presents

National All Rounder Championship

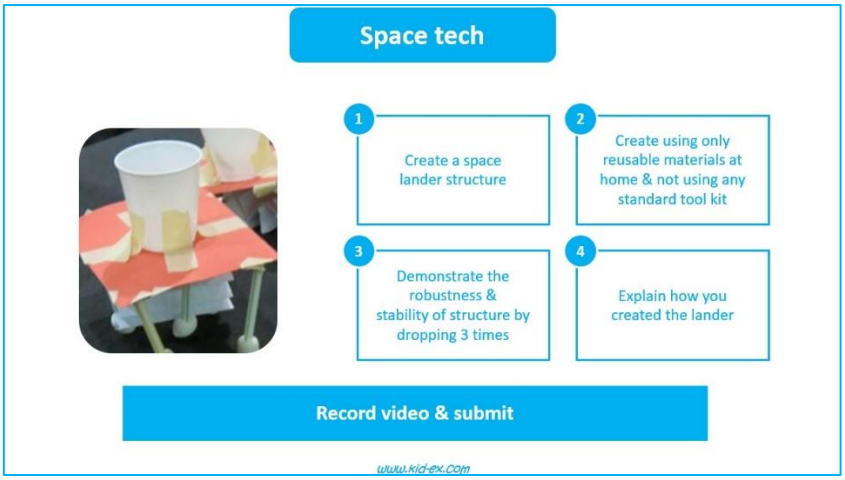
1 May 2021 - 31 July 2021

Self-Learning Manual: Activity 14

Cognitive skills:

Space tech

Age: 7-8 years



Activity description

The child is required to create a space lander. When an astronaut is landing on any surface in a spaceship, the spaceship has to land straight and the astronaut in the spaceship should be safe.

Use a glass as a spaceship. Can be plastic or paper. You may make your own paper/plastic glass if you want. Use a TT ball or a small paper ball as a proxy astronaut to be placed in the glass. Ensure the ball radius is ~50% of radius of bottom of glass to ensure "astronaut" is not stuck in the "spaceship".

The child is required to create any unique structure attached to the glass/spaceship such that if the glass containing ball is dropped on ground, the glass lands straight & stable with the ball/astronaut safely within the glass and not dropping out. For ideas, refer to Web Resources section.

For submission, child is required to do the following: First drop the glass with the ball & without the structure at least 3 times from a height of 2 ft to show it's not safe. Then, the child is required to drop the glass & ball with the structure at least 3 times from a height of 2 ft to show the structure is safe. Post that the child is required to talk explaining how the child created the structure & why did the child select this structure. The video narration should not be through reading/prompts. Video editing/merging is allowed. Record video & submit. Total video length should be less than 60 seconds.

Assessment guidelines

The total non-bonus points for this activity is 30. Every submission would be rated as either of below.

M = Master (100%)	Lander with structure is safe for all 3 drops from 2 ft height & child covers (1) how the lander was made & (2) why did the child select the structure design
I = Intermediate (80%)	Lander with structure is safe for all 3 drops from 1 ft height & child covers (1) how the lander was made & (2) why did the child select the structure design
B = Beginner (50%)	Lander with structure is safe for all 3 drops from 1 ft height & child covers (1) how the lander was made
A = Aspirant (25%)	For participating in the event & making an event relevant submission which does not meet assessment guidelines for M, I or B.
NA (Not applicable)	No submissions or any submission which is irrelevant for the activity.

50% bonus marks: If the child securing an M can drop the lander from height of 3 ft three times & lander drops safely for all 3 times

Expert coach speaks

With all the talks about Earth going to be inhabitable for humans in the next few 100 years & human race being required to find another planet to live, Space Tech & Research is expected to be a key emerging trend in the next couple of decades which would see a lot of investment & economic opportunity.

It is not just a future employment/career opportunity, it is equally important as a topic which brings the best of cognitive skills & creativity/imagination into practice. Children/youth developing interest in this space will find themselves at centre of exciting opportunities soon.

Key benefits of this activity

The activity benefits in many ways:

- Improves scientific knowledge & application
- Teaches problem solving skills
- Develop creativity & ignite curiosity
- Improve future employability and/or entrepreneurship prospects
- Develops an environment friendly mindset

Common mistakes to avoid

- *Glass weight very heavy (using steel glass)*
- *Structure not attached in a stable manner to glass*
- *Designed structure suitable for a limited height only or one time use only*

Useful web resources

- Mars lander concept
- Mars lander for kids – video 1
- Mars lander for kids – video 2
- Mars lander for kids – video 3
- Mars lander for kids – video 4
- NASA talk for kids on Mars lander
- Making Mars lander
- Build a astronaut lander

To submit your entry, visit our website (www.kid-ex.com). For any queries, email us at info@kid-ex.com.

Keep learning! Keep growing! Stay happy! Be successful!