MAKING SPACE 365 CREATIVE SKILLS & ENTREPRENEURSHIP YOUTH TRAINING TOOLKIT

Maximising the Potential of Young People through Creative and Cultural Entrepreneurship in the Community

Creative Competencies Module T8

Divergent thinking - Generating ideas and problem solving

MAKING SPACE

365

Module T8: Divergent thinking - Generating ideas and problem solving

In this module, you will find a compendium of modular, active learning resources and activities that will support you and your learners to develop competencies on *Divergent thinking - Generating ideas and problem solving.*

Namely, this module contains:

- Description of 3-hours face-to-face learning activities
- Activities for 2-hour self-directed learning
- Fact sheet/s
- Learner handout/s
- Self-reflection exercise/s

Aim and learning objectives of this module

My Social Role is a set of activities designed to engage young people in the process of generating ideas and problem solving while dealing with the entrepreneurial challenges of scarcity, risk and potential for failure. Students are given the task of researching, planning and designing social and sustainable solutions and using their creativity.

Through this module, the learners are expected to develop the following knowledge, skills, and attitudes:

Knowledge Skills Attitudes Reference Matrix			
TOPIC	**KNOWLEDGE**	**SKILLS**	**ATTITUDE**
T8 - Divergent thinking - Generating ideas and problem solving	• T8K1 - Knowledge and understanding of how the divergent thinking process works • T8K2 - Knowledge of tools and methods that facilitate divergent thinking	• T8S1- Ability to generate creative ideas • T8S2 - Ability to use divergent thinking to identify and solve problems • T8S3 - Ability to identify and explore different possible solutions/directions • T8S4 - Ability to draw connections • T8S5 - Ability to identify the appropriate solution to a problem, after exploring many different ones	• T8A1 - Being more open-minded • T8A2 - Being open to different ideas • T8A3 - Being open to think "without or outside of the box"

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Part 01: Divergent thinking - Generating ideas and problem solving f2f Learning Activity

In this part of the module, you will find a comprehensive learning activity that is designed for face-to-face group training. The duration of this learning activity is around 3 hours. The aim of these activities is to support the trainers/facilitators in providing a holistic learning experience to groups of learners that will support them to develop their *Divergent thinking - Generating ideas and problem-solving competence.*

The activity uses different tools that can be used with different target groups and adapted to fit the needs of each group of learners.

Summary

	Name of tool/ estimated time	Type of tool	Objective of the tool
	Part 01		
1	**Share objectives, introducing the topic and getting to know each other.** **15 mins**	Presentation by tutor. Icebreaker / getting to know each other. Brainstorming	To explain & give an overview of the My Social Role module. Participants get to know each other in preparation for the later team based activities.
2	**Asking preparatory questions and invite responses.** **20 mins**	Presentation by tutor and active participation. Brainstorming. Recognition of community.	Establish the working level of the group and the 'pitch' of the questioning required.
3	**Writing down the learner contributions in groups and teams** **60 mins**	Presentation by tutor and further active participation. Display and organisation of shared answers and discussion of categories.	To collect and organise the learner responses for the next stage of the activity. Check learners can identify relevant issues and introduce the concept of divergent thinking.
	Break		
	Part 02		
4	**Present the 17 UN SDGs** **30 mins**	Presentation by tutor, discussion and active participation in teams.	To prepare the learners for the next stage of the activity, establish teams and possible individual roles in each team. Tutor to start introducing convergent thinking into the activity.
5	**Introducing the Sustainable Superhero task.** **15 mins**	Presentation by tutor. Brainstorming and investigation of innovation.	To explain & give an overview of the module and task. Give time for the participants to organise themselves into teams.
6	**Preparing work and test areas** **40 mins**	Brainstorming and development of ideas	Participants are given a working space, resources and materials to complete the task. Learners can start to effectively visualise & apply to real problems.
7	**Reflection** **15 mins**	Plenary discussion and sharing	Allow time to reflect on the activity and what the participants have learned. Improving their creative mindset

Detailed Description:

Part 01	
Title of the session	**Divergent Thinking in My Social Role**
Approximate length	1 hour 35 minutes
Group size	6 – 36 depending on learning environment
Equipment, materials & space needed	- Space to work in pairs or groups - Flip chart paper - Marker Pens - Whiteboard
Objectives	The learners will be able to: ❖ Brainstorm community social issues & generate relevant ideas ❖ Discuss and identify shared solutions ❖ Begin to categorise their Divergent Thinking
Knowledge Skills Attitudes Reference	T8K1, T8S1-S3, T8A2-A3
Detailed description	**Phase 01 – Introduction** **1.1** Congratulations! You have been appointed to the team to solve 'problems' in your community by first identifying issues and then creating solutions. First, you need to *Brainstorm* the issues and recognise your own community before anything can be solved. *Brainstorm time – What actually is Community? Answers shared on a Whiteboard or Post-It notes.* **1.2** We all belong to, or are part of, wider groups, such as our college peers or sports teams etc. Many of these groups can also be categorised as 'Communities'. You can think of a Community in a lot of different ways; it could be the people who live in the same place or a group that shares similar interests. *Brainstorm at least 4 different communities you are part of or interested in helping. Answers shared on a Whiteboard or Post-It notes.* **Phase 02 – Exploring Community?** **2.1** From the range of suggestions below, pick two communities and share the following characteristics for each on the whiteboard: *Age* *Group* *Language* *Cultures or Traditions* *Geographic Location* *Interests* **2.2** Share responses on the whiteboard then ask if group can *Distinguish* and *Define* the following with some examples: - Location based communities - *A location based community is…..?* - Interest based communities - *An Interest based community is…..?* - Identity based communities - *An Identity based community is…..?* - Religion based communities - *A Religion based community is…..?*

	2.3 The group can be split into smaller groups or pairs and focus on one of the communities in section **1.2**
	2.4 All letters of the alphabet (A-Z) will be written on whiteboard or flipchart paper for each team and team members invited to write words that describe an aspect or feature of that Community for as many letters of the alphabet as possible, and as fast as they can. For example, "r=rural". They can add specific issues if that helps. For example: f=flooding and *Yes, this is a competition!*
	2.5 After 15 minutes the groups report back and examine all of the words that came out of this activity and discuss them as a group. ● Are there any commonalities? ● Are there any surprises? ● What kind of new information came out of this activity that didn't happen with previous brainstorming observations?
	Phase 03 –Community Solutions
	3.1 Form a team together with peers who share a community or interest. **3.2** You've all tried some Divergent Thinking in teams, now it's time to identify problems to solve. But before *Brainstorming* problems and solutions, it might be helpful to think of some problem categories. In your own group brainstorm the biggest issues you think face all communities (local, national or global) and record answers on a flip chart*. The following are areas you may wish to consider: ● Basic human needs ● Environment ● Safety ● Social needs *It might be useful to organise this as a table.
	3.3 Groups can converge and compare results with peers in the other groups – results to be amalgamated – more ideas the better.
Tips, recommendations for the facilitator	This activity can be facilitated by one person; however, it is recommended that you have another facilitator to help. For larger groups ensuring the groups are on track with the task and sharing as many ideas as possible is key.
Break	
Part 02	
Title of the session	**Be My Sustainable Superhero**
Approximate length	1 hour 40 minutes
Group size	6 – 36 depending on learning environment
Equipment, materials & space needed	● Space to work in pairs or groups ● Flip chart paper ● Outline superhero action figures ● Marker Pens ● Whiteboard
Objectives	The learners will: ❖ Brainstorm community and wider social issues

	❖ Categorise issues relating to 17 [UN Sustainable Development Goals](#) ❖ Reflect on wider goals and use convergent thinking to propose solutions ❖ Make a shift from global to local issues and make a personal plan
Knowledge Skills Attitudes Reference	T8K2, T8S4-S5, T8A1-A3
Detailed description	**Phase 01 - Categorising the Divergent Thoughts** **1.1** Present the 17 UN SGD circle with icons (un-labelled) and see if groups can identify the 17 categories *(See handout below and accompanying PowerPoint)* **1.2** Ask the group to match up their themes and issues with the [UN SDG](#) ones and see if there's anything missing. **Phase 02 - Understanding types of solutions** **2.1** Whilst brainstorming problems, it is natural to think of solutions at the same time. But first it may be helpful to think about the ways solutions can be innovative. Ask the group to consider what makes something innovative. They can: ● Improve & build on something that already exists ● Reduce the costs of something that already exists ● Educate by raising awareness to cause changes in behaviour ● Apply an existing approach to a new situation ● Invent a completely new solution, technology, or way of doing things **2.2** The groups can consider what they think are the most recent innovations that tackle a specific problem. Then invite the groups to consider if we need new innovations to help tackle a problem brought about as a result of previous innovations - examples to be shared between groups. **Phase 03 – Be a Superhero** **3.1** Brainstorming is a group activity that is meant to generate a large number of ideas. As you brainstorm you might feel vulnerable as you contribute different ideas - this is normal. Here are some tips for good brainstorming: ● Be sure to capture all ideas, even wild ones! ● Defer all judgement, on other people's ideas, and on your own. Have an open mind. ● Build from each other's ideas. ● Be visual – you can draw instead of writing words. ● Go for as many ideas as you can. ● Stay focused. **3.2** Ask the group to Brainstorm issues they want to tackle through their superhero - This is WHAT not HOW at this stage! A suggestion could be to initially break into pairs, so as to keep the ideas diverse in each group and allow everybody to participate effectively. Issue notepads and pens so each pair can brainstorm and devise a 'look' & suitable name for their Superhero (you will use the outline provided later to develop this). They should also brainstorm the main superpowers they would possess and where possible,

	identify the most important one.
	3.3 Ensure the participants get chance to reflect on the following questions:
	• Why have you chosen that / those superpowers? • What would the Superhero use the superpowers for? • What things would the character set out to change in their community? • Who would be the superhero's arch enemy?
	Phase 04 - Sketch a Superhero
	4.1 Ask the pairs to sketch out their superhero using their superpowers on a larger Flip Chart paper. They can use the examples of outline figures provided as template guides for ideas or come up with their own. The tutor could use a pre-prepared example to demonstrate the general idea to the learners. The learners should be instructed to not write the names of their superheroes at this point. Once configured, offer the option of giving them extra powers, features or weapons to win their good fight! Ensure the images are detailed enough to make a display.
	4.2 Take each contribution and display anonymously (and without superhero name) and allow the pairs to view the other superheroes.
	4.3 Get the groups to describe what they see. In addition, see if they can think of a name for the other groups' characters. Have fun, compare and reflect!
Tips, recommendations for the facilitator	• This activity can be facilitated by one person; however, it is recommended that you have another facilitator to help. • For larger groups ensuring the groups are on track with the task and sharing as many ideas as possible is key. • Have fun with the superhero and don't limit ideas at the start!
Sources/bibliography	John Spencer - Convergent Thinking Versus Divergent Thinking https://www.youtube.com/watch?v=cmBf1fBRXms Stanford D.Schoolers demostrate how to brainstorm effectively https://www.youtube.com/watch?v=cmoWCSyujPY Google Developers Brainstorming ideas for the 2021 Solution Challenge Take action on the United Nations 17 SDG Goals http://goo.gle/38xVC5O Digital Impact Alliance - Building blocks → http://goo.gle/38zFpNJ

Part 02: Divergent thinking - Generating ideas and problem solving – activities for self-directed learning

In this part of the module, you will find a set of activities for self-directed learning that will support the learners/users to consolidate their knowledge on Divergent thinking - Generating ideas and problem solving and on methods and tools that can support them to identify their strengths and weaknesses, as well as develop skills and attitudes related to the *Divergent thinking - Generating ideas and problem solving*

Activity 01: Videos and questions

Reflect on the two following examples and consider the suggested questions that follow.


Video link - https://www.youtube.com/watch?v=cmBf1fBRXms
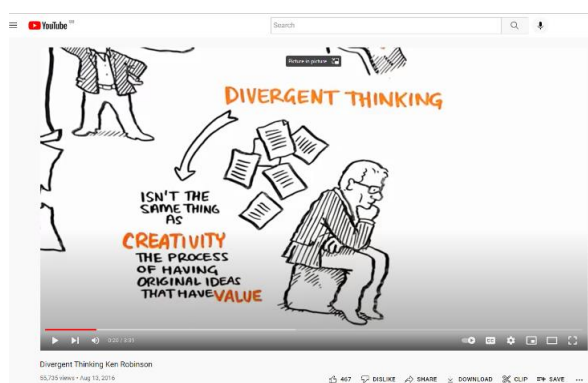
Video link – https://www.youtube.com/watch?v=BHMUXFdBzik

- Convergent thinking is linear and systematic while divergent thinking is web-like, focusing on the connections between ideas - Can you visualise the difference?
- One of the theories asks, "Why?" The other asks, "Why not?" – Which one is which?
- Do you have a preferred approach?
- Could you imagine a situation where you use both? Can you explain how or when?
- Can you make a quick sketch or diagram that explains both Divergent and Convergent Thinking theories?

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Activity 02:

Reflect on the following material examples of how you can explore ideas and use divergent thinking - Arman Hezarkhani will show us how to research the United Nations' Sustainable Development Goals and brainstorm ideas for your 2021 Solution Challenge project.

Video link – https://www.youtube.com/watch?v=50QQ6ksr8FE
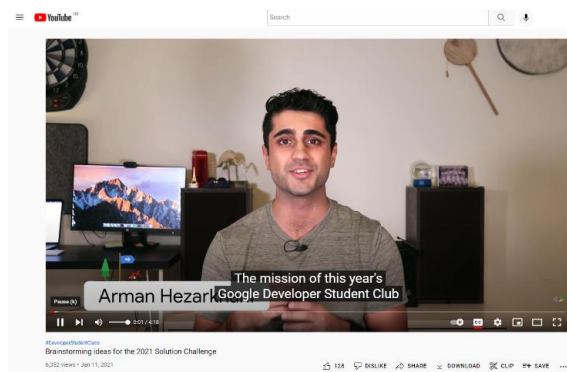
From whirlpool turbines to edible cutlery, water blobs, and package-free shampoo and toothpaste, here are 22 inventions that could help us cut back on plastic, reduce garbage in the sea, and make the Earth a better place.

Video link – https://www.youtube.com/watch?v=FWFb-8hFutY
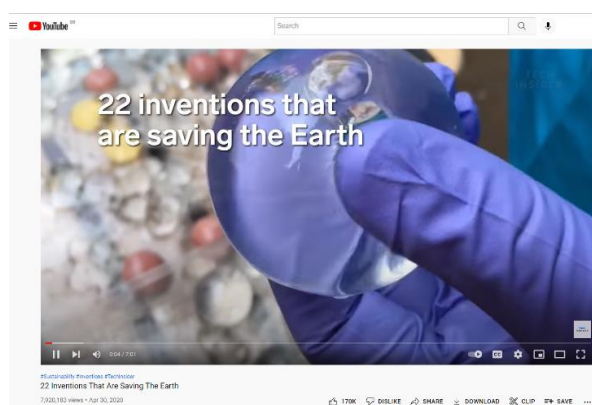
- If you could make a smartphone app to address a community problem – how would you start your planning?

- Without filtering ideas, work in a small team to brainstorm 10 app based solutions to a community problem close to your hearts and write them down!

- Consider if brainstorming got you any closer to solving a problem, or you found yourself filtering the ideas very early!

Module T8: Divergent thinking - Generating ideas and problem solving Fact Sheet

Divergent thinking takes many forms and can involve brainstorming, collecting spontaneous and random associations with a given topic, and expansive ideation.

These processes are usually followed by convergent thinking, where learners more critically sort through the proposed solutions by considering real world limitations and feasibility, comparing positive and negative aspects, and evaluating them for usefulness.
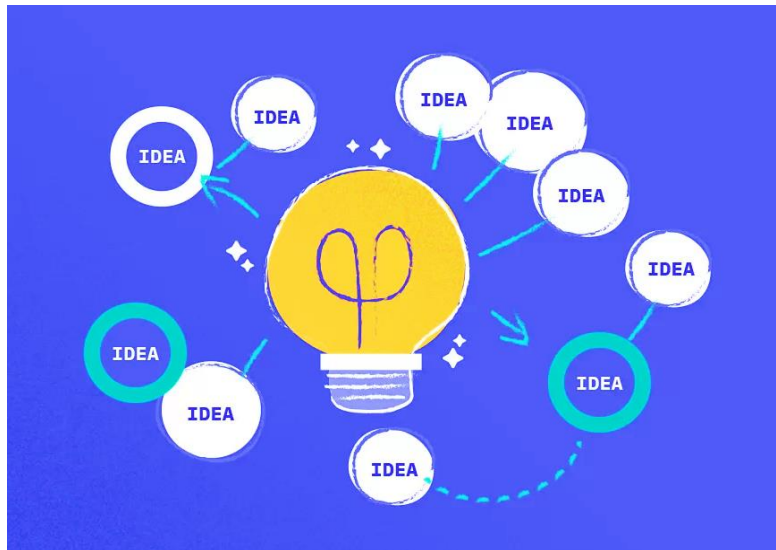
Divergent thinking is without limits and broad; whilst convergent thinking is more narrow & focused, filtering the initial creative options to identify and clarify the next possible steps.

The challenge during divergent thinking stages and exercises is removing the initial idea blockers, concept blinders, and unconscious biases, and resisting the natural inclinations to turn towards convergent thinking prematurely.

Why is Divergent Thinking important?

- Opens possibilities of innovative ways to solve more complex problems, overcoming the tendency of many learners to only work within the confines of first impressions or latent assumptions.
- Fosters empathic understanding of difference and appreciation of varying perspectives.
- Builds on learners' curiosity, encouraging experimentation, risk taking, perseverance through failure, and self-expression.
- Develops creativity, which is often cited as one of the most in-demand skills by employers.

Presentation of the 17 UN SDG – Can you label the Icons?
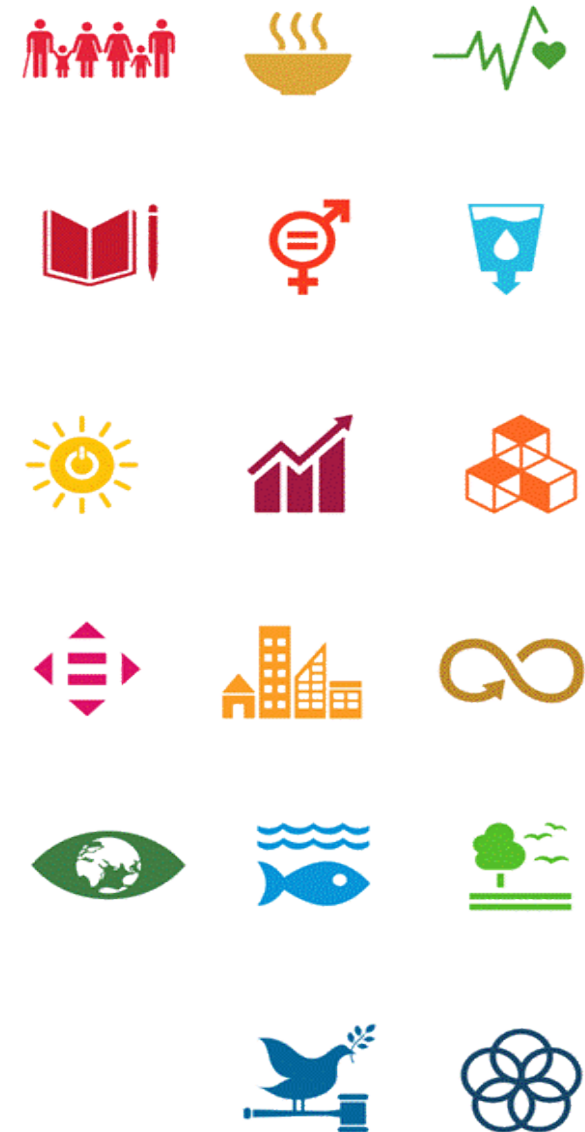
Now that you've studied Divergent Thinking and how it can be used to address local and wider problems there are some tips and suggestions for Youth leaders

Reflection Questions:

- Identify which communities you might be a part of and why that might be important?
- Reflect on the role you and the community might have to solve problems and how you can bring about change.
- Consider how you approached the brainstorming (Divergent Thinking) activities – and reflect if you could apply these approaches again in a different setting.
- Think about some locally identified or community problems, then reflect on the methods from the training module in your own or other settings? Ask yourself - Do I feel empowered to bring about change?

If you are an educator or youth leader consider the following session based approaches:

- Structure and Guide the Process
- Choose a topic, problem, or open-ended question (e.g. What doesn't work the way I would want it to? What has changed about _____? Why has _____ changed? Who did the change affect? What are all the possible ways _____ could be used?)
- Have Young people first brainstorm individually to stimulate thinking before moving into group exercises.
- Provide guidance and motivation for students to initially focus on quantity of ideas over quality.
- Help students understand that divergence is about creating choices, and convergence is about making choices. Be careful not to start converging during the divergent thinking stage.
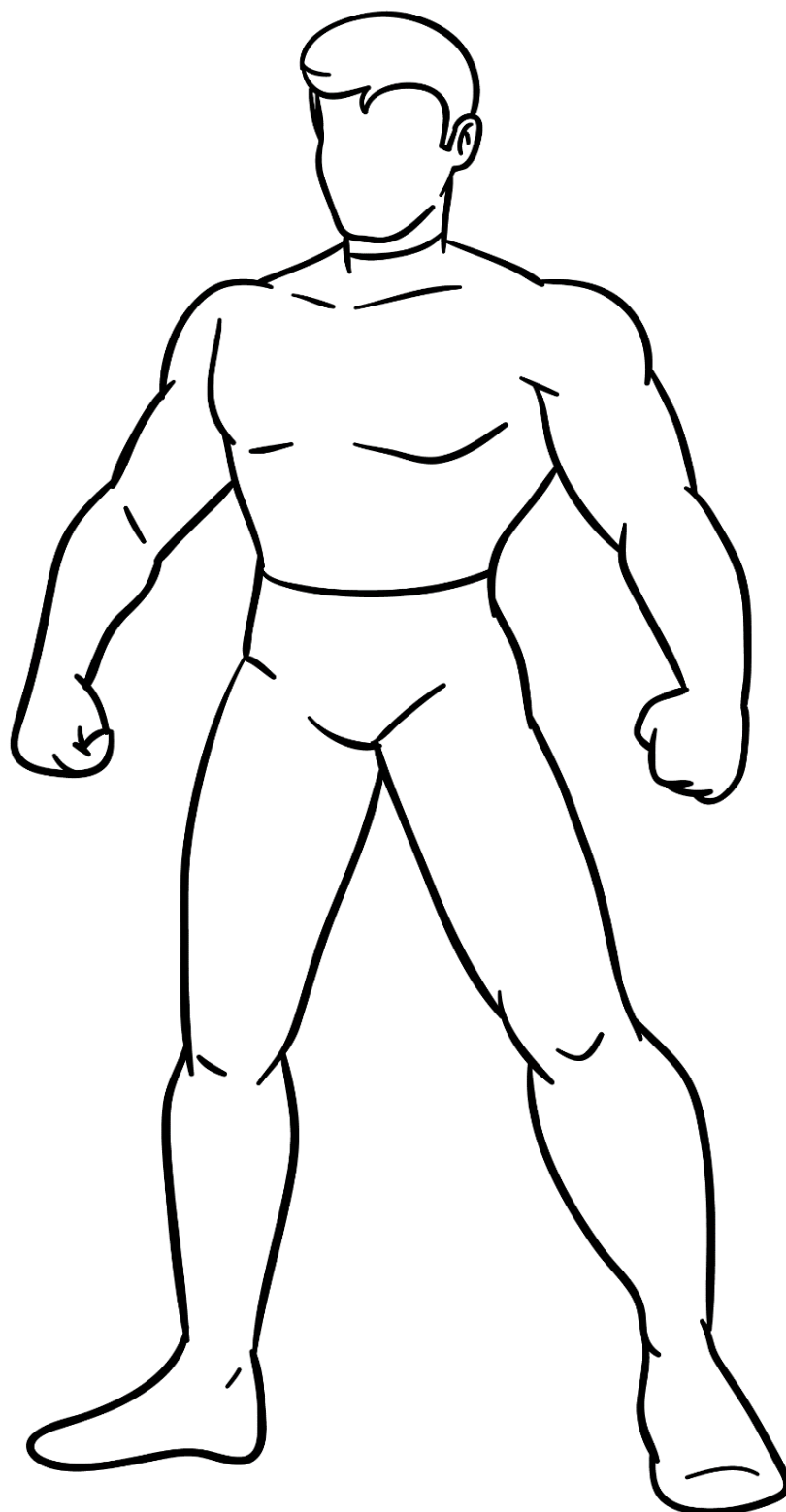
Encourage risk taking and originality

- Affirm curiosity when it arises and praise individuals for their unique ideas (e.g., refer to their ideas later as "Johnny's solution" or "Paul's question").
- Emphasise that there are no boundaries or constraints during this phase; students should go for unusual, out-of-the-box ideas.
- Support 'the strange' and remind students that sometimes the best solutions are the unexpected ones.

Create an open and intellectually fertile environment

- Maintain an environment where no idea is wrong in this phase, giving examples of the breadth of thinking desired.
- Defer any criticism and judgement. Provide guidance and encouragement when ideas are blocked.
- Talk about the process of learning – share how a problem statement can be interpreted differently by different people, which can lead to varying perspectives and a richer pool of ideas from which to draw.
- Encourage all voices to be heard by first having students write down their own ideas (e.g., on sticky notes, index cards, mind-mapping, or free writing). This prevents people from forgetting their ideas as they wait for an opportunity to speak, lets them focus on listening during the group exercise, and also signals to the group when others have more to say.
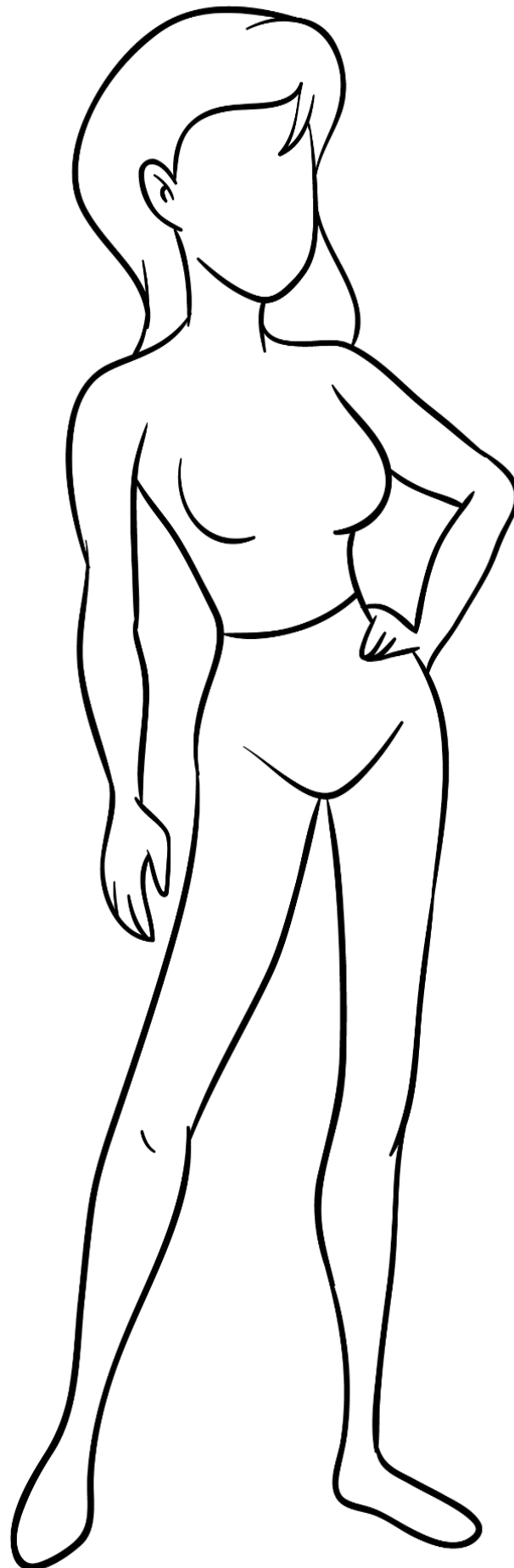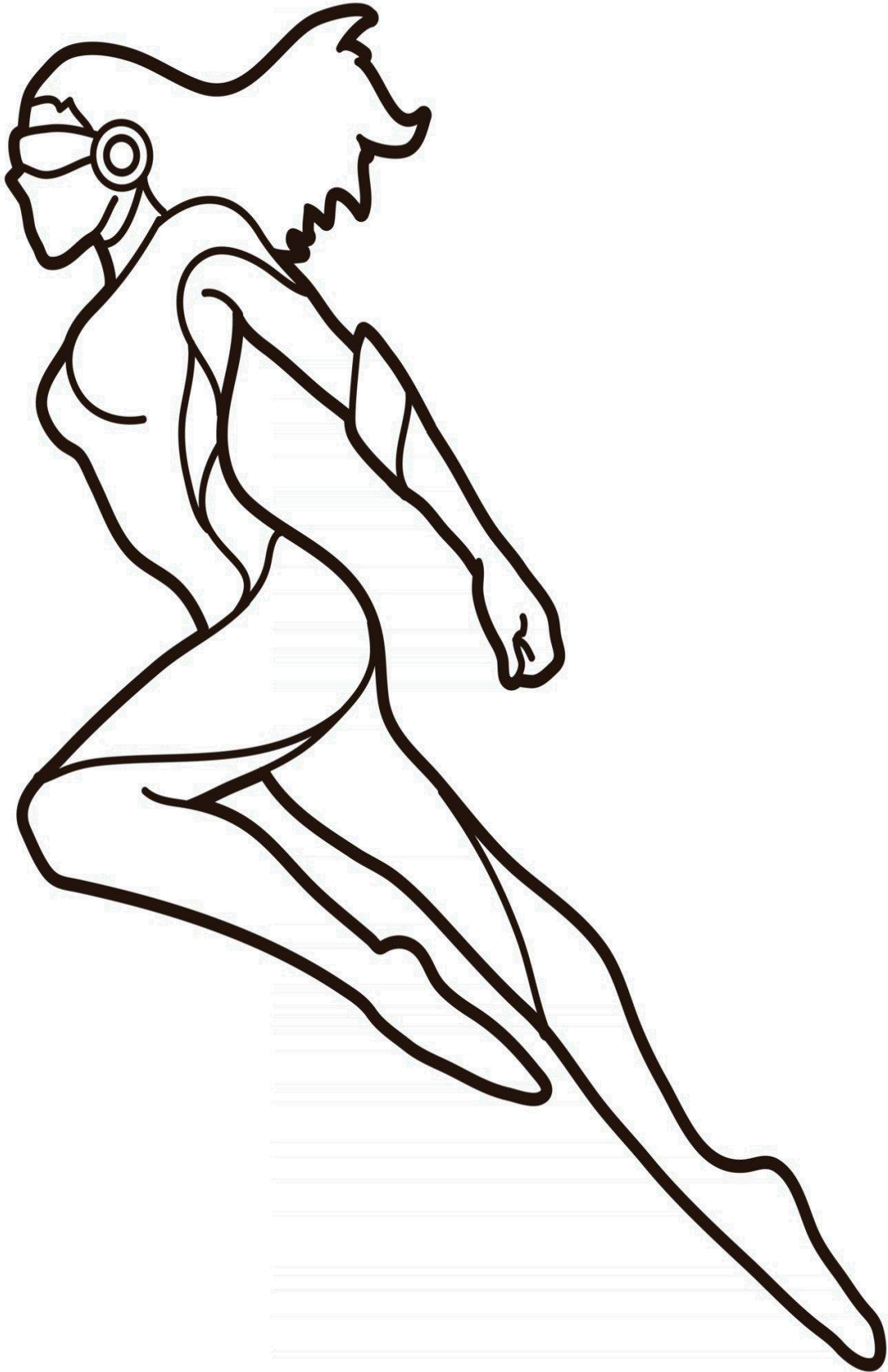
Outline Drawings of Superhero Action Figures

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