Bees for the Future

School: none
Teacher: NUCLIO
No of students participated: Teacher's choice
Subject domain: Biology, Environmental Education

Contact info

Feel

Dear explorer, welcome to your community project. Throughout this journey you will learn new things, discover new worlds and become a scientist and an important change maker.

This project is all about discovering how your community is behaving towards bees in order to create an effective awareness strategy to improve the way bees are protected where you live. You may not understand why this is so important yet, but if you follow the steps below you will realise how relevant this project is. During this project you will go through 4 different phases: you will **"feel"** the problem and learn all about it, then you will discover the causes and **"imagine"** possible solutions for your community, using this information you will **"create"** something that will contribute to solving the problem in your community and finally you will **"share"**.

Through collaboration with colleagues from other islands you will have the chance to learn new ideas and be inspired about how the other islands relate to bees. You can also be the one inspiring other colleagues with good examples from your island and with your ideas.

When you finish this project you will be able to download everything you created in a PDF format, save it and share with anyone who wants to read it. So, make sure that you register every little detail and in an organized and understandable way.

Also, please remember that science and progress are always greater when we have cooperation, so make sure that you and your colleagues cooperate in a positive and equal way. The more you cooperate, the better your project will be and the greater your impact will be in your community!

Ready? Let's begin!

1. Introducing the main concepts

People's opinions about bees are a very variable thing. Some may find them cute, some might be frightened, but the truth is that all that matters is respect, and respect comes from knowledge. Do you agree? So, here you are going to search for this important knowledge and, hopefully, reach very important conclusions.

We will begin this journey with a few questions to make you reflect:

Do you like bees? Do you think they are important?

Discuss this with your colleagues and teachers ... what is your classes general opinion? And yours?

Now, opinions apart, do you think we could we live in a world without bees?

Maybe we can start thinking about this by playing a game called "web-of-life". Ask your teacher to give the class a moment to play this game. Your teacher can find the instructions here.

.

.

.

Did you play it? What did you think? Did your opinion about bees change so far? Do you have any new ideas about what a world without bees could be like? register them here.

If you want, you can watch this video to reflect a bit more on the meaning of the web-of-life and how biodiversity is fundamental for its maintenance. Biodiversity is part of who we are and why we exist. It is a fundamental concept for you to learn. Have fun watching it!

So, now that you are aware of some important concepts, like the web of life and Biodiversity, it is time for you to know the truth...

Did you know that bees are, in fact, disappearing?

Yes, sadly, this seems to be a big concern these days. It seems to be happening around the world and scientists are very concerned about this problem. Can you understand why by now? If you don't understand it yet, keep going through this project and you will!
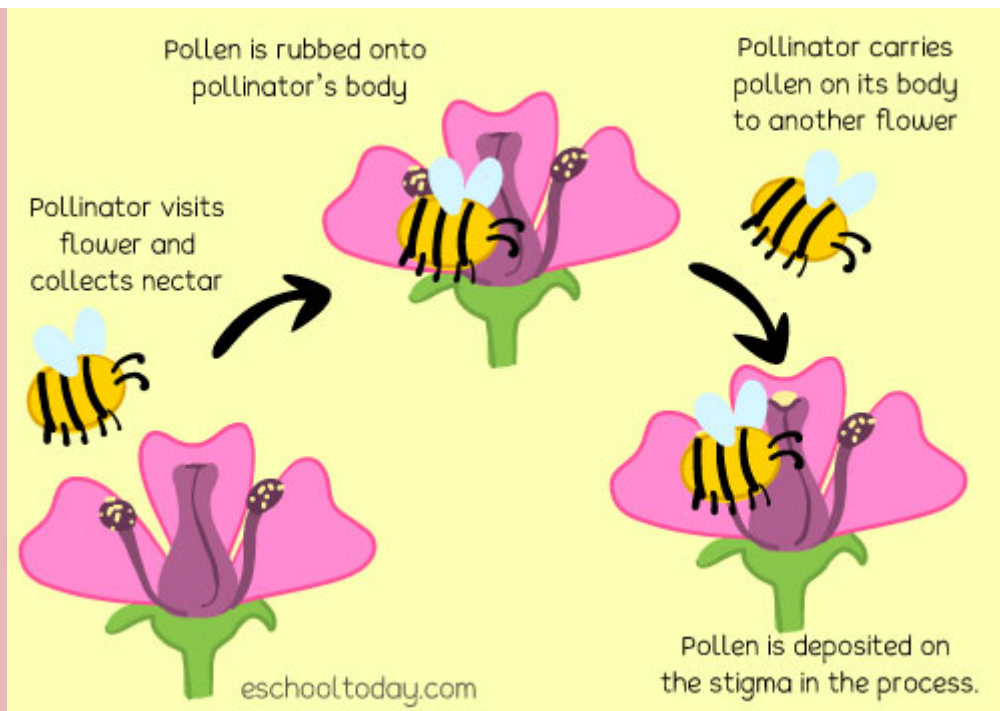
So, here's little challenge for you:

Before moving on with the project, make a drawing that illustrates your idea of how bees are important for us, take a picture of it and upload it in your project. Keep the drawing to add more things afterward.

Now let's reflect a little bit with the following activity:

Choose a clear wall on your class and divide it in two. Assign each half of the wall to each of the following questions:

1 - what do bees give to us?

2 - what do we give to bees?

Brainstorm with your colleagues about these two questions. Write each answer in one post-it and glue your post-its in the respective place of the wall. Each student of each group in your class should do the same. Take a picture of the final result and upload it here. How many answers could your class find for each of the questions? Could you figure out at least 3 different things that bees give to us? How many things did your class consider that we, humans, give to bees? Do you think that it is a fair relationship, so far?

Now, lets dig a little bit deeper:

What do bees do?

Think of all those times that you saw a bee flying around .. what was it doing?

Here's a clue:

Pollen is rubbed onto pollinator's body

Pollinator carries pollen on its body to another flower

Pollinator visits flower and collects nectar

Pollen is deposited on the stigma in the process.

eschooltoday.com

It was probably collecting the nectar of a flower and consequentiatly carrying out the process of pollination, which is essential for the reproduction of plants. If you don't know what pollination is, you can whatch this video.
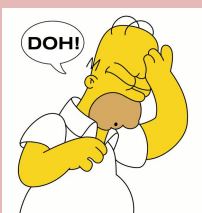
But why do we care so much about the reproduction of plants?

Well, think about what you eat ... where does your food come from?

> What would you eat if plants stoped growing?
>
> Are you thinking about meat? If you eat meat than you feel like you are safe from this problem, right? uff
>
> But .. where does your meat come from? An animal? hm .. and what does that animal eat?

That's right! Even the meat that we eat only exists if plants keep reproducing and growing, which in turn only happens if pollination occurs.

The truth is that although bees are not the only pollinators in the world, they are very important ones and a great amount of the food we eat comes from plants that need pollination. If bees disappeared we would have a big big problem in feeding the world's population.

So, do you get it now? Bees are important and we need to protect them!

Complete your previous drawing based on what you have learned now, take another picture and upload it here as well.

Look again to the wall with the post-its and to your drawing .. what conclusions do you reach? Register them here.

So, now that you have learned about the problem of the bees disappearance and why it is such a big deal, it is time for you to discover if your community also knows about this and if it is behaving well to protect bees, or not.

---

2. Discovering the community - local and global

This project is all about discovering how your community is behaving towards bees in order to create an effective awareness strategy to improve the way bees are protected where you live. Through collaboration with colleagues from other islands you will have the chance to learn new ideas and be inspired about how the other islands relate to bees. You can also be the one inspiring other colleagues with good examples from your island and with your ideas.

So, to begin your community project, it is important that you think about what type of questions you would like to focus on. Here we propose a few that you will work on in collaboration with colleagues from other islands, but it is up to you to design your own community project and add anything you want.

You can begin by considering the following questions:

1. Are bees increasing, decreasing or not suffering any change in your island?
2. How is your community behaving toward bees?
3. Is your community aware of the problem bees are facing?

Discuss these questions with your colleagues and write here your hypotheses. Add any other questions you feel that are relevant considering your community.

Time to join forces between islands!

Now that you have created your hypothesis, [Here you will find a project](#) created to help you discover the correct answers to the questions above. It is integrated in a platform called globallab that allows you to collect information at the same time that colleagues from other islands do and then compare the results in a local and a global level. This specific research is about the status of the bee population in

your island and your community's level of awareness regarding the topic. It is very important that you follow the guidelines rigorously so that all your colleagues making this activity throughout the world can collect the same kind of data and compare it.

First, ask for your teacher's help when registering in the platform and consider the following:

 - Use a code name - ask your teacher to help you decide on one.

 - Don't use any picture that shows who you are.

 - Read all the parts of the project very carefully and make sure you understand all the questions before you start the project.

 Return to this page when you finish!

Note: if you decided to add more questions to your research, feel free to write them down as well and make more questions to the people of your community and to the experts. You cannot edit the globallab project, but you can always keep a notebook with you where you write the answers of the people you interview and write everything here afterwards. Just remember to always keep record here of what you do.

My community (my local world)

Once you have finished interviewing your communityu and the experts, using the globallab project, you can visit the [findings section](#) to see a summary of all the responses. There you can find all the responses of the people you interviewed as well as all the responses from the people your classmates and colleagues from other islands interviewed.

You can extract the graphics or create new ones including any new questions you introduced to the interviews. Excel or GoogleSheets are two nice tools to do this. Or you can use the graphics created by globallab automaticaly. The important thing is that you understand the results and can take conclusions from there. can you respond to you previous questions looking at the answers of the interviews?

Write down your conclusions and explain how your interview results support these conclusions.

Other communities (my global world)

Looking at the findings section again, can you understand if other communities are more or less aware regarding this problem comparing to yours? Can you learn something from them? Can you help them?

Use the discussion utility on the globallab platform to discuss these questions with your colleagues from other islands. You can choose one other island to work in collaboration with you, to exchange ideas, maybe have an online meeting with them? Ask for your teacher's help with this, but make sure that you establish contact with at least one students from other island, and keep communicating throughout the following phases. This collaboration can be the key to create something really meaningful localy and globaly in your project ;)

After you finish, go to the "Imagine" phase of this project where you will start thinking about what has been causing this problem and what sollutions you can find for it.

You have done a great job learning all about bees, their importance and, most of all, how your community is behaving towards them. This was the first step you took, and a big one, to make a real a positive change.

Now that you know about the problem, the next step is to figure out the causes and the solutions. In this phase is where you will use your ideas to discover what solutions can be integrated in your community in order to protect bees and increase awareness towards their importance.

Note: Although the bee disappearance is a global problem, it might be that your community is actually aware of the problem and taking measures to address it. If so, than maybe you could focus your following work on finding solutions that you can share with your colleagues from other islands. Use nice examples from your community and involve your community in this process.

---

1. Learning causes to find solutions

The best way to discover an answer to a question is by using the scientific method. Do you know what this is?

Now you will visit an online platform where you will go through a scientific research to discover what may be causing the disappearance of bees and what solutions can be found for the problem.

Choose a username (nickname) to enter the activity and write it down somewhere you can easily find it so that you don't forget it. You can leave the platform and login again as many times as you want. But always use the same nickname so that you can return your work.
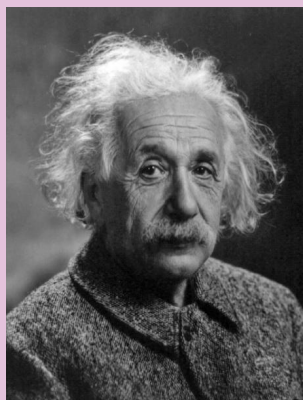
Important note: since you have already learned about the concepts, you can ignore the first part of the activity and begin the in the "Be a scientist and make your hypothesis" section.

After you finish the activity register here what were your questions, hypothesis, what experiment you made, and what conclusions you reached. Also, make sure you add any graphics of your work here.

Click here to begin

-
-
-

Did you finish? Great job! Did you feel what is like to be a scientist? Like [Marie Curie](#), or [Albert Einstein](#), for example? :)

… Looking back to what you have learned so far

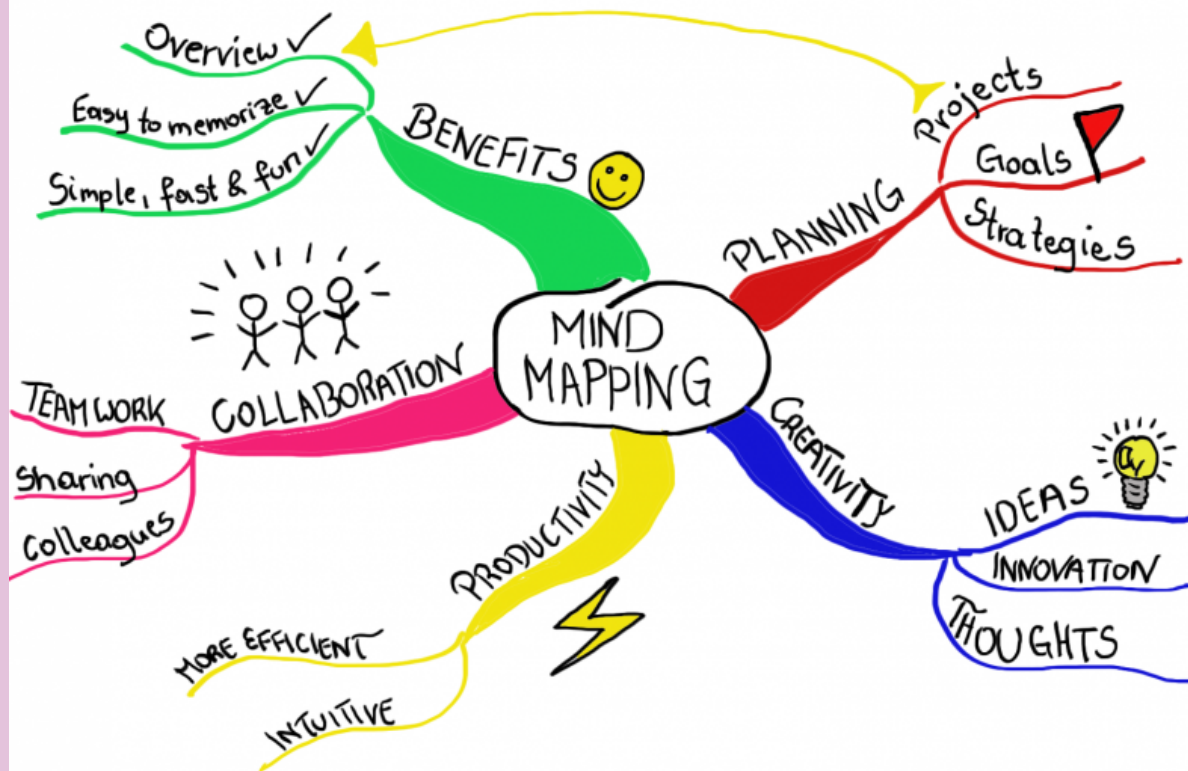## 2. Solutions for my community

Thinking about solutions to a general problem is one thing, however, discovering real, practicable and applicable solutions for a problem in one specific community .. this can be a bit trickier. But it is exactly what we want to do.

Think about your community. Go back to the interviews you made and the conclusions you reached. In your interview you asked people about what they would be willing to change in order to protect the bees. This can be a starting point in developing real solutions that your community could adopt.

When you meet your family today, talk to them about this question .. what do they think? Ask your parents, grand-parents, teachers, friends, anyone you can think of about how, together, you could solve the problem. Ask your teacher if you can invite an expert to your school or if together you can visit an expert in this field who can help you to reach the best solutions for your community.

You can create another set of interviews and make another community research, go in the field, and discover the best possible solutions for your community.

You can create a mind-map to help you organize your ideas. Write your question in the centre and then all the solutions around it. Make connections between the solutions and then think of ways they could be implemented. Vote as a team on the best and most effective solutions.

Register here all the process with pictures of the mind-map, all the ideas, etc.

NOTE 1: when thinking about possible solutions to be implemented in your island, please pay very good attention to your community members. Don't just think of solutions that you would be willing to implement but think about them and what they are capable of, how they would feel, how could you convince them. Otherwise your work will not be as relevant as it could. The same thing applies when helping colleagues from other islands. Read their data carefully and understand the level of awareness of their community members and what their answers mean. Try seeing the world from their point of view.

NOTE 2: if, as mentioned before, your community is already presenting an excellent behavior toward bees, investigate why such good behavior appeared. Was there some change-maker before you working on this problem? How did you community become so aware? This are important questions to address when trying to take the example to other communities.

After you have thought of all the possible solutions and involved all the people you could think of in this process, go to the "create" phase where you will think about what you can create for your community in order to help them implement such solutions.

You have done a great and important work so far. However, all that you have done has only prepared you for the most relevant part of your project which is to create something to share your new knowledge with your community.

1. Decide what will be created

Now that you have decided what are the best solutions for the problem, you need to start thinking about how you are going to share this information with your community and how you will convince them to implement the solutions.

Here, the options are unlimited. There are so many things that you can do, that it is impossible to narrow them down here. All that you have to think is that, whatever you do, needs to be in line with the needs of your community.

Gather with your colleagues and in class discuss about the solutions you have chosen to share with your community. It is more productive if different groups work on different solutions and different creations so that you can complement each other's work.

Think about what your community likes ... is your community a fan of theatres? Maybe you can create a theatre presenting the problem and the solutions to the community. Do they like to go to museums and exhibitions? Maybe your school can organize a fair or an exhibition where you can show your work and raise awareness. Maybe you can create a flyer in recycled paper or another biodegradable and eco-friendly material and spread it around your community. You can make a series of drawing

portraying what the community should do.

Think if there are members of your community and experts that could help you decide what to create and participate in this process.

Discuss all of this with your colleagues and teachers and settle your path! Be brave enough to do the most amazing thing you can think of!

Note: again, if you have decided that your community is already a good example and doesn't need an awareness campaign, maybe you can create something to share with your colleagues from other communities who are in need of such good example. You can communicate with them through the globallab platform or ask your teacher to arrange an online meeting between the two classes. You should also, anyway, create something for your community, letting them know that they are a good example, congratulating them for their good practices.

If you are in need of inspiration, click here to see a nice example of an important action that is creating an important chenge.

Check how to make a bee hotel here.

---

2. Plan

Once you have decided what you will create, its time to plan!

What will you need? how much time will you spend? Write down a complete design considering all the aspects of your creation.

Don't be afraid to make any mistakes. If you fail, give yourself the chance to try again and amend it.

---

3. Create

It's time to create! Finally all your hard work will be transformed into something amazing and very important for your community.

Invite your family and community members to help you in your creation. Make them part of this project and allow them to feel that they have also contributed for this important work.

Register your work here, taking pictures of the process and explaining what you are doing and why you are doing it that way.

Good luck explorer!

After you finish go to the "share" part of your project.

Congratulations for completing your community project! It is time to share your work! Good luck.

1. Decide how you will share

Now, this step is completely dependent on what you have created. However, think carefully about how you will share it with people. Will you invite your community to your school? Will you go to your community? Do you need to make invitations? Can you disseminate your work through social media?

Discuss with your colleagues and your teachers what is the best way to share your work. Plan what is the best strategy.

2. Share

Share and be an inspirational model

Now it is time for you to share what you created. Take pictures, videos, and all records you can. You can even collect testimonies from your community members about what they think of your creation and add them here to your project.

Remember that people from your community might have several questions to which you should be prepared to answer. Such as:

Why did you work on this project? Why is this work important? What is the impact you expect to have with your project? Are there any immediate effects that you can already observe? Who benefits from it? Can anyone participate and suggest improvements? How was the school and the community involved in this project?

Be patient, open and inspiring. Remember that many people might not know what you do, and some won't even be open to change, which is a natural behavior of our species (and many others). One step at a time and with a positive attitude you will make the difference.

3. Wrap it up

Describe here your results, the highlights and your main difficulties throughout the whole process (and how you overcame them). Would you have done something different? Would you like to continue?

Add here all the records you have from when you shared your creation with your community.

Download this project and distribute it to your colleagues, either in paper or digital format. Make it worth reading!

Remember that if someone reads your project, this person might have no idea about the problem, the importance of it, the causes, solutions, etc, so, make sure that in each section "feel, imagine, create and share" you add all the relevant information about the problem and about your work.

4. Open way for future projects

If you were going to keep working on this project, what would you do next? What would be the next steps to further resolve the problem?

Write here your ideas so that someone who reads your project can, maybe, be convinced to create a project with this one as inspiration and keep changing the world as you did ;)

5. Be proud of your work … and