Activity 1: Write Your Name in DNA
Activity 2: The Bacteria Around Us – A Science Experiment for Kids
Activity 3: Synthetic Biology Coloring Pages
Activity 1: Write Your Name in DNA

Activity Description
The children will create a colorful chain made out of the four DNA nucleotides, while learning about DNA and how all the information about each and every one of us is encoded into this simple language. They will use an encoder to translate from the English alphabet into codons to write their names or initials into their chain.

What do you need?
- Colorful printed DNA letters (see attachment #1)
- Scissors and tape
- Stickers and markers for decoration
- String or ribbons
- DNA encoder (see attachment #2)
- Translation page (see attachment #3)

How does it work?
1. Write your name on the translation page and translate it into DNA letters using the encoder.
2. Choose, cut out and arrange the DNA base pairs as needed.
3. Tape them together, forming a straight chain, or tape them to a string to make a hanging decoration.
4. Use the stickers and markers for decoration!
Attachment #1: DNA letters

T A A T
T A T A
G C C G
G C C G
### DNA CODE

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Write your name or any word you want in the upper row. Then use the second row to translate your word into DNA codons!
Activity 2: The Bacteria Around Us: A Science Experiment for Kids

Activity Description
The children will learn about bacteria and perform a small science experiment: they will try to grow bacteria all by themselves, using the bacteria they naturally have on their hands.

What do you need?
- Prepared petri dishes with nutrient-rich agar
- Hand sanitizer
- Lab gloves
- Parafilm for sealing
- Stickers for decoration or logo (optional)
- Permanent markers
- Safety instructions (see attachment #1)
- What do bacteria look like? (see attachment #2)

How does it work?
1. An introduction is given about bacteria and how they are all around us. In particular, it is explained that we have bacteria on our hands, and that’s why it is so important to wash hands before eating and after using the toilet.
2. Each of the children gets a petri dish and writes on one side “dirty hand” and on the other “clean hand”.
3. They then open the dish and touch the side marked “dirty” with one finger.
4. The finger is cleaned with the sanitizer and touched to the other half of the dish.
5. The dish is sealed with parafilm, and the children are told to keep the dish in a warm place for a day or two. A small colony of bacteria should appear on the dirty side of the dish, but not on the clean side. Each child is given a copy of the safety instructions to take home.
הוראות בטיחות ליגודן חידקמ

1. לא십시오 את צלחת הפסים לפני השקת חימום במיוחד.
2. שיל𠐨 הפשים בבלך תחת מצלחת השקת ולא ממקם.
3. אם אין תכנית לשיהול צלחת, הפשים יישארו בטיחות.
4. בברשת תכנית לשיהול צלחת, הפשים יישארו בטיחות.
5. יש לשחרר את הצלחת בבלך ממקמתה ומקומית הידית.
6. אם אין תכנית לשיהול צלחת, מתקפת צלחת יישארו בטיחות.
7. בברשת תכנית לשיהול צלחת, מתקפת צלחת יישארו בטיחות.

8. בברשת תכנית לשיהול צלחת, מתקפת צלחת יישארו בטיחות.
9. בברשת תכנית לשיהול צלחת, מתקפת צלחת יישארו בטיחות.
10. בברשת תכנית לשיהול צלחת, מתקפת צלחת יישארו בטיחות.
11. בברשת תכנית לשיהול צלחת, מתקפת צלחת יישארו בטיחות.

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Safety instructions for growing bacteria

The plate contains biological materials that are not dangerous! However, please follow these safety rules:

1. Do not open the petri dish without the supervision of a responsible adult.
2. Gloves should be worn at all times when the plate is unsealed and open.
3. Do not eat the gel in the dish.
4. Do not bring the dish anywhere around the kitchen, especially in the refrigerator!
5. Store the plate at room temperature.
6. Keep the plate sealed as long as the bacteria grow.
7. When the growth period ends, throw the sealed plate into a trash bag.
8. Do not keep the plate after the end of the growth period!
9. Do not reuse the plate.
10. In case the plate breaks, pick up the leftovers with gloves and throw it away.
11. Do not touch the gel without gloves! Wash hands thoroughly after handling the dish.

HAVE FUN!

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HAVE FUN!
Attachment #2: How do bacteria look like?

Bacteria taken from different places on body, after 24 hours:

Glowing bacteria:

Infected Petri dish:
Activity 3: Synthetic biology coloring pages

**Activity Description**
The children will color in drawings related to microbiology, bacteria and DNA. Discuss the concepts behind the pictures while coloring.

**What do you need?**
- Markers or stickers
- Coloring pages (see attachments)

**How is it done?**
Each child can choose from the coloring pages available and use the markers to make a creative biology drawing.
Bacteria