ISEF CATEGORIES AND SUBCATEGORIES

The categories have been established with the goal of better aligning judges and student projects for the judging at ISEF. Local, regional, state and country fairs may or may not choose to use these categories, dependent on the needs of their area. Please check with your affiliated fair(s) for the appropriate category listings at that level of competition.

Please visit our website at **https://www.societyforscience.org/isef/categories-and-subcategories** for a full description and definition of ISEF categories:

ANIMAL SCIENCES (ANIM)
Animal Behavior
Cellular Studies
Development
Ecology
Genetics
Nutrition and Growth
Physiology
Systematics and Evolution
Other

BEHAVIORAL AND SOCIAL SCIENCES (BEHA)
Behavioral Neuroscience
Development
Cognitive Psychology
Sociology and Anthropology
Other

BIOCHEMISTRY (BCHM)
Analytical Biochemistry
General Biochemistry
Medical Biochemistry
Structural Biochemistry
Other

BIOMEDICAL AND HEALTH SCIENCES (BMED)
Cell, Organ, and Systems Physiology
Genetics and Molecular Biology of Disease
Immunology
Nutrition and Natural Products
Pathophysiology
Other

BIOMEDICAL ENGINEERING (ENBM)
Biomaterials and Regen Medicine
Biomechanics
Biomedical Devices
Biomedical Imaging
Cell and Tissue Engineering
Synthetic Biology
Other

CELLULAR AND MOLECULAR BIOLOGY (CELL)
Cell Physiology
Cellular Immunology
Genetics
Molecular Biology
Neurobiology
Other

CHEMISTRY (CHEM)
Analytical Chemistry
Computational Chemistry
Environmental Chemistry
Inorganic Chemistry
Materials Chemistry
Organic Chemistry
Physical Chemistry
Other

COMPUTATIONAL BIOLOGY AND BIOINFORMATICS (CBIO)
Computational Biomodeling
Computational Epidemiology
Computational Evolutionary Biology
Computational Neuroscience
Computational Pharmacology
Genomics
Other

EARTH AND ENVIRONMENTAL SCIENCES (EAEV)
Atmospheric Science
Climate Science
Environmental Effects on Ecosystems
Geosciences
Water Science
Other

EMBEDDED SYSTEMS (EBED)
Circuits
Internet of Things
Microcontrollers
Networking and Data Communications
Optics
Sensors
Signal Processing
Other

ENERGY: SUSTAINABLE MATERIALS AND DESIGN (EGSD)
Biological Process and Design
Energy Storage
Hydrogen Generation and Storage
OtherThermal Power
Solar Process, Materials, and Design
Thermal Generation and Design
Triboelectricity and Electrolysis
Wind
Wind and Water Movement Power Generation
Other

ENGINEERING TECHNOLOGY: STATICS AND DYNAMICS (ETSD)
Aerospace and Aeronautical Engineering
Civil Engineering
Computational Mechanics
Control Theory
Ground Vehicle Systems
Industrial Engineering-Processing
Mechanical Engineering
Naval Systems
Other

ENVIRONMENTAL ENGINEERING (ENEV)
Bioremediation
Land Reclamation
Pollution Control
Recycling and Waste Management
Water Resources Management
Other

MATERIALS SCIENCE (MATS)
Biomaterials
Ceramic and Glasses
Composite Materials
Computation and Theory
Electronic, Optical and Magnetic Materials
Nanomaterials
Polymers
Other

MATHEMATICS (MATH)
Analysis
Combinatorics, Graph Theory and Game Theory
Geometry and Topology
Number Theory
Probability and Statistics
Other

MICROBIOLOGY (MCRO)
Antimicrobials and Antibiotics
Applied Microbiology
Bacteriology
Environmental Microbiology
Microbial Genetics
Virology
Other

PHYSICS AND ASTRONOMY (PHYS)
Astronomy and Cosmology
Atomic, Molecular and Optical Physics
Biological Physics
Condensed Matter and Materials Mechanics
Nuclear and Particle Physics
Theoretical, Computational and Quantum Physics
Other

PLANT SCIENCES (PLNT)
Agriculture and Agronomy
Ecology
Genetics/Breeding
Growth and Development
Pathology
Plant Physiology
Systematics and Evolution
Other

ROBOTICS AND INTELLIGENT MACHINES (ROBO)
Biomechanics
Cognitive Systems
Control Theory
Machine Learning
Robot Kinematics
Other

SYSTEMS SOFTWARE (SOFT)
Algorithms
Cybersecurity
Databases
Human/Machine Interface
Languages and Operating Systems
Mobile Apps
Online Learning
Other

TECHNOLOGY ENHANCES THE ARTS (TECA)
Display Technology
Human Information Exchange
Music and Image Manipulation
Games
3D Modeling
Engineering Effects
Other

TRANSLATIONAL MEDICAL SCIENCES (TMED)
Disease Detection and Diagnosis
Disease Prevention
Disease Treatment and Therapies
Drug Identification and Testing
Pre-Clinical Studies
Other

INFORMATION ON REQUIRED ABSTRACT & CERTIFICATION FOR ALL PROJECTS AT ISEF

*** This form may not be relevant for your regional or state fair; please refer to instructions from your affiliated fair.***

IN ADDITION TO THE BASIC FORM REQUIREMENTS FOR ALL PROJECTS AND ANY OTHER REQUIREMENTS DUE TO SPECIFIC AREAS OF RESEARCH, AN ABSTRACT & CERTIFICATION IS REQUIRED AT THE CONCLUSION OF RESEARCH. DETAILS ON THIS REQUIREMENT FOLLOW.

Completing the Abstract

After finishing research and experimentation, you are required to write a (maximum) 250 word, one-page abstract. For ISEF, this abstract is written in the online Finalist Questionnaire portal and submitted electronically. This abstract must be written in your own words and will be run through a plagiarism checker.

It is recommended that it **include the following:**

a. purpose of the experiment
b. procedure/methodology used
c. most important/significant results you found
d. conclusions/research applications

Only minimal reference to previous work may be included.

An abstract **must not include the following**:

a. acknowledgments (including naming the research institution and/or mentor with which you were working), or self-promotions and external endorsements
b. logos or proper names of commercial products
c. work or procedures done by the mentor

Completing the Certification

At the bottom of the Abstract & Certification form there are six questions. Please read each carefully and answer appropriately. The ISEF Scientific Research Committee will review and approve the abstract and answers to the questions.

Revisions are permitted via the online portal through late April (please reference the system for current year deadlines.)

Once approved, two copies of the ISEF Abstract & Certification will be provided with a gold embossed seal; only this version of the abstract may be displayed or distributed.

NOTE: Your abstract must be on the International Science and Engineering Fair Abstract & Certification form and have the ISEF Scientific Review Committee approval seal before it is displayed or handed out. No other format or version of your approved Abstract will be allowed for any purpose at the ISEF.

ISEF Sample Abstract & Certification

PROJECT TITLE

FINALIST NAME(S)

FINALIST SCHOOL, CITY, STATE/PROVINCE, COUNTRY

PROJECT ID

Category
Pick one only—mark an "X" in box at right

Animal Sciences	☐
Behavioral and Social Sciences	☐
Biochemistry	☐
Biomedical and Health Sciences	☐
Biomedical Engineering	☐
Cellular & Molecular Biology	☐
Chemistry	☐
Computational Biology and Bioinformatics	☐
Earth & Environmental Sciences	☐
Embedded Systems	☐
Energy: Sustainable Materials and Design	☐
Engineering Technology: Statics and Dynamics	☐
Environmental Engineering	☐
Materials Science	☐
Mathematics	☐
Microbiology	☐
Physics and Astronomy	☐
Plant Sciences	☐
Robotics & Intelligent Machines	☐
Systems Software	☐
Technology Enhances the Arts	☐
Translational Medical Science	☐

ABSTRACT BODY

1. As a part of this research project, the student directly handled, manipulated, or interacted with (check all that apply):

   ☐ human participants ☐ potentially hazardous biological agents
   ☐ vertebrate animals ☐ microorganisms ☐ rDNA ☐ tissue

2. This abstract describes only procedures performed by me/us, reflects my/our own independent research, and represents one year's work only.
   ☐ yes ☐ no

3. I/We worked or used equipment in a regulated research institution or industrial setting.
   ☐ yes ☐ no

4. This project is a continuation of previous research.
   ☐ yes ☐ no

5. My display board includes non-published photographs/visual depictions of humans (other than myself):
   ☐ yes ☐ no

6. I/We hereby certify that the abstract and responses to the above statements are correct and properly reflect my/our own work.
   ☐ yes ☐ no

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