Attachment 2: Adapted version of the NinU-Raster that is specific for the lesson plan (fields marked in green to highlight frequency of use in the adaptation of the lesson plan; darker green means more frequent use)

	A. Reasoning about science-related contexts	B. Learning scientific content	C. Doing science	D. Learning about science
	Context: Lactose Intolerance	Content: Sugar (example Lactose); enzyme function	Doing science: observation and experimentation	Learning about science: interpreting results and understanding the implications of those results
I. Embrace diversity	1. Which **aspect of lactose intolerance** stimulating and relevant for all learners?	1. Which **knowledge about sugars and enzyme function** is relevant for all learners?	1. Which **processes and procedures (e.g. making observations and conducting experiments)** are relevant for all learners?	1. Which aspects of **interpreting results and understanding the implications of those results** are relevant for all learners?
	2. Which dimensions of diversity play a role in **reasoning about lactose intolerance**?	2. Which dimensions of diversity play a role in **learning about sugars and enzyme function**?	2. Which dimensions of diversity play a role in **making observations and conducting experiments**?	2. Which dimensions of diversity play a role in **interpreting results and understanding the implications of those results**?
	3. Which individual conceptions, skills and beliefs of learners are related to **reasoning about lactose intolerance**?	3. Which individual conceptions, skills and beliefs of learners are related to **learning about sugars and enzyme function?**	3. Which individual conceptions, skills and beliefs of learners are related to **making observations and conducting experiments?**	3. Which individual conceptions, skills and beliefs of learners are related to **interpreting results and understanding the implications of those results?**
	4. Which knowledge, skills and experiences of learners can be seen as resources for **reasoning about lactose intolerance?**	4. Which knowledge, skills and experiences of learners can be seen as resources for **learning about sugars and enzyme function**?	4. Which knowledge, skills and experiences of learners can be seen as resources for **making observations and conducting experiments**?	4. Which knowledge, skills and experiences of learners can be seen as resources for **interpreting results and understanding the implications of those results**?
II. Recognize barriers	1. What are barriers and/or challenges for learners when **reasoning about lactose intolerance?**	1. What are barriers and/or challenges for learners when **learning about sugars and enzyme function**?	1. What are the barriers and/or challenges for learners when **making observations and conducting experiments**?	1. What are barriers and/or challenges for learners when **interpreting results and understanding the implications of those results**?
III. Enable participation	1. How can **reasoning about lactose intolerance** be made accessible to all learners?	1. How can **learning about sugars and enzyme function** be made accessible to all learners?	1. How can **making observations and conducting experiments** be made accessible to all learners?	1. How can **interpreting results and understanding the implications of those results** be made accessible to all learners?
	2. How can the existing resources be used to overcome the barriers or challenges when **reasoning lactose intolerance**?	2. How can the existing resources be used to overcome the barriers or challenges when **learning about sugars and enzyme function**?	2. How can the existing resources be used to overcome the barriers or challenges when **making observations and conducting experiments**?	2. How can the existing resources be used to overcome the barriers or challenges when **interpreting results and understanding the implications of those results**?
	3. How can all learners be actively engaged when **reasoning about lactose intolerance**?	3. How can all learners be actively engaged when **learning about sugars and enzyme function**?	3. How can all learners be actively engaged when **making observations and conducting experiments**?	3. How can all learners be actively engaged when **interpreting results and understanding the implications of those results**?

	4. How can (all) learners be encouraged to co-construct and collaborate when **reasoning about lactose intolerance**?	4. How can (all) learners be encouraged to co-construct and collaborate when **learning about sugars and enzyme function**?	4. How can (all) learners be encouraged to co-construct and collaborate when **making observations and conducting experiments**?	4. How can (all) learners be encouraged to co-construct and collaborate when **interpreting results and understanding the implications of those results**?
	5. How can all learners be individually supported when **reasoning about lactose intolerance**?	5. How can all learners be individually supported when **learning about sugars and enzyme function**?	5. How can all learners be individually supported when **making observations and conducting experiments**?	5. How can all learners be individually supported when **interpreting results and understanding the implications of those results**?