



GUIDELINES FOR E-ESTIDOTMY CONTENT CONTRIBUTION

GENERAL GUIDELINE FOR ALL TYPES OF SUBMISSION:

- Please remember that e-estidotmy is for the **general public** – make sure your contribution is easy to read for them. You may use this [tool](#) to assess the readability of your writing.
- Please include your social media handles so we can tag you when we publish your contribution on e-estidotmy's social media.
- Creators are kindly reminded to ensure that their submissions adhere to principles of **respect, inclusivity, and sensitivity**. Please be mindful of language and content to avoid any form of offense to individuals or groups based on race, ethnicity, gender, religion, political views, or any other segment of the population.
- Content creators are encouraged to include a clear acknowledgment of the use of Artificial Intelligence (AI) in their works. Specify tools, comply with licenses, and update acknowledgments.

STEM ARTICLES

- Articles must be focused on STEM-related topics.
- Articles should be 500 to 700 words long, written in either Bahasa Malaysia or English.
- Please do not directly translate English articles into Bahasa Malaysia or vice versa.
- The article should present accurate scientific facts while maintaining a level of readability suitable for the general public, especially school students.
- Article should be appropriately referenced if any reference sources were used throughout the article, by using hyperlinks.
- Submissions will go through a plagiarism checker and rigorous reviewing process to ensure quality and accuracy before they are considered for publication.
- For submissions that require prior approval from superiors, please include your superior's approval along with your submission.
- An incentive will be given to the author whose article is published.

RENCANA STEM

- Rencana hendaklah berkisar tentang topik STEM.
- Rencana hanya sepanjang 500 hingga 700 patah perkataan dan ditulis sama ada dalam Bahasa Malaysia atau Bahasa Inggeris.
- Rencana tersebut hendaklah mengemukakan fakta saintifik yang tepat di samping mengekalkan tahap kebolehbacaan yang sesuai untuk orang awam, khususnya pelajar sekolah.
- Rujukan yang dinukilkan dalam rencana hendaklah direkodkan sebagai pautan (*hyperlink*).
- Rencana akan melalui semakan plagiat dan disemak oleh pengulas dengan teliti untuk memastikan kualiti dan ketepatan sebelum ia dipertimbangkan untuk diterbitkan.
- Insentif akan diberikan kepada penulis sekiranya rencana tersebut berjaya diterbitkan.

STEM FACTS

- Fun facts are defined as a tidbit of interesting or entertaining science trivia. Hence, as a contributor, you should open with a witty fact with biting observations or mind-blowing facts!
- Submission must include a picture plus a short write-up of no more than 200 words about fun yet informative facts.
- Articles must be understood by the general public, especially school students.
- Images used must be royalty-free or attributed to the original creator by providing a link.

FAKTA STEM

- Fakta STEM menampilkan maklumat ringkas tentang sains yang menarik dan menghiburkan.
- Karya yang dihantar hendaklah mengandungi gambar berserta penulisan ringkas tidak lebih daripada 200 perkataan mengenai fakta yang menyeronokkan.
- Karya haruslah boleh difahami oleh masyarakat umum, khususnya pelajar sekolah.
- Imej yang digunakan mestilah bebas royalti, atau dipautkan kepada pencipta asal.

Examples // Contoh:

Pictorial story // Kisah bergambar

Why Can Birds Sit on Power Lines and Not Get a Shock?



Electricity flows around in a loop. Birds can sit on power lines and not get electric shocks because the electricity is always looking for a way to get to the ground. When a bird lands on a power line, electricity cannot flow through its body. The birds are not touching the ground or anything in contact with the ground so that the electricity will stay in the power line. But if a bird with large wings touches a power line and a tree or power pole simultaneously, it gives electricity a path to the ground and could be shocked. And if a bird touches two wires at once, it will create a circuit — electricity will flow through the bird and likely electrocute it.

Video story

- The video must be about your own research or exciting experience, such as collecting samples, interacting with wildlife, or explaining scientific concepts.
- The video is between 30 seconds to 3 minutes long.
- The video must be uploaded to YouTube, and the link will be shared on the e-estidotmy website.

Kisah video

- Karya hendaklah datang daripada anda dan berkisar tentang penyelidikan atau pengalaman menarik seperti mengumpul sampel, berinteraksi dengan hidupan liar, atau menjelaskan konsep-konsep saintifik.
- Tempoh video di antara 30 saat hingga 3 minit.
- Video perlu dimuat naik ke YouTube dan pautan video tersebut akan dikongsi di laman web e-estidotmy.

STEM CHAMP

At STEM Champ, we aim to motivate young kids in school and the public to explore STEM subjects further by providing a glimpse into your career journey as a scientist/researcher. The following questions should be the framework of your submission:

1. What inspired your career in STEM? (This could be an event or significant moment, or someone like a parent, teacher, or community)
2. What is your educational background, where do you work now, and what interests you the most about your work?
3. What area of research do you do, and why is it important to society?
4. What are some of the biggest challenges you have faced in your research, and how did you address them?
5. Many think scientists only work in labs, but that's not always true. What do you think of this perception? Where have you done the research for your work, or where have you worked in the past?
6. Can you share any interesting or funny stories while pursuing your research?
7. What motivates you every time you feel "down", and how to come back stronger & more enthusiastic in work? What do you find most rewarding about your job?
8. What advice would you give young people interested in pursuing a career in STEM?
9. What skills do you think they should develop?
10. What areas will be most exciting to explore in the coming years?

JUARA STEM

Di STEM Champ, e-estidotmy berhasrat untuk menyuntik semangat anak-anak muda di sekolah dan orang ramai untuk meneroka subjek STEM dengan lebih lanjut dengan memberikan gambaran tentang perjalanan kerjaya sebagai saintis/penyelidik. Soalan-soalan berikut boleh menjadi rangka untuk karya anda:

1. Apakah yang telah menginspirasi diri anda untuk menceburi bidang STEM? (Sebuah kejadian atau momen yang signifikan atau seorang ibu bapa, guru atau komuniti)
2. Apakah latar belakang pendidikan anda, di mana anda bekerja sekarang, dan apakah unsur paling menarik tentang kerja anda?
3. Apakah bidang penyelidikan yang anda lakukan, dan mengapa ia penting kepada masyarakat?

4. Apakah cabaran terbesar yang telah anda hadapi dalam penyelidikan anda, dan bagaimana anda telah menanganinya?
5. Ramai yang berpendapat bahawa saintis hanya bekerja di dalam makmal, tetapi itu tidak selalu benar. Apa pendapat anda tentang persepsi ini?
6. Di masa lalu, di manakah anda pernah melakukan penyelidikan untuk kerja anda, atau di mana anda pernah bekerja pada masa lalu?
7. Bolehkah anda berkongsi sebarang cerita menarik atau lucu sewaktu anda bekerja?
8. Apakah yang mendorong anda setiap kali anda berasa "*down*", dan bagaimana untuk kembali lebih kuat & lebih bersemangat dalam kerja?
9. Apakah perkara yang paling menggembirakan dalam pekerjaan anda?
10. Apakah nasihat yang akan anda berikan kepada golongan muda yang berminat untuk meneruskan kerjaya dalam STEM?
11. Apakah kemahiran yang anda fikir perlu mereka kembangkan?
12. Apakah bidang yang paling menarik untuk diterokai pada tahun-tahun akan datang?

Karya yang dihantar boleh dalam bentuk rencana atau video yang menarik. Tempoh video tidak boleh melebihi 10 minit.

ASK A SCIENTIST (*TANYA SAINTIS*)

Ask a Scientist is a segment where curiosity meets expertise! Be our Scientist of the Week, who will unravel the mysteries, answer burning questions, and spark the public's fascination with the wonders of science. You will bring the public into the realm of knowledge and share insights and shed light on the fascinating world around us.

Please indicate your interest in becoming our Scientist of the Week and we will arrange for a session with you. The general process is as follows:

1. A scientist and their field of expertise are selected.
2. e-estidotmy will open a question slot through our social media and broadcast channels for a week.
3. We will compile the received questions for the scientist and give them a week to address these questions. In the meantime, we will arrange a slot for the scientist to record the Ask a Scientist segment with ASM Podcast.
4. The Ask a Scientist segment will be recorded (audio and video).
5. The episode will be broadcasted via ASM and e-estidotmy.

Ask a Scientist adalah titik pertemuan pembaca dan ilmuwan! Jadilah Saintis Minggu Ini yang akan membawa para pembaca untuk menerokai dunia pengetahuan, berkongsi pandangan, dan menerangkan keajaiban dunia yang menarik di sekeliling kita.

Sila nyatakan minat anda untuk menjadi Saintis Minggu Ini untuk segmen ini. Kemudian, kami akan merancang sebuah sesi untuk anda. Proses perancangan segmen ini secara umumnya ialah seperti berikut:

1. Seorang saintis dan bidang kepakaran beliau akan dipilih.
2. e-estidotmy akan membuka slot melalui lama media sosial dan saluran siaran e-estidotmy dan ASM selama seminggu.
3. Kami akan mengumpulkan soalan-soalan yang diterima untuk diberikan kepada saintis dan mereka diberi masa seminggu untuk menjawab soalan-soalan tersebut. Sementara itu, kami akan menempah slot bersama ASM Podcast untuk membuat rakaman segmen Ask a Scientist.
4. Segmen Ask a Scientist akan dirakam (audio dan video).
5. Episod tersebut akan disiarkan melalui saluran ASM dan e-estidotmy.

STEM IS FUN (*SERONOKNYA STEM*)

This section triggers interest in STEM through crossword puzzles, quizzes (physical sheets, Quizizz or Kahoot), riddles, trivia and infographics.

Format:

- 1) PNG format
- 2) 1200 X 900 ideal pixel for images.
- 3) Puzzles, quizzes, riddles **MUST** include the answer sheet. Please make sure all activities are complete and doable before submitting.
- 4) For infographics:
 - Paper size A3 and above.
 - Please follow the given format in Appendix 1 below.

Bahagian ini mencetuskan minat dalam STEM melalui aktiviti-aktiviti seperti teka silang kata, kuiz (kuiz fizikal, Quizizz atau Kahoot), teka-teki, trivia dan infografik.

Format:

- 1) Format PNG
- 2) 1200 X 900 piksel terbaik untuk gambar
- 3) Teka silang kata, kuiz dan teka-teki MESTI disertai dengan helaian jawapan. Sila pastikan aktiviti anda boleh diselesaikan sebelum dihantar ke e-estidotmy
- 4) Untuk infografik:
 - Kertas bersaiz A3 dan ke atas.
 - Sila ikuti format yang ditunjukkan di Lampiran 1 di bawah.

Examples // Contoh:

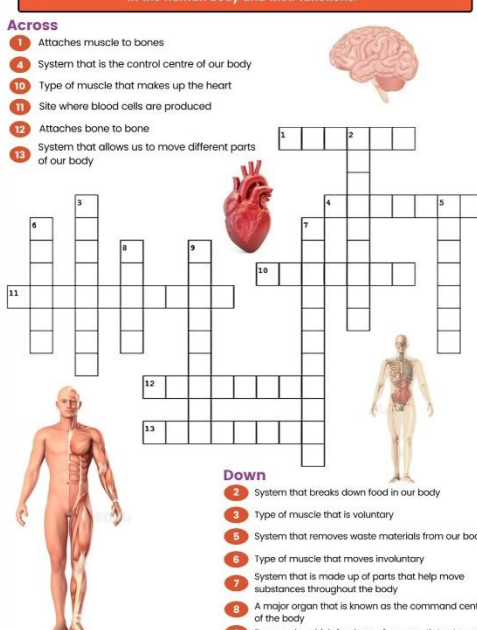
Crossword Puzzle

Human Body

Complete the crossword puzzle below and learn about the different system in the human body and their functions.

Across

- 1 Attaches muscle to bones
- 4 System that is the control centre of our body
- 10 Type of muscle that makes up the heart
- 11 Site where blood cells are produced
- 12 Attaches bone to bone
- 13 System that allows us to move different parts of our body



Down

- 2 System that breaks down food in our body
- 3 Type of muscle that is voluntary
- 5 System that removes waste materials from our body
- 6 Type of muscle that moves involuntary
- 7 System that is made up of parts that help move substances throughout the body
- 8 A major organ that is known as the command centre of the body
- 9 Passage by which food goes from mouth to stomach

Created by: Dineshwar Sugumaran

Infographics


WHAT A WASTE

Multidisciplinary Approaches for Smart and Sustainable Medical Waste Management

Medical Waste Scenario
210 TONS/DAY of medical waste produced in KUALA LUMPUR, 180 TONS/DAY

Current Disposal Method
LANDFILL INCINERATION

Disadvantages: air pollution and large land occupancy



Revised Policy
With the increased medical waste generated, WHO and World Bank suggests... policy revision to sustainable and environmentally-friendly waste management

Our Project

Socioeconomic Approach

- Longitudinal study on Medical Waste Output
- Expert Panel Focus Group Discussion
- Life-cycle Analysis & Life-cycle Cost
- Algorithmic Risk Assessment


Green Technology Approach

- Characterization of Medical Waste
- AI-Assisted Process Parameter Optimization for Vacuum Pyrolysis
- AI Training and Data Validation
- Pyrolysis of Medical Waste
- Pre-Treatment: Microwaving and Shredding
- Vacuum Pyrolysis: Extrusion, Thermal Cracking, Condensation
- Upscaling to Pyrolysis Plant

Technological Approach

- Integrated IoT Platform
- IoT Data Visualisation
- Development of Mobile & Web-based Applications
- System Evaluation & Validation

IoT-Integrated Vacuum Pyrolysis with Decision-making Framework Assessments



Impact of Project

Integrated Decision-making Framework for Policymaker Confidence

Optimized Vacuum Pyrolysis & Value-Added Product

MyMedWaste App

Legislative Application & Waste Statistics

Ching Ho Peh, Department of Pharmacology, Universiti Kebangsaan Malaysia

Nor Deyan Mohd Ridwan, (Industrial and Applied) Research, Universiti Kebangsaan Malaysia

Maimunah Mohd AS, Department of Biomedical and Agricultural Engineering, Universiti Kebangsaan Malaysia

CAREERS IN STEM (KERJAYA DALAM STEM)

Science careers are not just limited to being scientists and researchers working in labs. This section highlights individuals who walks a different path in the sciences. Your article should be clear, concise, and easily understood by the public.

Format:

- 1) Articles
 - a. Length: 500-700 words
 - b. Please do not directly translate from English to Bahasa Malaysia, or vice-versa.
 - c. Example: <https://esti.my/career-in-stem/atmospheric-scientist/>
- 2) Video story
 - a. Videos should be no longer than 20 minutes.
 - b. Video has to be uploaded in YouTube and link shared on the website.

Kerjaya dalam sains tidak hanya terhad kepada saintis dan penyelidik yang bekerja di dalam makmal. Segmen ini mengetengahkan individu yang mempunyai kerjaya yang lain daripada yang lain dalam bidang sains. Rencana anda hendaklah jelas, ringkas dan padat, serta mudah difahami oleh pembaca umum.

Format:

- 1) Rencana
 - a. Panjang: 500-700 patah perkataan
 - b. Sila jangan terjemahkan rencana anda secara langsung dari Bahasa Inggeris ke Bahasa Malaysia atau sebaliknya.
 - c. Contoh:
<https://esti.my/career-in-stem/atmospheric-scientist/>
- 2) Cerita Video
 - a. Tempoh video tidak melebihi 20 minit.
 - b. Video perlu dimuat naik dalam YouTube dan pautan dikongsi dalam laman web.

APPENDIX 1 // LAMPIRAN 1

INFOGRAPHIC LAYOUT FORMAT // FORMAT REKA LETAK INFOGRAFIK

**LEAVE THIS SPACE EMPTY FOR E-ESTIDOTMY LOGO.
BIARKAN RUANG INI KOSONG UNTUK LOGO E-ESTIDOTMY.**

INFOGRAPHIC LAYOUT GUIDELINES

- Your main content should be here.
- Paper size should be at least A3 so it can be printable.
- Your title should be clear and concise.
- Avoid using walls of text; try to visualise content with images to aid understanding and add interest.
- Don't forget your audience: the public!

GARIS PANDUAN PEMBIKINAN INFOGRAFIK

- Ini ialah ruang untuk topik utama infografik anda.
- Infografik hendaklah bersaiz A3 dan ke atas agar boleh dicetak.
- Tajuk infografik mestilah ringkas dan jelas.
- Jangan gunakan terlalu banyak ayat-ayat panjang; gunakan gambar, imej dan visualisasi untuk menggambarkan maklumat dan meningkatkan daya tarikan.
- Jangan lupa: pembaca anda ialah masyarakat umum!

Please insert "Prepared for e-estidotmy by:" followed by the authors' names; the picture is optional.

Sila masukkan "Disediakan untuk e-estidotmy oleh:" diikuti dengan nama anda. Anda juga boleh memasukkan gambar anda.

Leave this area empty for your organisation's logo.

Biarkan ruang ini kosong untuk memasukkan logo organisasi anda.