



## Science Picture Quiz 4<sup>th</sup> Grade and Under Division IAC Nationals 2026

**Instructions – Mark your answers on the scantron provided. Correct answers are worth 2 points. Incorrect answers are worth –1 point. Questions left blank are worth 0 points. Write the answer to your tiebreaker question in the box at the top of your scantron.**

1. What part of the plant cell is shown in this image in grey and marked 4?

- A. vacuole
- B. Golgi body
- C. cell wall
- D. peroxisome

2. What human organ is shown in orange on this image?

- A. lungs
- B. liver
- C. gall bladder
- D. kidneys

3. Seeds like the one shown here are designed to be spread in which of these ways?

- A. in the fur and feathers of animals
- B. by the wind
- C. by bees
- D. being carried away by water

4. Which of the following, shown here, was the first person to walk on the moon in 1969?

- A. Michael Collins
- B. Eugene Cernan
- C. John Glenn
- D. Neil Armstrong

5. What element with atomic number 16 is a yellow, crystalline solid at room temperature?

- A. lithium
- B. sulfur
- C. aluminum
- D. sodium

6. Which of the following is a French chemist and microbiologist who names a method for purifying milk?

- A. Antoine Lavoisier
- B. Robert Koch
- C. Louis Pasteur
- D. Pierre Curie

7. This microscopic image shows what component of human blood?

- A. red blood cells
- B. white blood cells
- C. platelets
- D. plasma

8. This artificial satellite, named after astronomer Edwin Hubble and launched in 1990, was designed for which of the following?

- A. as a space station for astronauts to live on
- B. to transport cargo to the moon
- C. as a space telescope to observe distant objects
- D. to spy on Russia and other nations

9. What is the name given to sand dunes like this one that experience shifting wind patterns from multiple directions?

- A. barchan
- B. parabolic
- C. transverse
- D. star

10. What is the term for an animal like this katydid evolving to resemble another organism?

- A. mimicry
- B. thanatosis
- C. schooling
- D. commensalism

11. Which of the following can grow from mycelium like the one shown here?

- A. a tree
- B. a fern
- C. mushrooms
- D. moss

12. The fossil named 'Sue' at the Field Museum in Chicago is one of the best examples of what dinosaur?

- A. brachiosaurus
- B. tyrannosaurus rex
- C. archaeopteryx
- D. pterodactyl

13. Which fraction is used when calculating the volume of a sphere like the one shown in the image?

- A.  $1/2$
- B.  $2/3$
- C.  $3/4$
- D.  $4/3$

14. In early programmable computers, punched cards like the ones shown here served the same function as which of these in modern computers?

- A. mouse
- B. processor
- C. cooling fan
- D. RAM or a hard drive

15. The Crab Nebula, shown here, is a remnant of an exploding star known by which of these terms?

- A. supernova
- B. white dwarf
- C. neutron star
- D. black hole

16. Small finger-like projections called villi line the inside of what organ in humans?

- A. small intestine
- B. heart
- C. bladder
- D. appendix

17. J. Robert Oppenheimer, shown here, was the director of the Los Alamos Laboratory during World War II and as a result is known as the 'father' of which of these?

- A. jet aircraft
- B. the space program
- C. the personal computer
- D. the atomic bomb

18. This photograph, known as 'Earthset', was taken by astronaut Christina Koch on what April 2026 mission?

- A. Expedition 59
- B. STS-34
- C. Artemis II
- D. Gemini VIII

19. What type of simple volcano, made from material piling up around a crater in a namesake shape, is shown in this image?

- A. shield
- B. cone
- C. field
- D. pancake

20. The regular icosahedron shown here has how many equilateral triangles as its faces?

- A. 20
- B. 15
- C. 12
- D. 10

21. In addition to lift and weight, what other two forces help determine whether or not a plane will fly and how quickly it will move?

- A. torque and spin
- B. buoyancy and displacement
- C. viscosity and moment
- D. thrust and drag

22. The organized thunderstorms on the outside of a hurricane that produce heavy winds and rainfall are known by what name?

- A. squall line
- B. shear area
- C. eye
- D. feeder bands

23. The model of the universe proposed by Copernicus placed which of these at the center?

- A. Earth
- B. Mars
- C. the Sun
- D. Venus

24. Gallium is an example of a metal that easily forms what type of highly ordered solid?

- A. crystal
- B. amorphous
- C. chaotic
- D. marbled

25. The inner core, shown at number 1 on the diagram, is mostly composed of which of these pairs of elements?

- A. copper and tin
- B. iron and nickel
- C. lithium and mercury
- D. uranium and plutonium

26. Which largest of the great apes is shown in this image?

- A. bonobo
- B. chimpanzee
- C. orangutan
- D. gorilla

27. Which of the following is part of the primary diet of termites, making them especially problematic for humans in some areas?

- A. living plants
- B. wood products
- C. livestock like cows
- D. metal

28. This tulip has three petals and three of what modified leaves that often resemble petals?

- A. stamen
- B. pistil
- C. sepal
- D. filament

29. What organelle, made up of smooth and rough subunits, is shown here?

- A. vesicle
- B. endoplasmic reticulum
- C. centrosome
- D. lysosome

30. What staple crop, originally domesticated by indigenous people in Mexico, is shown growing in this image?

- A. corn
- B. wheat
- C. rye
- D. barley

31. The galaxy shown here is which of the following types?

- A. elliptical
- B. irregular
- C. spiral
- D. lenticular

32. The yellow animal pictured here is a member of the phylum Porifera, and is commonly known as which of these?

- A. sea sponge
- B. coral
- C. anemone
- D. sea cucumber

33. The koala pictured here belongs to the same class of mammals as which other animal?

- A. panda
- B. racoon
- C. kangaroo
- D. fox

34. The peppered moth, shown here, famously developed a darker color during the industrial revolution due to which of these?

- A. new bird species coming to England
- B. people planting different trees
- C. pollution from factories
- D. a lack of appropriate places to lay eggs

35. Old Faithful, one of the most famous sites in Yellowstone National Park, is what type of natural phenomenon?

- A. whirlpool
- B. geyser
- C. cryovolcano
- D. mudpot

36. What type of precipitation, often causing damage to property when it occurs, is shown in this image?

- A. snow
- B. sleet
- C. graupel
- D. hail

37. Due to their varied diet, bears like the one shown here are classified as which of the following?

- A. locavores
- B. omnivores
- C. herbivores
- D. carnivores

38. Rosalind Franklin was instrumental in determining that which of these was the correct structure of DNA?

- A. triple helix
- B. double helix
- C. single stranded
- D. rod-shaped

39. In humans and other mammals, relatively long, pointed teeth are known by what name?

- A. incisors
- B. canines
- C. premolars
- D. molars

40. Graphite, like the specimen shown here, will turn into which of the following if exposed to extremely high temperature and pressure?

- A. coal
- B. mercury
- C. diamond
- D. steel

41. The atoms in this image show what type of bond that involves sharing electrons?

- A. ionic
- B. metallic
- C. covalent
- D. dipole

42. What smallest planet in the Solar System is seen in this photo?

- A. Mercury
- B. Venus
- C. Neptune
- D. Uranus

43. The main diet of the giant panda seen here is which of these fast-growing plants?

- A. eucalyptus
- B. cactus
- C. mangrove
- D. bamboo

44. Which of these other animals also uses echolocation like the bat seen here?

- A. eagles
- B. mice
- C. whales
- D. squid

45. The largest part of the human brain is called which of the following?

- A. cerebrum
- B. corpus callosum
- C. brain stem
- D. cerebellum

46. The blue pigment seen here is made by mixing aluminum oxide with an oxide of what other metallic element?

- A. silver
- B. cobalt
- C. gold
- D. platinum

47. Despite its name, a seahorse is most closely related to which of these?

- A. lionfish
- B. starfish
- C. whale
- D. anemone

48. Scientist Rachel Carson's book Silent Spring helped launch which of these in the mid-20<sup>th</sup> century?

- A. the US space program
- B. new engineering safety regulations in the US
- C. a push for science education for girls
- D. the modern environmental movement

49. Cooling towers like these are most associated with what type of power plants?

- A. natural gas
- B. nuclear
- C. hydroelectric
- D. solar

50. The Golden Record seen here was included on what space probe launched in 1977, which has traveled over 16 billion miles into space as of 2026?

- A. Pioneer 10
- B. Cassini
- C. Voyager 1
- D. Discovery

## Tiebreaker

This question will only be scored if there is a tie for placement on the exam. **This is a required question, but there is no penalty for a wrong answer to this question.** Write your answer legibly in the space provided on your scantron.

According to the most recent figures, what is the total number of pet dogs owned by Americans?