



Worksheet: Soft landing

Step 1

Explain in your own words; what's the problem?



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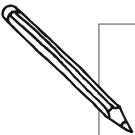
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Now you go outside, to do research!

Walk across the schoolyard and look for dandelions. If they are still blooming, they are yellow. When they have finished flowering, they turn into familiar bulbs with white fluff. Do not blow the fluff ball yet, we'll do that later!

Take a good look at the fluff bulb and draw it in the left box.

Remove one little fluff and check it out well. Make a drawing in the right box.





What hangs at the bottom of the fluff?



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What happened to the fluffy dandelion ball?



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Blow against the fluff ball and follow their fluff. Keep track of how long it takes for the fluff to land.



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How long did it take for the fluff to land on the floor?
How far were they?



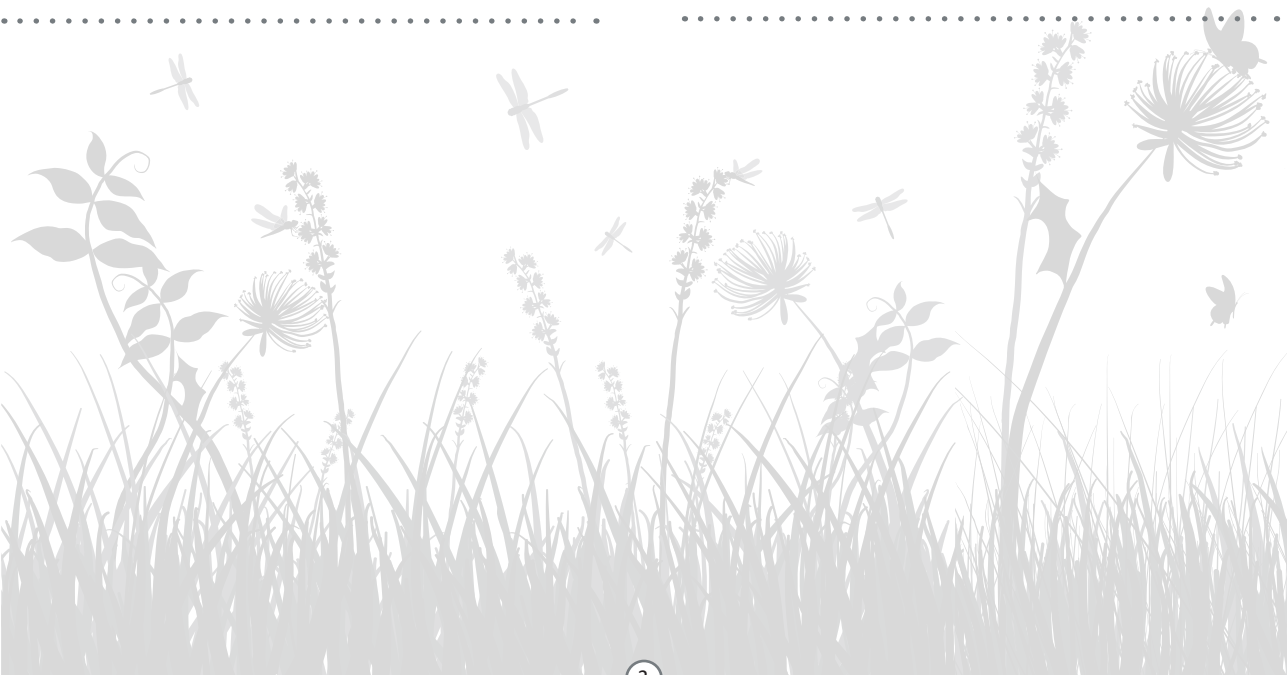
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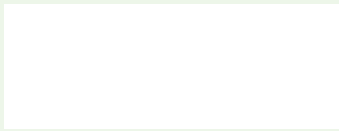
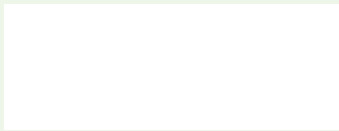
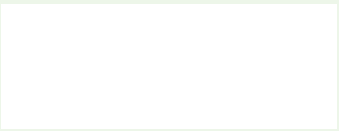
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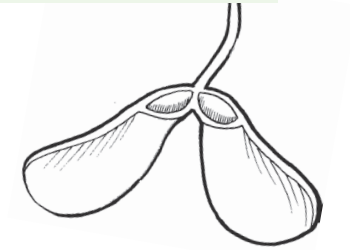
Look for 3 other seeds. Pick them up and make a drawing in the table below. How long does it take before they fall to the ground? Drop them and count the seconds!

	Seed 1	Seed 2	Seed 3
Drawing			
 Time before he falls to the ground			

Which seed has remained in the air for the longest Put an arrow next to this seed.

Which seed has come the furthest?

- seed 1
- seed 2
- seed 3



What causes these differences do you think?

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Why does a plant actually make seeds?

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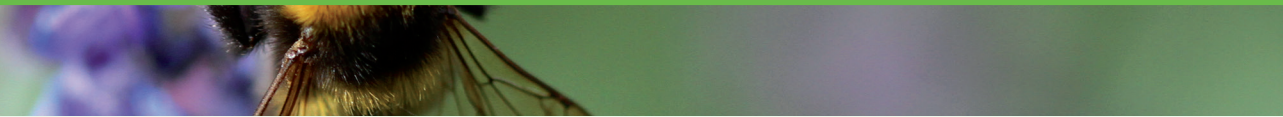
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The seeds of a plant do not necessarily need to fall softly. With seeds, it is especially important that they get far away. Why is that important?

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Do you also see animals that fly? How do they stay in the air?

Flying animal 1

Stays in the air:

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Flying animal 2

Stays in the air:

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Draw the animals here. Pay attention to the ratio of the wings to the body in the drawing. Are the wings very large compared to the rest of the body? Or are they very small? Draw them here.

Flying animal 1



Flying animal 2



Ready? Now go back in again.

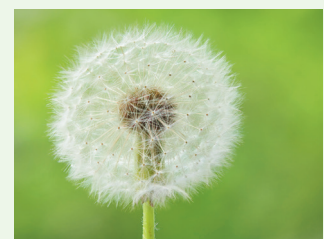


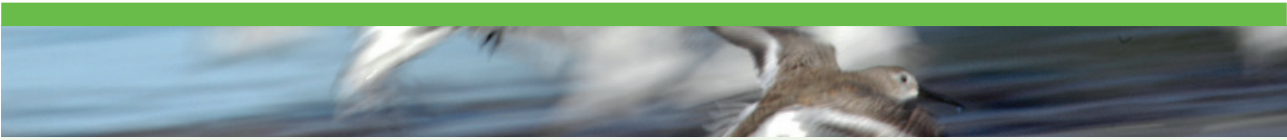
Organize

You have just researched outside how animals and plants float through the air. Which solutions did you find outside? Write them in the table. You can think of different solutions to the problem. Soon you will make a design yourself and then carry out this design. That is why it is important to consider which of these solutions you could make yourself with the craft supplies in the classroom. You can fill that in the last column.

Solutions	Which plant or animal does this also?	Does this solution work well?
		😊 😐 😞
		😊 😐 😞
		😊 😐 😞
		😊 😐 😞
		😊 😐 😞
		😊 😐 😞
		😊 😐 😞

What do you think is the best solution? Put a small arrow in front of it.
Now take a good look at the object of which you must ensure that the other children stay away from. Which solution can you use best for your item?
Put a big arrow in front of it.





Step 2

Create a design

Make a drawing of your solution. This is your design. Write down which stuff you need. Also think of tools. Discuss your design with the teacher or master.

Design drawing

We need this:

	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
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Step 3

Build

Now you can start making your own design. When you have finished building you can look at the design again. Do you see something that you would like to improve?

Step 4 & 5

Testing & presenting

Now you will test all solutions. View the solutions of the other groups. Fill in the table.

Which plant or animal does this solution think? Do you recognize an animal or plant in it?	Does this solution work well?	Could you make this solution even better? If so, how?
.....	☺ ☹ ☹
.....	☺ ☹ ☹
.....	☺ ☹ ☹
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Step 6

And now?

You have now seen several solutions. Would you like to change your own design? If so, how?

[Large empty rectangular box for writing answers to the 'And now?' question.]

Are there other things that you want to research or design now? If so, what?

[Large rectangular box with horizontal dotted lines for writing answers to the second question.]

