Scoring Scheme: Measuring Environmental Knowledge and Connection to Nature; A Games Testing Tool for Preschoolers (3-5-year-olds)

Section 1: Environmental Sensitivity

Game 1A
"Can (ex. a tree) get hurt"
Answer = "yes" or "no"
*Looking for the children to understand that the environment can be damaged or "hurt", so in this case yes = higher connection to nature

Picture	Answer/Score
Tree	Y/1
Chicken	Y/1
Bike	N/0
Bird	Y/1
Reindeer	Y/1
Airplane	N/0
Cut Down Tree	Y/1
Car	N/0
Fish	Y/1

Game 1B
Ask the child to place a happy or sad face on each image
Answer = "happy" or "sad"
*Pairing the "sad" face with water pollution or "dirty water" is considered higher connection to nature and cleaning up the environment is also considered higher connection to nature
*Pairing the "happy" face with water pollution would result in a low connection to nature score for that item

Picture	Answer/Score
Dirty Water	Sad/1 or Happy/0
Dirty or Smoky Air	Sad/1 or Happy/0
Watering Plants	Happy/1 or Sad/0
Dirty Ground	Sad/1 or Happy/0
Cleaning Up	Happy/1 or Sad/0
Cutting Down Trees	Sad/1 or Happy/0
Dirty or Smoky Air	Sad/1 or Happy/0
Planting a Tree	Happy/1 or Sad/0
Plastic on the Ground	Sad/1 or Happy/0

Section 2: Environmental Awareness

Game 2A
Ask the child to match pictures from list 2 with the picture in list 1
*This game should be analyzed where "Money" and "Truck" are considered as incorrect answers/lower connection to nature

*You can also analyze this with "Money" and "Truck" as correct answers for an interesting comparison

Picture	Answer/Score
Picnic Table	Wood/1 or Any other answer/0
Eggs	Chicken/1 Money or Truck/0 Any other answer/0
Tuna can	Fish/1 Money or Truck/0 Any other answer/0
Carrots	Garden/1 Money or Truck/0 Any other answer/0
Glass of milk	Cow/1 Money or Truck/0 Any other answer/0
Tap water	River/1 Money or Truck/0 Any other answer/0
Wool hat	Sheep/1 Money or Truck/0 Any other answer/0
Paper	Wood/1 Money or Truck/0 Any other answer/0
Blueberries	Garden/1 Money or Truck/0 Any other answer/0

Game 2B
Part 1
Ask the child to explain the action happening in the pictures in List 1
*This game has no right or wrong answers and is scored in terms of participation.
*This game is used to gain and understanding of the children's outlook on environmental issues and help explain their answers throughout the rest of the games.
*If you want to score this game, then focus on key words (i.e., the child saying that dirty of smoky air is "bad" or "sad")

Picture	Answer/Score
Dirty or Smoky Air	Looking for the child to say that this is "sad", "bad", or explain that this is air pollution in any way Scored as a 1 if they indicate any of the outcomes above. If the child says "I do not

	understand" or is unable to answer, then it should be scored as a zero.
Dirty Ground	Looking for the child to say that this is "sad", "bad", or explain that this is ground pollution in any way Scored as a 1 if they indicate any of the outcomes above. If the child says "I do not understand" or is unable to answer, then it should be scored as a zero.
Dirty Water	Looking for the child to say that this is "sad", "bad", or explain that this is water pollution in any way Scored as a 1 if they indicate any of the outcomes above. If the child says "I do not understand" or is unable to answer, then it should be scored as a zero.
Cutting Down Trees	Looking for the child to say that this is "sad", "bad", or explain that this is deforestation in any way Scored as a 1 if they indicate any of the outcomes above. If the child says "I do not understand" or is unable to answer, then it should be scored as a zero.

Part 2
Ask the child if the actions in List 1 can hurt the items in List 2
*Similar to game 1 for scoring and answers "Can the "animal" get hurt by "dirty air"
*Note the answers for car are different

Picture	Answer/Score
You	Dirty or Smoky Air – Yes/1 or No/0 Dirty Ground – Yes/1 or No/0 Dirty Water – Yes/1 or No/0 Cutting Down Trees – Yes/1 or No/0
Animal	Dirty or Smoky Air – Yes/1 or No/0 Dirty Ground – Yes/1 or No/0 Dirty Water – Yes/1 or No/0 Cutting Down Trees – Yes/1 or No/0
Car	**Dirty or Smoky Air – Yes/0 or No/1** **Dirty Ground – Yes/0 or No/1** **Dirty Water – Yes/0 or No/1** **Cutting Down Trees – Yes/0 or No/1**
People	Dirty or Smoky Air – Yes/1 or No/0 Dirty Ground – Yes/1 or No/0 Dirty Water – Yes/1 or No/0 Cutting Down Trees – Yes/1 or No/0

Forest	Dirty or Smoky Air – Yes/1 or No/0
	Dirty Ground – Yes/1 or No/0
	Dirty Water – Yes/1 or No/0
	Cutting Down Trees – Yes/1 or No/0

Environmental Preferences

Game 3A and 3B
*These games should be quantitatively analyzed
*If children want to play more in nature (farm, backyard, forest, playground, and street) this equals higher connection to nature. If they answer that they want to play more modern environments (inside) this equals lower connection to nature
*In Game 3B, if children say they do not like to play in the forest then that equals lower connection to nature
*In the past, I've analyzed this based on participant answers for example, 6/12 participants like to play inside. This answer would then result in a discussion about why you think the children answered this way (is it their curriculum, diminished access to nature, etc.)