

Content

- Young sunflowers turn toward the sun
- Sunrise, sunset, the cardinal directions

Target group

- Children ages 8 to 12
- Level: A1+/A2

Language goals

The children will be able to

- Understand a short (technical) film
- Find precise information in a text
- Understand a short text on the topic and differentiate between correct and incorrect sentences
- Expand their passive and active vocabulary
- Understand technical terminology in context
- Understand and answer simple questions on the topic
- Formulate their ideas/opinions using simple verbal tools
- Use and develop learning strategies (use pictures as a learning tool, make conjectures, correctly spell words)
- Reformulate simple information in short sentences
- Act out a film plot
- Understand and follow instructions

Word bank

Sonnenblume (sunflower), *Blütenkorb* (flower head), *Blütenblätter* (petals), *die Sonnenblume dreht sich nach der Sonne* (the sunflower turns toward the sun), *die Sonne geht im Osten auf* (the sun rises in the east), *die Sonne geht im Westen unter* (the sun sets in the west), *im Norden* (in the north), *im Süden* (in the south), *im Westen* (in the west), *im Osten* (in the east), *am Morgen* (in the morning), *am Abend* (in the evening), *in der Nacht* (at night), *die Pflanze dreht sich nach Westen/nach Osten* (the plant turns toward the west/east), *die Pflanze richtet sich auf* (the plant straightens itself up), *Sonnenuntergang* (sunset), *Sonnenaufgang* (sunrise), *die Blütenkörbe bewegen sich* (the flower heads move), *gelbe Zungenblüten* (yellow ray florets), *braune Röhrenblüten* (brown disk florets), *Stängel* (stem), *Wurzel* (root), *Blatt* (leaf)

Materials

- Laptop and projector
- Audio speakers
- Blackboard and chalk/whiteboard and markers
- Magnets/blu-tack
- 1 cardboard circle (see photo)
- 9 petals made of yellow cardboard with letters on them (see photo)
- Large sheet of paper
- Glue
- Green pencil and other colored pencils
- Compass
- Sun made of yellow cardboard paper
- Students' workbooks
- Students' portfolios

Materials for printing and/or copying

- *Cardinal directions* (Himmelsrichtungen) word cards
- *Parts of a sunflower* (Teile der Sonnenblume) word cards
- *How do young sunflowers follow the sun?* worksheet
- *How do young sunflowers follow the sun?* answer key
- *Do sunflowers turn toward the sun?* worksheet
- *Do sunflowers turn toward the sun?* answer key
- My word bank sheet *Sunflowers* (Sonnenblumen)
- *Now I know* (Ich kann schon) questionnaire

Duration

2x45 minutes

Before the lecture/film

Step	Content	Materials
1	<p>Instructor welcomes the children and places the cardboard circle on the teacher's desk. Instructor hands out the petals with the letters of the word <i>sunflower</i>.</p> <p>The children arrange the petals around the brown circle so that they spell the word <i>sunflower</i>.</p> <p>Instructor and children glue the finished flower onto a large sheet of paper so there is still room for <i>roots</i> (Wurzel), <i>stem</i> (Stängel) and <i>leaves</i> (Blätter). The children look at pictures on the internet of real sunflowers (if possible, the instructor brings a real sunflower to decorate the classroom with) and complete the picture based on what they see.</p>	<p>1 cardboard circle; 9 petals made of yellow cardboard with the letters of the word <i>sunflower</i>; Large sheet of paper; Glue Colored pencils (see photo)</p>
2	<p>Instructor hangs the sheet of paper with the finished sunflower on the board and attaches, with the children's help, the word cards to the appropriate locations on the picture: the root / the stem / the flower head / brown disk florets / yellow ray florets / the leaf.</p> <p>Instructor explains to the children that the delicious and useful sunflower seeds are made from the brown disk florets in the middle of the flower head, and also explains that sunflowers were brought by Spanish sailors from the Americas to Europe in the 16th century and that they were only used as decorative flowers at first. Not until the 17th century was it discovered that the sunflower seeds are edible and useful. It took another 200 years to begin making oil by pressing the seeds. For more on this: https://de.wikipedia.org/wiki/Sonnen-blume#Herkunft</p> <p>The children draw a sunflower in their workbooks, write down the names of the different parts and take notes on the history and use of sunflowers with the help of the instructor.</p>	<p><i>Parts of a sunflower</i> (Teile der Sonnenblume) word cards; German workbooks; Blackboard/whiteboard; Magnets/blu-tack</p>

3	<p>Instructor asks the question: <i>Do you know why this flower is called a sunflower?</i> The children share their ideas: <i>They are yellow like the sun / They have the same shape as the sun / The ray florets are like sunbeams, etc.</i> Perhaps also: <i>They turn toward the sun.</i> If the children do not come up with this idea, the instructor suggests it and asks the question: <i>They say that sunflowers turn toward the sun. Do you think that is true? Who says yes? And who says no? Let's vote!</i> Instructor records the results on the board and suggests that they check the answer by watching the film.</p>	Blackboard and chalk/whiteboard and markers
---	---	---

During the lecture/film

Step	Content	Materials
4	<p>Instructor writes the question on the board: <i>Do sunflowers actually turn toward the sun?</i> and invites the children to watch the first part of the film until <i>"In the evening they're still facing the same direction as in the morning."</i> (Minute 0:49) : Instructor asks: <i>What's the answer? Do sunflowers turn toward the sun?</i> They are now able to answer the question: <i>No, they do not.</i></p>	Blackboard and chalk/whiteboard and markers; Laptop and projector; Audio speakers
5	<p>Instructor says: There's more to the film. In other words, there's more information on this question. Do you know what this is about? The children make conjectures as a group. Instructor records them on the board.</p>	Blackboard and chalk/whiteboard and markers
6	<p>The children watch the second part of the film and try to understand the contents.</p>	Laptop and projector; Audio speakers
7	<p>After the film they check their conjectures and determine with the help of the instructor: <i>The flower heads do not turn, but young sunflowers turn toward the sun.</i></p>	
8	<p>Instructor asks: <i>What does it mean that they turn toward the sun? What does the sun do?</i> The children answer the question, the instructor helps them to formulate their answer: <i>The sun comes up in the morning and goes down in the evening.</i></p>	

9	<p>Instructor asks: <i>Where does the sun go up? And where does it go down?</i></p> <p>Instructor paints a diagram like that on the following webpage: http://www.wo-geht-die-sonne-auf.de/img/verlauf.png on the board and writes: The sun rises in the east. The sun sets in the west. The children record the diagram in their workbooks.</p>	<p>Blackboard and chalk/whiteboard and markers Workbooks and pencils</p>
10	<p>Instructor takes out a compass. The children gather around and determine together where in the classroom <i>east</i> and <i>west</i>, and <i>north</i> and <i>south</i> are located. They hang the appropriate signs on the walls.</p> <p>Instructor explains the following game to the children: <i>When I shout sunrise, you run to the sign where the sun rises in the morning. When I shout sunset, you go to the sign where it sets. When I shout polar bear, you go where polar bears live and when I shout penguin you go to their habitat.</i></p> <p>At the end the instructor and the children discover together: <i>The sun rises in the east and sets in the west. Polar bears live in the north and penguins in the south.</i></p>	<p>Compass; <i>Cardinal directions</i> word cards; Blu-tack</p>
11	<p>Instructor asks the question: <i>Do you know what sunflowers do at night?</i> If the children cannot remember or did not hear this information, the appropriate sequence can be shown again and discussed. Then the instructor hands out the <i>How do young sunflowers follow the sun?</i> worksheet. The children write down their answers and compare their responses in pairs.</p>	<p><i>How do young sunflowers follow the sun?</i> worksheet</p>
12	<p>Instructor says: Now we are all young sunflowers and are imitating their movements over the course of a day. The instructor and the children discuss the appropriate choreography. A possible example: the children stand like sunflowers in a field and turn toward the sun. One child is the sun and moves accordingly. One children directs the game by saying: It is 5 AM. It is 10 AM etc.</p> <p>Note: Quiet background music makes the game more fun (YouTube).</p>	<p>Sun made of yellow cardboard paper; Laptop and projector (opt.); Audio speakers</p>

During the lecture/film

Step	Content	Materials
13	<p>Instructor hands out a worksheet with statements. The children underline the correct words, discuss their answers in pairs and then correct their work with the answers hung up throughout the classroom.</p>	<p><i>Do sunflowers turn toward the sun?</i> worksheet</p>

14	Instructor asks the children to draw the head of a sunflower with 9 large petals on their <i>word bank sheet</i> and to write 9 interesting and important words or expressions that they consider important on the petals. Instructor helps if necessary.	My word bank sheet <i>Sunflowers</i> (Sonnenblumen)
15	Instructor and children end the unit with a reflection round, in which they discuss what they have learned. Each child then fills out the <i>Now I know</i> (Ich kann schon) questionnaire to find out whether they have achieved the learning objectives. Instructor also gives feedback on student performance.	<i>Now I know</i> (Ich kann schon) questionnaire
16	The children hold onto the following in their portfolios: <ul style="list-style-type: none"> - <i>How do young sunflowers follow the sun? / Do sunflowers turn toward the sun?</i> worksheets - My word bank sheet <i>Sunflowers</i> (Sonnenblumen) - <i>Now I know</i> (Ich kann schon) questionnaire 	Portfolios

Further ideas for subject matter or CLIL teaching (biology, healthy eating, art, technology):

- from the seed to the flower to the seed - illustrate the life of a sunflower (for example on a large sheet of brown paper)
- organize a sunflower party, at which the group roasts and eats sunflower seeds together
- follow the track of sunflower oil - visit an oil press, watch how an oil press functions, discover different plant-based oils, specifically sunflower oil
- learn more about time-lapse cameras and create one's own time-lapse (for example of the sunset)

Suggestion for the children at the end of the learning scenario

At the very end, the children gather around a computer or the instructor projects a computer desktop onto a screen. They look at the home page of the German Digital Kinderuniversität together. The instructor explains to the children that they now have completed the *Sunflowers* (Sonnenblumen) lecture in the *Nature* faculty together and draws their attention to the fact that there are many more interesting lectures in this faculty and in the *Technology* and *Humankind* faculties.

The instructor and the children click together on the At Home link and discover how the website works. As an example, the instructor logs in and goes to the lecture that they just worked through.

The instructor shows the children that the lecture begins with an introduction by Professor Einstein and Ms. Schlauf and that their work is supported by Jowo and Christoph, the field researcher. Professor Einstein and Ms. Schlauf also wrap up all the lectures and thereby frame the work on each theme.

The instructor explains to the children that they can re-watch the film at home and can even set the subtitles to German or English. That way, they can “catch” key words while watching and use these to collect points and solve three exercises and a bonus exercise on the film. The children can also get help from their parents or grandparents, from registering to solving the exercises. The whole family can have fun learning and everyone gradually becomes a professor at the Kinderuni.