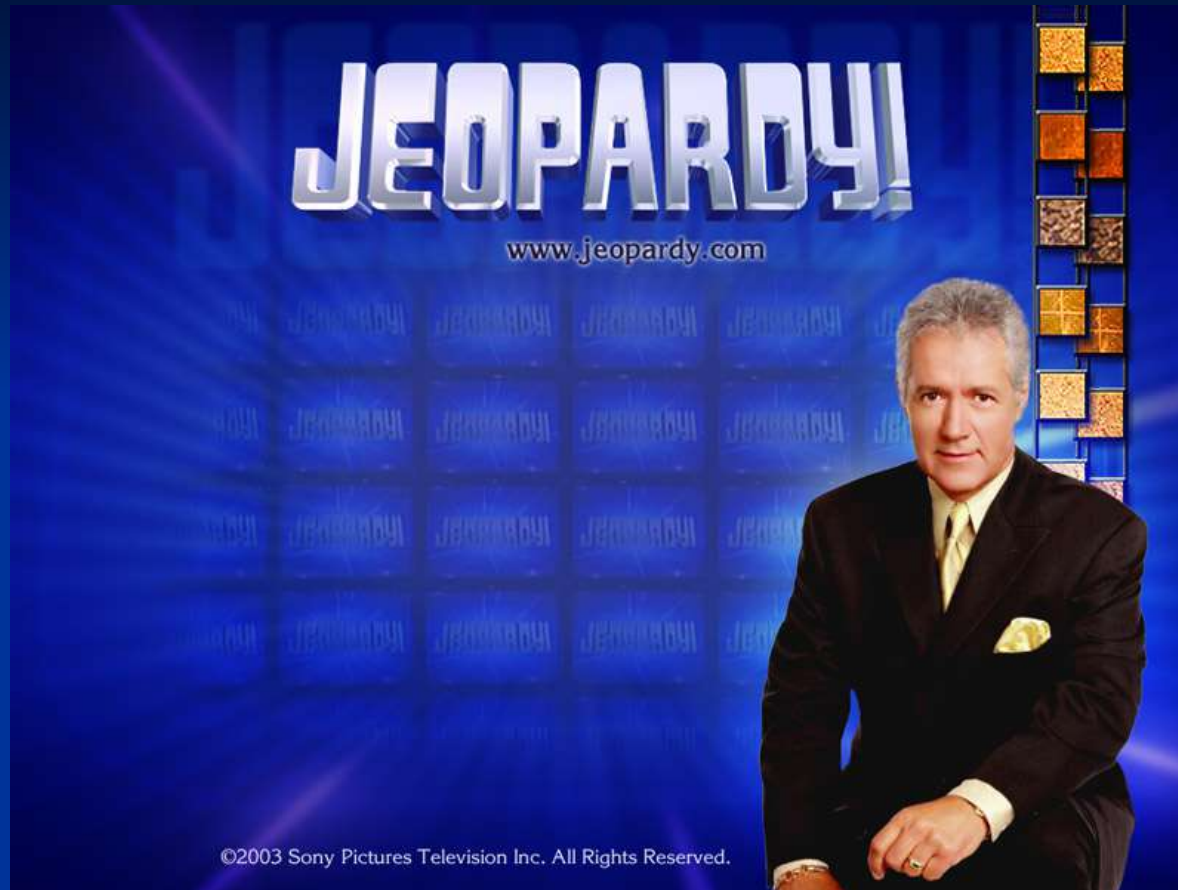


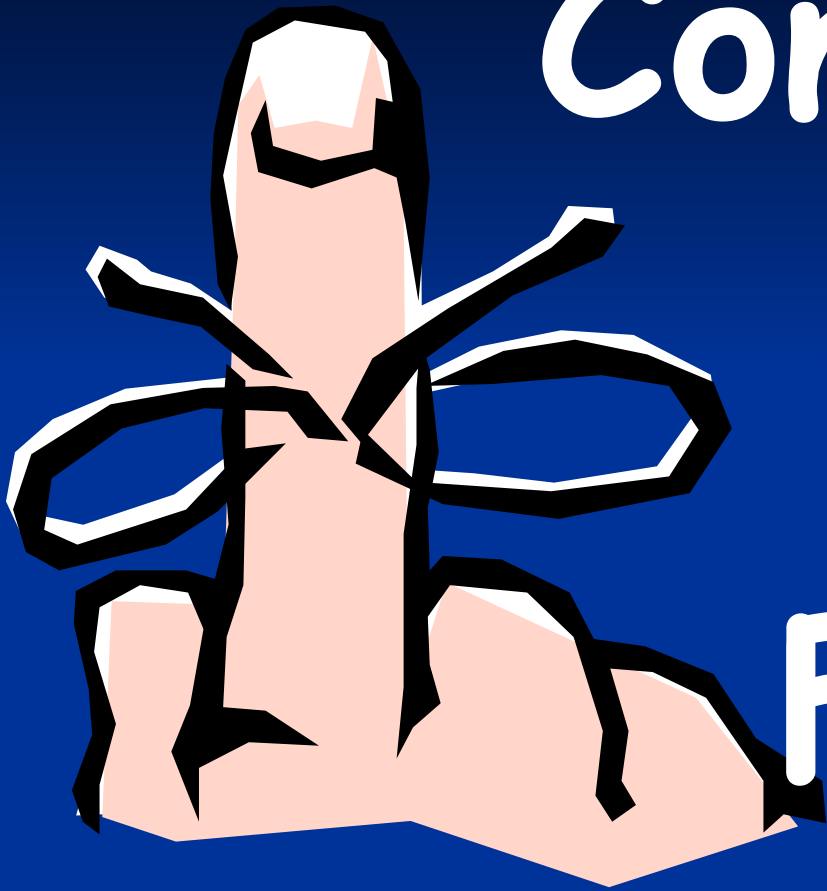
ATOMIC STRUCTURE



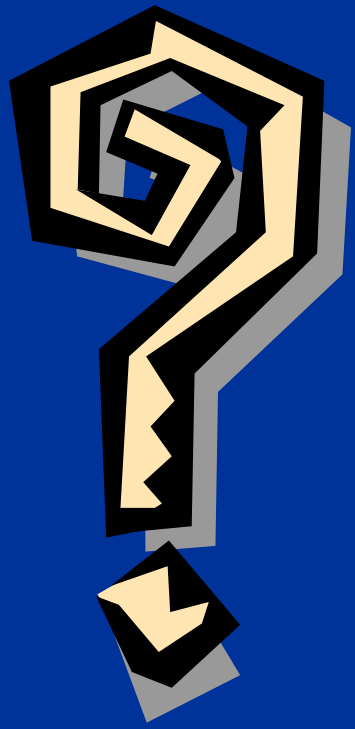
Contestants

Don't

Forget....



...Always phrase
your answers in
the form of a
question!





**Atomic
Discoveries**

**Atomic
Models**

**Energy
Levels**

**The
Nucleus**

**Quantum
Theory**

100

100

100

100

100

200

200

200

200

200

300

300

300

300

300

400

400

400

400

400

500

500

500

500

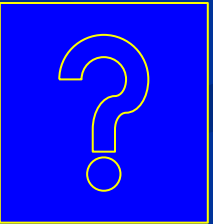
500

Atomic Discoveries for \$100

In his experiments with
cathode ray tubes,
Thompson concluded that
cathode rays were composed
of these particles

What are...?

Electrons



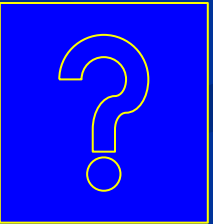
**Back to
Game**

Atomic Discoveries for \$200

Milliken's experiment,
which determined the
charge on an electron,
was named this

What is...?

Oil Drop Experiment

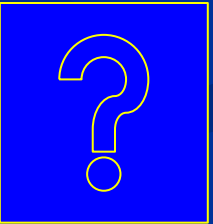


**Back to
Game**

Atomic Discoveries for \$300

In Rutherford's gold foil experiment, a few alpha particles bounced off the gold due to their collision with this
What is...?

Gold atom's nucleus



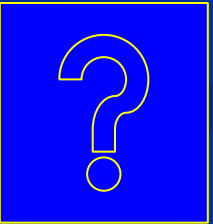
**Back to
Game**

Atomic Discoveries for \$400

Dalton's idea that all atoms of a given element are identical was defeated by the discovery of these

What are...?

Isotopes



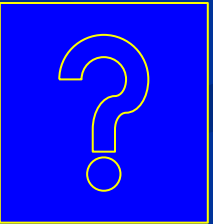
**Back to
Game**

Atomic Discoveries for \$500

Milliken's ability to use his results to determine the charge on an electron depended on the results of this experiment

What is...?

Cathode Ray Tube (CRT) Experiment



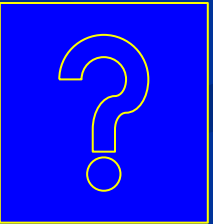
**Back to
Game**

Atomic Models for \$100

In the solar system
model of the atom,
protons are found in
this location

What is...?

The nucleus



**Back to
Game**

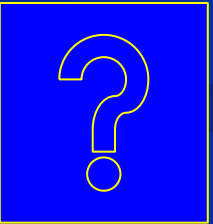
Atomic Models for \$200

In this atomic model,
negatively charged
electrons are embedded
in a large, positively
charged atom

What is...?

Thompson's Plum Pudding

(Chocolate Chip Cookie)
Model



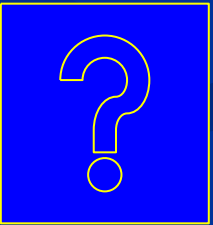
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Game**

Atomic Models for \$300

Bohr assigned electrons to these to explain why they didn't fall into the nucleus

What are...?

Energy levels, OR orbits



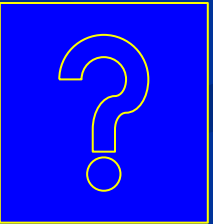
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Game**

Atomic Models for \$400

In the quantum
mechanical model,
electrons can be found
in these regions around
the nucleus

What are...?

orbitals



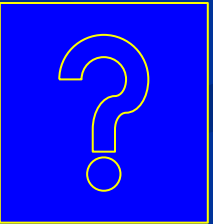
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Game**

Atomic Models for \$500

The quantum mechanical model of the atom uses this math principle to develop the idea of orbitals

What is...?

Probability



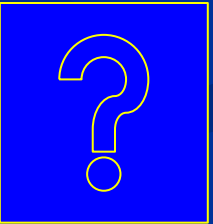
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Game**

Energy Levels for \$100

This is the number of electrons that can be in the same orbital

What is...?

Two



**Back to
Game**

DAILY



DOUBLE

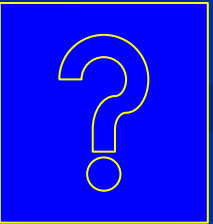
Energy Levels for \$200

DAILY DOUBLE

Main energy levels are
designated by this
quantum number

What is...?

Principal
quantum
number, n



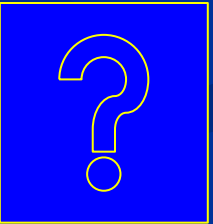
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Game**

Energy Levels for \$300

The second principle
energy level contains
these orbitals

What are...?

S and p orbitals



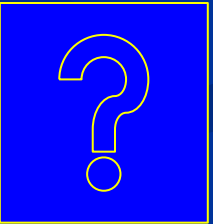
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Game**

Energy Levels for \$400

This series of numbers
applies to the number of s,
p, and d orbitals

What is...?

1,3,5



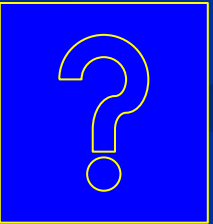
**Back to
Game**

Energy Levels for \$500

The energy of a set of orbitals decreases as its distance from the nucleus changes in this way

What is...?

decreases



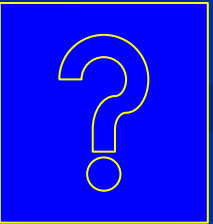
**Back to
Game**

The Nucleus for \$100

**This number describes the
number of protons present
in the nucleus of a given
atom**

What is...?

Atomic number



**Back to
Game**

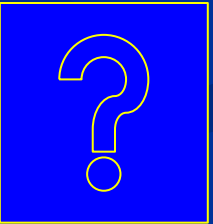
The Nucleus for \$200

For an atom of the
isotope

carbon-12, the 12 refers
to the total number of
these two particles

What are...?

Neutrons and Protons



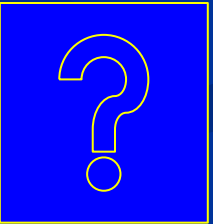
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Game**

The Nucleus for \$300

This number describes
the total number of
particles present in the
nucleus of a given atom

What is...?

Mass Number



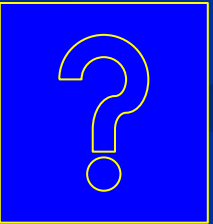
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Game**

The Nucleus for \$400

When writing the element symbol for Carbon, you should list this number as a subscript to the left of the symbol

What is...?

6



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Game**

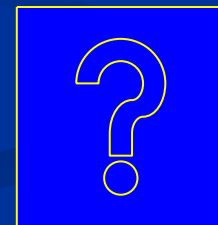
The Nucleus for \$500

The symbol below indicates
that the atom has this
number of neutrons



What is...?

7



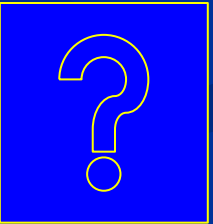
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Game**

Quantum Theory for \$100

Photons are packets of
this type of energy

What is...?

Light (radiant energy)



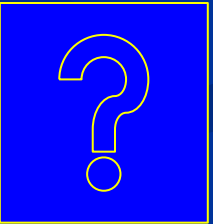
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Game**

Quantum Theory for \$200

This energy
transition is caused
when an electron
absorbs a photon

What is...?

Ground state to excited state



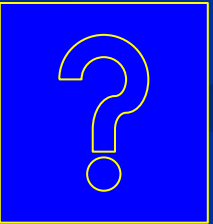
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Game**

Quantum Theory for \$300

A colored line can be seen
when an atom of an element
emits one of these

What is...?

photon



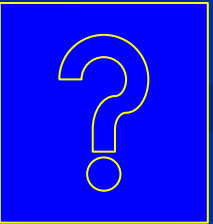
**Back to
Game**

Quantum Theory for \$400

The different amounts of energy released from different excited to ground state energy transitions explains why each element has a unique one of these

What is a...?

Line spectrum



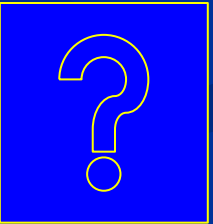
**Back to
Game**

Quantum Theory for \$500

Light energy is available
for atomic absorption in
multiples of a number
that has this name

What is...?

Planck's constant



**Back to
Game**