

# MODULE: *Photosynthesis and Respiration*

## Activity Sheet 1.5: Preparing your presentations

Throughout your preparations, remember what your original challenge was:

to use your knowledge of photosynthesis and respiration and the development of a synthetic leaf to develop a self-sustaining life support system for space travel.

It is important that you make this the theme for your presentations, and that you do not just talk about the science you have just learned.

### Getting started – what are you going to talk about?

You need to make sure you understand everything you have been studying about photosynthesis and respiration.

Look back at the beginning, when you were set the task, and start to relate your scientific knowledge to the presentation you are preparing.

You are working in a group, so you need to work as a team. In any sport that involves a team, like football, people are more successful if they work as a team, not a lot of individuals. This means different people have different jobs, and it's important to work out who is best suited to which job. It's also important for everyone in the team to understand that every single job is valuable in its own way, and every member of a good team has a key role to play.

### What is a successful talk?

Imagine you are in the group giving a talk. You want it to be a success. What effect do you want to have on the audience?

- A. Make them pay attention.
- B. Keep them interested.
- C. Teach them something.

## Step 1: Research

What information do you need?

You now have most of the information you need to start preparing your talk and your poster, but you may want to find out more. Set yourself a time limit for your research, to ensure you have enough time to actually produce your talk and poster.

Choose your messages

Be selective rather than trying to say everything you know. People attending a talk usually only remember a few things from it, so it's best to choose just three or four of the most important things and cover them well.

You may find the other information you have comes in handy to answer questions, or you can use it in your poster. No research is ever wasted.

## Step 2: Plan

Your plan will outline what you're going to say and the order in which you are going to say it. A plan makes it easier to give the team members the best jobs for them to do. And if you stick to your plan, your talk is more likely to be a success.

A talk, like a story, has three main parts – a beginning, a middle and an end. So your plan should have the same three parts. Write your notes for each part on a separate page.

Plan for 'the beginning'

(Timing: about 1 minute for a 10 minutes talk)

- It's a good idea to say in a couple of sentences what the talk is about.
- How will you grab the audience's attention from the start? You could ask a question, or give a surprising fact, show an interesting object or picture, or carry out a demonstration.

Plan for 'the middle'

(Timing: 3 - 8 minutes for a 10 minutes talk)

- How can you make the audience remember your talk?
- You can use your poster to support your talk as well as any slides you have made.

Plan for 'the end'

(Timing: 1 minute for a 10 minutes talk)

- Suggest what other research could be done in your topic.
- If it's a topic which will change in the future, try to predict how.

### Step 3: Show

What do I want to achieve?

- A successful talk means holding the audience's interest. To do this you need to provide variety. If you were at a talk, would you prefer to hear 10 minutes of talking by itself, or see pictures and demonstrations too?
- An audience can relate more easily to something they can see. Pictures, demonstrations, slides, etc. are known as 'audio visual', or AV, support for a talk.
- In your plan, mark sections where you think AV would help.

Are you trying to ...	Why not ...
... describe a difficult topic?	... produce a simple diagram, role play, model or prop (object)?
... show a pattern in your results?	... produce a graph, chart or table of results?
... show how an experiment works?	... do a demonstration or show a video? ... get the audience to help you to do an experiment*?

\*check the safety risks of any experiment with your teacher

### Computers and presentations

- With software like PowerPoint you can add photos, music and even video to your text.
- In such multimedia presentations it's tempting to use loads of colours, designs and effects – **Don't do it!** the audience will find it distracting. Good design is simple design; for example, it looks better to keep the same basic background layout for each slide.
- Make sure you can still do your presentation if the computer crashes - print up some handouts of your presentation for your audience beforehand.

#### Step 4: Write

- It's time to turn the notes you made in your plan into sentences and paragraphs. This will be your 'script'.
- The hardest part is often how to explain the science in your topic or experiment clearly.

There are three basic rules:

- **Rule 1** – Keep it simple – assume your audience knows nothing about the topic.
  - **Rule 2** – Make the unfamiliar familiar (many people don't know what an atom is like, but they'll understand better if you say it's a bit like a fuzzy golf ball).
  - **Rule 3** – Explain **all** scientific words you use.
- Scriptwriting, even for a 10-minute talk, can take several days, so it's easier if each team member writes a different section. If you leave spaces between each line of text, it'll be easier to make changes. Then you can swap the sections, and make changes if you get general agreement on them..
  - You will probably find you will need to write several drafts before all the team members are happy with the script.
  - A good test is to read it aloud someone else and see if it makes sense to them. It's important to do this in order to check your timings, as well.
  - You have finished the script and you are all happy with it. Do you just read it out on the day? **NO!** - because to keep the audience interested you need to look at them while you are talking.
  - So instead of a script, presenters often use 'cue cards' with key words on them. They jog the memory if you forget what you should say next, and you can still spend most of your time looking at the audience. (Bullet points on PowerPoint slides can work in the same way – but never just read out what's on the screen, because that would feel like a reading lesson and the audience would quickly lose interest.)

## **How to make cue cards**

Get some index cards or plain postcards – they're easier to hold than pieces of paper. You will need to have:

**1 card for the beginning part**

**1 card for each section of the middle part**

**1 card for the end part.**

- On each card, write the first few words of every paragraph of the script. Add other important points. Make sure the writing is big and clear enough to read at a swift glance.
- Mark places where you will be using AV and any places where one speaker hands over to another.
- Put the cards in order. Then number them in case they get mixed up.
- Make a copy for each member of the team.

## **Step 5: Practise**

The way to learn your talk is to practise with your script and cue cards.

Try to remember the main points of what you want to say – but not the exact words. What you say should be slightly different each time you practise, so in the end your words will flow easily, and your talk will sound natural.

## Dos and Don'ts of Poster Presentations

### Poster layout and format

- **DO** make your poster in a number of separate sections which are all about the same size. Mount each piece on a coloured background, slightly larger. This frames each segment and creates a versatile poster that will attract attention.
- **DON'T** write an overly long title, but ...
- **DO** keep it short and on target.
- **DON'T** make the title type size too large or too small, but ...
- **DO** make your title large enough to be read from 25–50 feet.
- **DON'T** leave people wondering who did the work, but ...
- **DO** include the names of everyone involved.
- **DON'T** use too small a font size – never use 10- or 12-point, but ...
- **DO** use a font size that can be read from, say, four feet away. Think of 14-point being suitable for only the fine print, and work your way up from there. For most of the text, 20-point is about right. Not enough space for the text? Make the text shorter.
- **DON'T** pick a font that is difficult to read.
- **DO** use a high quality printer to print your poster.
- **DON'T** vary the type sizes and fonts too much. One (carefully chosen) font for titles, and one simple font for text is what professional designers use.
- **DO** design your poster as if you were designing the layout for a magazine or newspaper. Strive for consistency and a clean, readable look.
- **DON'T** make your reader jump all over the poster area to follow your presentation, but ...
- **DO** lay out the poster segments in a logical order.

## Poster Content

- **DON'T** write your poster as a long essay, but ...
- **DO** break up your poster into sections. Show graphs, pictures, photos, illustrations, etc. in context and label them.
- **DON'T** expect everyone to spend a long time reading your poster, so ...
- **DO** make sure you cover all the points very clearly. Your poster must explain
  1. the scientific problem,
  2. how your work addresses this problem,
  3. what you did,
  4. what you found out, and
  5. your conclusions.
- Be brief, and always stay on point.
- **DON'T** leave out acknowledgments and references.