A Care Home Session Kit

What this kit is

This kit turns an iGEM project into a morning of games for residents of a care home or a day centre, including people living with dementia. It needs no lab, no biology background and almost no materials. We ran it at Residència Colisée Valldoreix in October 2026 with 19 residents aged 72 to 85, none of whom had ever heard the term synthetic biology.

The decision that shaped everything was to adapt to the existent routine the residents of the care home already had. Care homes have a weekly rhythm and most of them run a cognitive stimulation session in the mornings like memory games, bingo or word work. Rather than asking for a new slot and introducing a new format at once, we asked what they already did and built our content into it. The residents got their usual Tuesday activity, in their usual room, at their usual time and the content of it happened to be synthetic biology. When working with this type of public, a session that respects their routine is both kinder and more effective than one that interrupts it.

The structure of the games comes from two published and evaluated methods in dementia care, TimeSlips and Meet Me at MoMA. Both rest on the same principle, which is that exchange opens with a question rather than an explanation and every answer is taken seriously and discussed, whether or not it is correct.

In this guide, you will find:

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Introduction

	What we recommend
Audience	Residents of a care home or day centre, including people living with dementia. No background needed.

	What we recommend
Group size	15 to 20 people, split into two groups for the first half.
Duration	Around 60 minutes, inside the slot the centre already uses for cognitive activities.
Organiser	3 to 5: two leading a game each, the rest moving between residents who need repetition or more adapted help.
Materials	A screen or projector for the memory game, printed bingo cards, a set of true or false statements and coloured cards or paddles for voting.
Preparation	Half a day to choose the concepts and write the statements, plus a call with the centre.
What you need from the centre	The usual activity slot, the room they normally use, and a conversation beforehand about the group.

Before you go

Contact day centres as well as residences. They are used to receiving outside activities and their activity coordinators will tell you quickly whether your idea fits.

The call with the coordinator is where the session is really designed, so ask these before you write anything:

1. What does the group already do in this slot and what do they enjoy most? Our bingo exists because the answer was bingo.
2. How many residents usually attend and how many staff are in the room?
3. What should we know about how the group follows an activity? You are asking about the group, not about individual diagnoses, and the coordinator will tell you what you need in order to prepare.
4. Is there a screen or projector and does it work from where the residents sit?
5. How long do activities usually run before people tire?
6. What are your rules about photographs and about naming the centre?

The centre authorises the activity. Photographs of residents need the consent the centre's own procedure requires and in a population that includes people with dementia that consent often involves families. If in doubt, run the session and take no photographs: a page that describes the activity well is worth more than one with faces on it.

Starting the activity

Spend about ten minutes introducing yourselves and the field in three steps: biology, then synthetic biology, then your project. Open each step by asking what they already know or what they think about when they hear that word.

Expect the vocabulary to be the first obstacle, because they don't have a scientific background, and a resident who feels lost in the first five minutes because of not understanding words will stay quiet for the rest of the hour. Say each term once, in plain words, and then use the plain words repeatedly instead of the complicated term they probably won't recall at the end of the session.

Additionally, we recommend you get to the first game quickly because starting an activity format they already feel comfortable with makes the room relaxed again after the complicated part.

Game 1: Memory

Multiple face-down pairs, where each pair matches a concept from your project to its definition in simple words. We built ours as an online game shown on the big screen, so that everyone could see the grid at once and call out the positions they wanted to turn around rather than reaching across a table.

Use eight to twelve pairs and mix concepts they will recognise from daily life with ones that are new. The familiar ones give people an early win and the new ones are what the session is for.

After a match appears, explain its concept and ask questions about it to see if the residents understand that pair. But keep this explanation short because the next player is waiting to try to reveal another pair.

This was the hardest-working part of our morning and the one the residents engaged with most because it asks two things at once: 1) remembering where a card was and 2) holding a new idea. Both rounds (for this activity we had divided the room in two groups) took a few turns to get going. Expect it to be slow at the start and do not try to accelerate it too early, only when you have been stuck without a pair for two minutes or more.

Game 2: Bingo

Bingo, but with the numbers replaced by concepts from your project. You draw a concept, then everyone looks for it on their card and before the next draw you ask the room what they think it is and then explain it. The pace of this activity is also slow.

Keep the cards simple and short, with six or eight squares rather than the usual grid. This way you will have time to play again, which gives every concept a second pass in front of people who may have missed it the first time.

Use this activity to open the session or to recover after something demanding because it is more passive than the other ones. Do not expect it to carry a lot of the learning and if one game has to go because you are short of time, this is the one.

Game 3: True or false

Bring both halves of the room back together for this activity. You read a statement about synthetic biology, everyone votes true or false by raising a coloured card and then, before you say anything, you ask somebody from each side to explain why they voted that way. Only after both sides have spoken is when you give the answer.

Hearing a neighbour's reasoning is what makes people revise their own and it lets you hear how the room is thinking rather than only what it concluded. Most of our statements were built on common myths, so each vote opened straight into a conversation about where that idea comes from and why it is wrong. We mixed in three that have no correct answer because these produced the longest discussions of the morning.

Writing your statements

Aim for around fifteen. For example, twelve with a clear answer and three deliberately open. Half could be about your own project and half about synthetic biology in general, so that the session covers more than the idea your project involves. However, feel free to adapt this however is more comfortable for your session.

For the statements, target the misconceptions people hold (you can find out about these by doing a previous short survey to people in the same age slot as the ones that will participate in your activity).

These are some examples of what you could use that worked for us:

Statement	Answer
Humans have been modifying living things for thousands of years.	True
All bacteria are dangerous.	False
Scientists know what every gene in the human body does.	False
Genes from genetically modified food pass into our DNA.	False
A good part of the cheese we eat is made with rennet produced by modified microorganisms.	True
Today DNA can be made in a lab from scratch.	True

Statement	Answer
Genetic modification always means adding genes from another species.	False
Bacteria can be designed to work as switches or detectors, like an electronic circuit.	True
Implanting an edited human embryo to start a pregnancy is legal in Europe.	False
Scientists have created life from scratch in the lab.	It depends, what does creating life mean to you?
Only scientists should have a say in what is done with synthetic biology.	No correct answer.

Important: any statement about what is legal, approved or banned needs to name the exact act or a well-informed participant will be marked wrong for being right. Check every regulatory statement against a primary source before the session and when in doubt move it to the open pile where it can be discussed instead of scored.

Running the activities

This is the session you will adapt most while it is happening, so you should prepare for that.

Some practical settings:

- Send every explanation through more than one channel at the same time. In the same room we had residents who could not hear us well, residents who could not see the screen well and residents living with dementia, so each idea went out as something said aloud, something shown on the screen and something printed on a card they held.
- Print letters large. It is recommended that you use 18 points as your minimum on cards and even larger numbers on the screen.
- Stand where the light is on your face, speak towards the room rather than the screen and do not talk while walking away.
- Repeat the question each time, in the same words, before each vote or turn.
- Say the answer out loud as well as pointing at it on the screen.
- If the room is quiet for a lot of time, ask them an easy question so they motivate themselves to talk or ask more once they get that easy question right.
- Bring more organisers than the activity seems to need because you might need a lot of hands helping everyone understand the activities in real time.
- Keep the whole thing inside the length the centre's own activities use.

Measuring what people took away

For the true or false game, write down how each person votes on each statement before you reveal the answer. Score only the statements that have a clear answer and report that number out of the total. Since every measurable statement has only two choices, guessing alone produces 50% of correct answers, so that is the line your result has to beat to mean anything.

For our activity, these were the results: 19 participants, aged 72 to 85, voted on 15 statements, of which the 12 with a clear answer were scored. The average was 8.6 of 12, or 72%.

If you want to measure learning during the session, ask the same three or four statements twice: once in the first five minutes, before any explanation, and again at the end. This way, you will be able to compare both answers.

Other things that might be useful to record:

- How many residents spoke at least once during the morning.
- Which type of questions you got more.
- Which statements split the room, because those are the ones you need to keep for next time.

What we would change

- Ask three statements before the session as well as after, which is the measurement we did not have (this is why we recommend it in this guide!).
- Cut or shorten the bingo because it was the least productive game and the time would have been better spent on a second round of memory or on more statements.
- Check every regulatory statement against a primary source.
- Schedule the return before you leave. The residents asked us to come back, so we should have agreed with the coordinator that same day for a new date (this gives you the opportunity to measure learning in longer periods of time).

References

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