



ENTRY GUIDELINES

The LINK STEM Innovation Challenge

ABOUT THE STEM CHALLENGE

The **Link STEM** Innovation Challenge hosted by Airlink is for tenth grade scholars who perform excellently in pure mathematics & physical science. Teams made up of 4 grade 10 scholars are tasked to design and build an innovative solution model for a problem in their community using processes learnt in their STEM classrooms. The challenge will be hosted **at a venue near you on 17th April 2020.**

DESIGN CHALLENGE

How can we use STEM to provide solutions for our daily trials?

DESIGN BRIEF

We want you to identify a problem in your community. It can be related to energy, waste, transportation, vegetation, health, energy, communication, education, sanitation etc. Now imagine a creative idea on how to solve this problem and design the solution using Science, Technology, Engineering and/or Mathematics. Explain why it's important that this problem be solved. Models submitted should address the design challenge and be accompanied by a presentation on the design.

TIMELINE

- Material used should not cost more than **R500.00**
- Brief meeting for schools: **14 February 2020**
- Registration Deadline: **17 March 2020**
- The Challenge is scheduled for **17 April 2020** and will run from **8:00am**



PROJECT SCOPE

There is a national crisis in education, such that Airlink struggles with hiring and retaining employees with scarce and critical skills, this situation is exacerbated by the considerable barriers to learning such as a lack of facilities and resource. Airlink believes that if scholars are exposed to aviation careers at a young age an interest which will lead to knowledge searching will develop, regardless of circumstances.

PROJECT APPROACH

- Challenge entrance will be limited to 15 teams.
- There is no competition entrance fee.
- Teams will have to source their own Model materials.
- The deadline to submit a report on the solution and an entry form is 4 weeks prior to the event.
- Teams will present the solution on activation day in their area.
- The model must be portable.
- Teams must participate in the Innovation Challenge Day.
- Finalists will have to attend 'THE LINK' Career day.

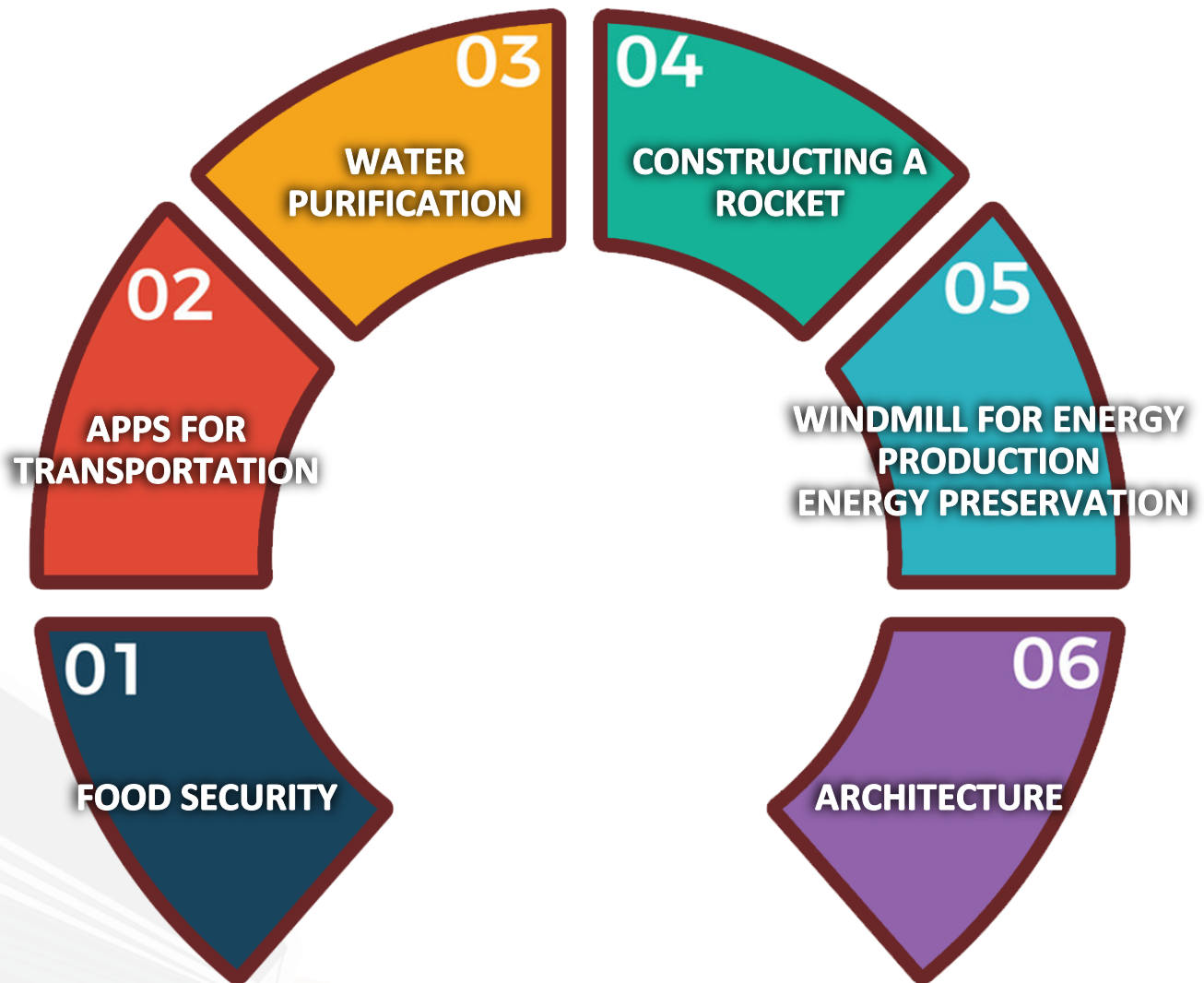
ELIGIBILITY

- The challenge is open to teams of scholars in grade 10
- 4 members per team
- 50% female per team
- Must be from public schools
- All entrants to this challenge must be R.S.A. Citizens
- Must have enrolled for Pure Mathematics and Physical Science
- Must be born in 2004/2005
- Must have a 65% average minimum on last school report



If the team/one member of the team does not meet any of the above, or cannot prove any of the above, the entire team will be disqualified.

PROJECT IDEAS



Note: Develop projects that exist within the above listed categories.

PARTICIPANT LOGISTICS

Note: please tick box where criteria has been met

Participant is in grade 10

☐☐☐☐

Participant is enrolled for pure maths and physical science

☐☐☐☐

Participant average is more than 65% and the last report is submitted

☐☐☐☐

The signed guardian consent form is submitted

☐☐☐☐

Participant is a South African Citizen born in 2004/2005 and Birth Certificate is submitted

☐☐☐☐

EDUCATOR

It is recommended that each high school has a teacher or staff member as the school coordinator for contact between The Link, district & participating team. They may also provide guidance to the team, manage timelines and expectations. The coordinators will be responsible for making sure their team is eligible to enter, meets the deadlines, understand the design challenge and brief and that a project's scope is manageable under the given timeframe.

CONSIDERATIONS

- Who is your design for?
- How will it be used?
- What STEM processes did you use? How might it be maintained over time?
- How will you measure success?
- How is it sustainable?
- What would it cost?
- How will your design inspire scholars to engage in STEM?

Interested schools should send queries to tmigogo@flyairlink.com
Tel: 011 451 7489

JUDGING CRITERIA

Each team is allocated a maximum of 50 points

The big idea: Here's where your team demonstrates the application of design thinking Does your model address the design challenge?

Inventiveness: Have you found a unique solution to the challenge?

Look and feel: Was it beautifully crafted? Does it engage the senses?

Design to Reality: Do you have a viable solution? Will the idea work in reality?

Creativity: Does the design demonstrate innovation. Is it genius?

Presentation: How will you demonstrate the problem and get other people excited about said solution?

Teamwork = Dreamwork: Show how teammates equally contributed to the conceptualisation, design and production of the big idea

Technology focus: What engineering went into the conceptualisation and production of the big idea?

Impact: How great of an impact will your device have on a population or an individual's quality of life?



TIPS & TRICKS

1. Explain how your idea is possible and why it will work – you can even include a diagram if that helps.
2. Describe who's involved in making your solution a reality.
3. Would different experts, businesses, governments or technologies need to work together to make your solution happen?
4. Describe who this this solution will benefit (This can include people, businesses, animals, or even particular groups (the elderly, students, families etc.
5. Tell us about the research you did. Reference the sources you used during your research, and any scientific theories that support your idea.

SUBMISSION DETAILS

A 1-page document containing reporting mechanisms describing your solution, how it answers the brief/meets the challenge, user experience with your design, what you learnt through the design experience and what your inspiration was.



A 3 minute video clip



A PowerPoint presentation

(10 pages max & not larger than 5mb)



A storyboard



A typed descriptive statement

(3 pages max & not larger than 5mb)



To enter the competition, you must submit a completed entry form. to tmigogo@flyairlink.com and visit: www.flyairlink.com

The deadline for all entries is 17th March 2020

IMPORTANT DATES:

Brief meeting: 14th February 2020

Closing Day: 17th March 2020

Report on Model: 17th March 2020

Event Day: 17th April 2020

INVENTION DRAFT EXPLANATION

Note: No more than 1 page

[illegible]



ENTRY FORM

The LINK STEM Innovation Challenge

Educator Full Name: _____

Educator Telephone Number: _____

Educator Email: _____

Name of School: _____

Postal Address: _____

_____ Postal Code: _____

Postal Address: _____

_____ Postal Code: _____

City/Town/Village: _____

School Email: _____

School Tel: () _____

TEAM DETAILS

NAME OF THE TEAM: _____

MEMBER ONE

| Team Details | | | | | |
|--------------|------------|----------|-------|--------|------|
| Surname | First Name | Initials | D.O.B | Gender | Race |
| | | | | | |

MEMBER TWO

| Team Details | | | | | |
|--------------|------------|----------|-------|--------|------|
| Surname | First Name | Initials | D.O.B | Gender | Race |
| | | | | | |

MEMBER THREE

| Team Details | | | | | |
|--------------|------------|----------|-------|--------|------|
| Surname | First Name | Initials | D.O.B | Gender | Race |
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MEMBER FOUR

| Team Details | | | | | |
|--------------|------------|----------|-------|--------|------|
| Surname | First Name | Initials | D.O.B | Gender | Race |
| | | | | | |

THE LINK STEM GRADE 10 INNOVATION CHALLENGE

PARENTAL/GUARDIAN CONSENT

CONSENT NUMBER: 1

Scholar Name and Surname: _____

School Name: _____

INFORMED CONSENT AND ACKNOWLEDGEMENT

I hereby give my approval for the above-mentioned scholar's participation in any and all activities prepared by SA Airlink (Pty) LTD ("Airlink") during the selected challenge. I assume all risk and hazards incidental to the conduct of the activities, and release, absolve and hold harmless Airlink and all its employees, directors, agents, subcontractors and representatives from any and all liability for injuries to said scholar arising out of traveling to, participating in, or returning from selected challenge sessions. In case of injury to said child, I hereby waive all claims against Airlink including all its employees, directors, agents, subcontractors, representatives, affiliates, participants, sponsoring agencies, advertisers and if applicable owners and lessor of premises used to conduct the event.

MEDICAL RELEASE AND AUTHORISATION

I hereby authorize the diagnosis and treatment by a qualified and licenced medical professional of the scholar child, in the event of a medical emergency which in the opinion of the attending medical professional, requires immediate attention to prevent further endangerment of the scholar's life, physical disfigurement, physical impairment, or other undue pain, suffering or discomfort, if delayed. this realise is authorized and executed of my own free will, with the sole purpose of authorising medical treatment under emergency circumstances, for the protection of life and limb of the participant, in my absence.

Does the scholar have any allergies, chronic illness, or medical conditions? If yes, please describe.

PHOTO RELEASE

I grant Airlink the right to take photographs of the named scholar in connection with the above identified challenge. I authorise Airlink to copyright, use and publish the same in print and/or electronically. I agree that Airlink may use such photographs for any lawful purpose.

| Name* | Surname* | Relationship* | Email* | Contact Number* |
|-------|----------|---------------|--------|-----------------|
| | | | | |

*Required Details

Emergency Contact: _____

Physical Address: _____

Second Emergency Contact: _____

Signature: _____

Date: _____

INSERT SCHOOL STAMP HERE

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THE LINK STEM GRADE 10 INNOVATION CHALLENGE

PARENTAL/GUARDIAN CONSENT

CONSENT NUMBER: 2

Scholar Name and Surname: _____

School Name: _____

INFORMED CONSENT AND ACKNOWLEDGEMENT

I hereby give my approval for the above-mentioned scholar's participation in any and all activities prepared by SA Airlink (Pty) LTD ("Airlink") during the selected challenge. I assume all risk and hazards incidental to the conduct of the activities, and release, absolve and hold harmless Airlink and all its employees, directors, agents, subcontractors and representatives from any and all liability for injuries to said scholar arising out of traveling to, participating in, or returning from selected challenge sessions. In case of injury to said child, I hereby waive all claims against Airlink including all its employees, directors, agents, subcontractors, representatives, affiliates, participants, sponsoring agencies, advertisers and if applicable owners and lessor of premises used to conduct the event.

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*Required Details

Emergency Contact: _____

Physical Address: _____

Second Emergency Contact: _____

Signature: _____

Date: _____

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THE LINK STEM GRADE 10 INNOVATION CHALLENGE

PARENTAL/GUARDIAN CONSENT

CONSENT NUMBER: 3

Scholar Name and Surname: _____

School Name: _____

INFORMED CONSENT AND ACKNOWLEDGEMENT

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|-------|----------|---------------|--------|-----------------|
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*Required Details

Emergency Contact: _____

Physical Address: _____

Second Emergency Contact: _____

Signature: _____

Date: _____

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THE LINK STEM GRADE 10 INNOVATION CHALLENGE

PARENTAL/GUARDIAN CONSENT

CONSENT NUMBER: 4

Scholar Name and Surname: _____

School Name: _____

INFORMED CONSENT AND ACKNOWLEDGEMENT

I hereby give my approval for the above-mentioned scholar's participation in any and all activities prepared by SA Airlink (Pty) LTD ("Airlink") during the selected challenge. I assume all risk and hazards incidental to the conduct of the activities, and release, absolve and hold harmless Airlink and all its employees, directors, agents, subcontractors and representatives from any and all liability for injuries to said scholar arising out of traveling to, participating in, or returning from selected challenge sessions. In case of injury to said child, I hereby waive all claims against Airlink including all its employees, directors, agents, subcontractors, representatives, affiliates, participants, sponsoring agencies, advertisers and if applicable owners and lessor of premises used to conduct the event.

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*Required Details

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Physical Address: _____

Second Emergency Contact: _____

Signature: _____

Date: _____

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