

“Jeopardy”

Biosphere Unit: WPI IQP Team

Laura Piccione, Chris Bailey-Gates, Nicholas Deisadze

Plant Survival	Photo-synthesis	Plant Structures	The Moon	Tropisms
<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>
<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>
<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>
<u>400</u>	<u>400</u>	<u>400</u>	<u>400</u>	<u>400</u>
<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>

Plant Survival: 100 points

What gas do plants rely on
for photosynthesis?

Carbon Dioxide (CO₂)



Plant Survival: 200 points

What is the “organ” of photosynthesis?

The leaf



Plant Survival: 300 points

What are the three elements
in glucose?

Carbon, Hydrogen, and Oxygen



Plant Survival: 400 points

What is the formula for
glucose?



Plant Survival: 500 points

What are the **highest** and **lowest** temperatures at which **normal plants** can survive?

Just above freezing (above 32 degrees Fahrenheit) to around 105 degrees Fahrenheit



Photosynthesis: 100 points

In which organelle in plant cells
does photosynthesis occur?

Chloroplasts



Photosynthesis: 200 points

What pigment in chloroplasts makes plants green?

Chlorophyll



Photosynthesis: 300 points

Where does **oxygen gas** come from during photosynthesis?

The breakdown of water
(H_2O)



Photosynthesis: 400 points

What are the pigments in leaves that make them orange and red?

Carotenoids



Photosynthesis: 500 points

What does sunlight excite (on an atomic scale) that makes photosynthesis possible?

Sunlight excites electrons



Plant Structures: 100 points

What structure carries
water from the roots to
the rest of the plant?

The xylem



Plant Structures: 200 points

What structure carries sugars and water from the leaves to the roots of the plant?

The phloem



Plant Structures: 300 points

Where do the nutrients travel in
nonvascular plants?

Directly into the cells



Plant Structures: 400 points

In woody plants, what part of the vascular system dies each year and hardens while a new layer grows over it?

The xylem



Plant Structures: 500 points

What do you call the
openings in leaves that
let gas in and out of the
plant?

Stomata (one opening is
called a stoma)



The Moon: 100 points

Is there **liquid** water on the moon?

No!



The Moon: 200 points

Why is “lunar soil” not really soil?

Soil has **organic** content



**DAILY
DOUBLE!**

The Moon: 300 points

What is the term used to describe the lack of atmosphere around the moon (and in space)?

Vacuum



The Moon: 400 points

What is the range of
temperatures (in Fahrenheit)
on the moon?

-250 degrees Fahrenheit to
+250 degrees Fahrenheit



The Moon: 500 points

What is the gravity on the moon compared to the gravity on Earth?

$1/6^{\text{th}}$ the Earth's gravity



Tropisms: 100 points

Define **tropism**

The **growth** or **turning** movement of an organism (plant) in response to an **environmental stimulus**



Tropisms: 200 points

What part of plants show **positive gravitropism**?

Roots, because they grow **in the direction of gravity**.



Tropisms: 300 points

What is **phototropism**?

Plant movement or growth in response to **light**



Tropism: 400 points

What is **thigmotropism**?

Plant movement in response to being touched, shaken, heated, or rapidly cooled.



**DAILY
DOUBLE!**

Tropism: 500 points

What color light do phototropic plants respond to?

Red and blue



Daily Double!



As a team, decide how many of the points you already have you wish to wager.
If you get the question correct, you will earn double the points you wagered.
If you get the question incorrect, you will lose the points you wagered. Good luck!

Daily Double!



As a team, decide how many of the points you already have you wish to wager.
If you get the question correct, you will earn double the points you wagered.
If you get the question incorrect, you will lose the points you wagered. Good luck!