Activity description and self-learning manual

Activity: Record a video doing a guess-estimate exercise | Cognitive skills| 7-8 years

Skill development milestone

The child can reason in concrete ways. Reasoning is rule-based. They want to understand how and why things work. They will ask questions to clarify information. They understand fewer concrete concepts like time & money. They use appropriate grammar in their speech and written work. They see that some words have more than one meaning. They understand fractions and the concept of space. They have difficulty understanding abstract ideas. The child can focus on the past and future as well as the present.

The child can think for themselves and develop individual opinions, especially as they begin to read and to acquire information through the media. They are learning skills such as classification & forming hypotheses. They can gain enthusiasm for learning & work.

Activity description

The child is required to estimate the number of kids in his/her class at school who like Broccoli soup.

The intent of the exercise is to give the child an opportunity to demonstrate 2 things in parallel:

1. Create a guiding structure to think/estimate
2. Make actual estimates

There is no correct or incorrect answer. It is not possible to determine the right answer. The overall motive is to check the dimensions in which the child's mind can think and, to be able to articulate the thinking process.

The child should try this exercise multiple times & once the child is doing well, record the child's video doing this activity. During the video, the child should think out aloud how is the child thinking about the estimates & keep assigning the values for each of the elements of the guess-estimate exercise. Finally, the child should be able to arrive at a number as an answer.

The video should be submitted as an entry as per submission guidelines.

You may share the video with family (1st circle), relatives & close friends (2nd circle) or acquaintances (3rd circle) as desired by you. Or post the videos on social media (public), if you wish, with the hash tag #KidExDIYChallenge or #KidExDIYNationalChallenge.

Submission guidelines

1. You can record one common video of the child for this activity
2. Keep the total video size less than 20 MB
    a. Higher resolution camera creates large size video files
    b. Android users can install & use Camera MX player to record smaller size video files
        i. Camera MX player can be downloaded from here
    c. Iphone users should change resolution setting by going to Settings -> Camera & selecting lowest resolution from "Record Video" option
3. You can upload the video file at ***https://www.kid-ex.com/diy-nc***
4. Kindly ensure you have registered for the event for us to assess the submission. If not registered, please visit ***https://www.kid-ex.com/diy-reg*** to register. New registrations allowed till 30th May.

Self-learning manual

Common mistake and things to keep in mind in this activity are:

1. The child is worrying about getting to the right answer – answer is not important, the thinking process & it's communication is
2. The child is uncomfortable thinking in subjective / abstract manner without any thinking guardrails
3. The child's mental mathematics skills are not strong enough
4. Child is not in the right mindset while playing

Key coaching tip to excel in this exercise is that you must help the child appreciate that there is no right or wrong answer.

Do a few role play exercise for the child yourself to introduce to various approaches.

Use reference

Example - How many flowers does it take to make a metre-long garland?

Assume the size of the flower based on the flowers you have at home or objects similar in size. Take this size to be the flower size for all other flowers. Estimate the number of flowers it will take to cover the length of a standard 15 cm scale at home. You can then calculate the number of flowers for 1 metre or 100 cm.

Estimate length

Example - How many ants will it take to cover a distance of 2 metres?

Estimate the distance of 2 metres in terms of arm length or foot length. Estimate the length of an ant and how many ants it might take to cover an inch of your finger. Convert the number of ants per inch to ants per metre or centimetre. Calculate the same by unitary method to get to the answer.

Estimate volume

Example- How many golf balls/footballs would fit in a Boeing 747 Plane?

Estimate the number of seats in a Boeing 747 Plane. Estimate the area that is taken for a single seat. Assume some numbers for the height of the plane as well. Take the area of cockpit, storage and everything else into consideration. After that divide this area by the area of a single golf ball and you will arrive at the number of golf balls. Also, remove 10 % wastage as there will be some space between four balls.

Important thing is to help the child to define an overall structure & then break that structure into smaller components for which data collection / estimation is easy. And then, use this information to arrive at an answer. The child should be able to talk through the thinking process.

A simple answer could be:

1. # of students in class = 40
2. How many students in class are athletic or serious about fitness? = 15 (basis built, talking points, conversations etc.)
3. How many of the athletic kids would be vegetarian? = 50% (safe guess)
4. What would be a safe estimate of the number of people amongst vegetarian folks who like Broccoli soup? 25% (half the people like soup & half of them might like green vegies etc.)
5. Do a similar estimate for non-athletic kinds
6. Arrive at the final answer

Key benefits of this exercise are:

1. Improves logical thinking and reasoning abilities
2. Helps make reasonable guesses to seemingly difficult to solve problems

3.   Opens mind to deal with complexity, probability, and possibility
4.   Promotes mathematical skills and strategic thinking

Entry evaluation guidelines

The maximum point for this activity is 30. Every entry would be rated as either:

1.   Master (M): 100% score
     a.   The child can do all of the below:
          i.   Think-out-aloud the guess estimate
          ii.   Use at least 3 distinct components in estimation structure
          iii. Make reasonable estimates for each of the components
          iv.   Arrive at a final answer using the structure & estimates for each of the components
2.   Intermediate (I): 80% score
     a.   The child can do all of the below:
          i.   Think-out-aloud the guess estimate
          ii.   Use at least 2 distinct components in estimation structure
          iii. Make reasonable estimates for >80% of the components
          iv.   Arrive at a final answer using the structure & estimates for each of the components
3.   Beginner (B): 50% score
     a.   The child can do all of the below:
          i.   Think-out-aloud the guess estimate
          ii.   Use at least 2 distinct components in estimation structure
          iii. Make reasonable estimates for >50% of the components
4.   Not applicable (NA): 0% score
     a.   All other submission cases
     b.   No submission.

For any queries, you may Whatsapp us at +91-7303755886 or email us at info@kid-ex.com.

About KidEx

KidEx is a company founded by Kapish Saraf & Amritanshu Kumar (IIT Kharagpur & IIM Calcutta alumnus). KidEx aims to create a platform to enable holistic & comprehensive development of every child by partnering with their parents in a logistically convenient manner for the parents. KidEx offers multiple extra-curricular activity classes for kids in physical & digital form (basis screen time guidelines) to enable child's holistic development. Live classes include: Chess, Arts, Mandarin, Spanish, French, German, Guitar, Movie-Making. Upcoming classes include: Academics, Robotics, Coding, Dramatics, multiple Dance & Music, Social Etiquette etc. KidEx will offer all learning solutions to parents under one umbrella. KidEx would soon launch a suite of digital products aimed at making child-raising easier & more fun for parents.

About KidEx Do-It-Yourself National Challenge

The event is an effort to spread awareness regarding need for all rounded development of the child. This is also, designed keeping in mind the current external scenarios where lockdown/no lockdown, social distancing practices would continue & schools/colleges might be shut for a few months which would require parents to find non-screen time learning opportunities for the child while demanding lesser time for parents allowing them some breathing space for themselves.

The event is open to all Indian citizens in India or abroad across age groups of 3 to 17 years. Basis the submitted entries, for every age, a leader board would be created & declared.

Prizes & certificates

KidEx Do-It-Yourself National Challenge 2020

We will conduct two versions of the event for all interested parents. Parents can decide whether they want their child to participate in the paid version or the free version of the event. Entry charge for paid version of the event is INR 500 for every child.

Paid version participants would be eligible for:

1. Prizes for winners across all age category
    a. Number of winners linked to number of paid version participants
    b. 50% of registration fees to be distributed as prize to winners
2. Winner & participation certificates
3. Assessment score for every submitted entry & leader board position summary

Free version participants would be eligible for:

1. Assessment score for every submitted entry

Even participants interested in paid version would be required to pay the amount after 7th May allowing them opportunity to participate first & then, decide.