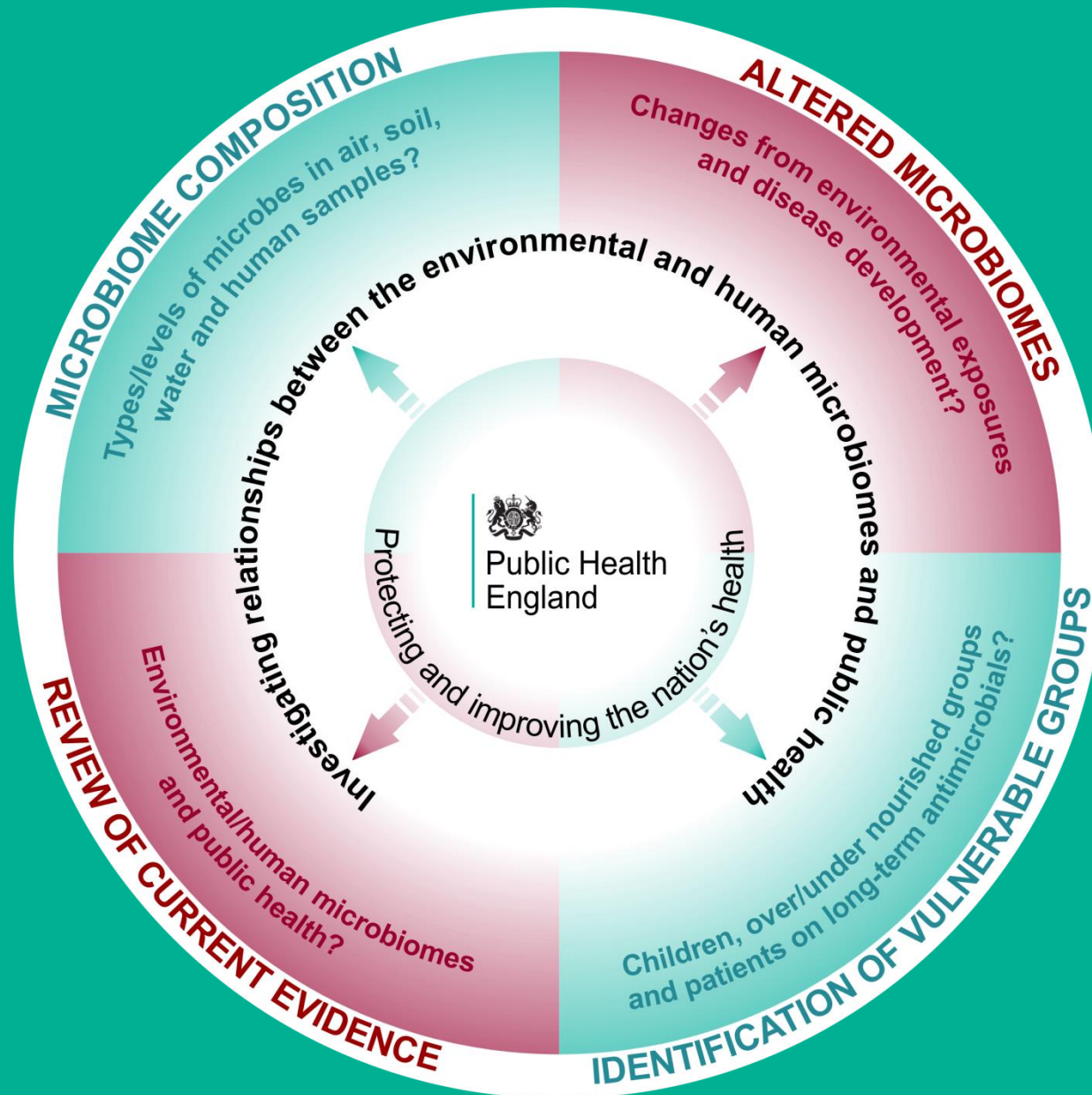
An imbalance in the beneficial (good) vs harmful (bad) microbes is associated with disease

Whether it is the altered microbiome that drives the disease or the disease that drives the altered microbiome is unclear



Live microbes (probiotics), nutrients that promote the growth of good microbes (prebiotics), antimicrobials that target bad microbes, and microbial transplants (mainly faecal transplants) are being developed as novel medicines

What research is PHE doing?





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QUIZ

**Bugs and you:
The microbiome**



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Bugs and you: The microbiome

Question 1:

The mere presence of a person in a room adds to the air?

A) 37 thousand
bacteria/hour

B) 370 thousand
bacteria/hour

C) 3.7 million
bacteria/hour

D) 37 million
bacteria/hour

WARNING: ANSWER ON NEXT PAGE!



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Question 2:

These bacteria mainly come from?

A) The previous room
occupants

B) Our breath

C) Our skin

D) Our shoes

WARNING: ANSWER ON NEXT PAGE!



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Question 3:

Microbial cells within the body outnumber human cells?

A) 2:1

B) 3:1

C) 5:1

D) 7:1

WARNING: ANSWER ON NEXT PAGE!



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Question 4:

Our human microbiome develops from?

A) The air we breathe

B) The food we eat

C) The people we meet

D) All of the above

WARNING: ANSWER ON NEXT PAGE!



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Question 4:

Our human microbiome develops from?

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C) The people we meet

D) All of the above



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Question 5:

Our gut microbiome becomes established?

A) In the womb

B) During birth

C) Following weaning

D) In adulthood

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Question 5:

Our gut microbiome becomes established?

A) In the womb

B) During birth

C) Following weaning

D) In adulthood



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Question 6:

Which of these facts about the microbiome is true?

A) Changes in the
microbiome drive disease

B) Disease drives changes
in the microbiome

C) An imbalance in good vs
bad microbes causes
disease

D) All microbes cause
disease

WARNING: ANSWER ON NEXT PAGE!



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