

WEATHER WHERE WE ARE

Performance Standard 12E/11A/13B.A

Students will apply the process of scientific inquiry to explore local weather and seasonal changes accordingly:

- *Knowledge:* Collect weather data and identify weather conditions and patterns over time (from during a day across the four seasons).
- *Application:* Collect daily weather data and draw pictures of the local weather during the four seasons.
- *Communication:* Explain the kind of local weather that is typical for each of the four seasons.

Procedures

1. ***In order to know and apply concepts that describe the features and processes of Earth and its resources (12E) and concepts, principles and process of scientific inquiry(11A) and apply the use of appropriate scientific tools (13B)***, students should experience sufficient learning opportunities to develop the following:
 - Begin guided inquiry about weather conditions and their seasonal context.
 - Collect and record daily local weather data for extended periods of time (ex: for one week, every day at the same time), using thermometers (individually or as class project) in each season.
 - Predict local weather conditions for next day, based on collected data.
 - Generalize about highest and lowest temperatures during a week, month and season.

Note to teacher: This activity relates to knowledge associated with standard 12E, while addressing the performance descriptors for stage A within standard 11A. Applying scientific habits of mind noted in standard 13A are foundational to these activities. Using various technologies to estimate, measure and record data, address some performance descriptors in 13B.
2. Have students review and discuss the assessment task and how the rubric will be used to evaluate their work.
3. Begin guided inquiry by having students share their current understanding about weather watching and the seasons. Instruct students on the use of a thermometer and procedure for recording the temperature at the same time of day for this activity. Guide students toward answering their questions and stating their understanding using applicable scientific vocabulary terms and resources.
4. Ask students to complete the provided task sheet for TODAY. Ask each student to include any of the following information appropriate to the day on their paper:
 - What does the sky look like at this time?
 - What does the ground look like at this time?
 - What kind of outside clothes are worn at this time?
 - What is the temperature at this (established daily routine) time?
 - The students should be asked to graphically display the on-going temperature, sky/ground conditions collection data for a classroom graphing activity, from which their predictions could be informed.
 - Correlate their predictions for tomorrow's conditions to assess classroom dependability. Continue guided inquiry to promote questions about the correlations of cloud cover, rain, snow, proper outerwear, etc. to temperature increases and decreases. Guide the students toward answering their questions using applicable scientific vocabulary terms and resources.
5. At the end of a month, ask students to complete the provided task sheet for the MONTH. Ask students to generalize their answers for the month. For the sky portion, were there more sunny or cloudy days during the month? For the ground portion, were there more puddles or snow days during the month? For the outside clothes, were coats necessary more days than not? They could generalize about the highest and lowest temperatures recorded during the month at the established temperature collection time in the inner circle. Continue guided inquiry to promote questions about the correlations between temperature ranges, proper outerwear and weather conditions during the month. Guide the students toward answering their questions using applicable scientific vocabulary terms and resources.
6. For each season, ask students to complete the provided task sheet for the SEASON. Ask students to generalize their answers for the season, similarly to what they did for the month task sheet. Continue guided inquiry to promote questions about the correlations between temperature ranges within the season, outerwear and weather conditions during the season. Guide the students toward answering their questions using applicable scientific vocabulary terms and resources.

7. Evaluate each student's work using the Science Rubric as follows and add the scores to determine the performance level:
- *Knowledge*: The characteristics of weather for the day, month or season were complete and correct.
 - *Application*: The drawings of the day, month and seasons were accurate, well-organized and well-detailed.
 - *Communication*: The explanations were thorough, well-reasoned and well-detailed.

Examples of Student Work not available

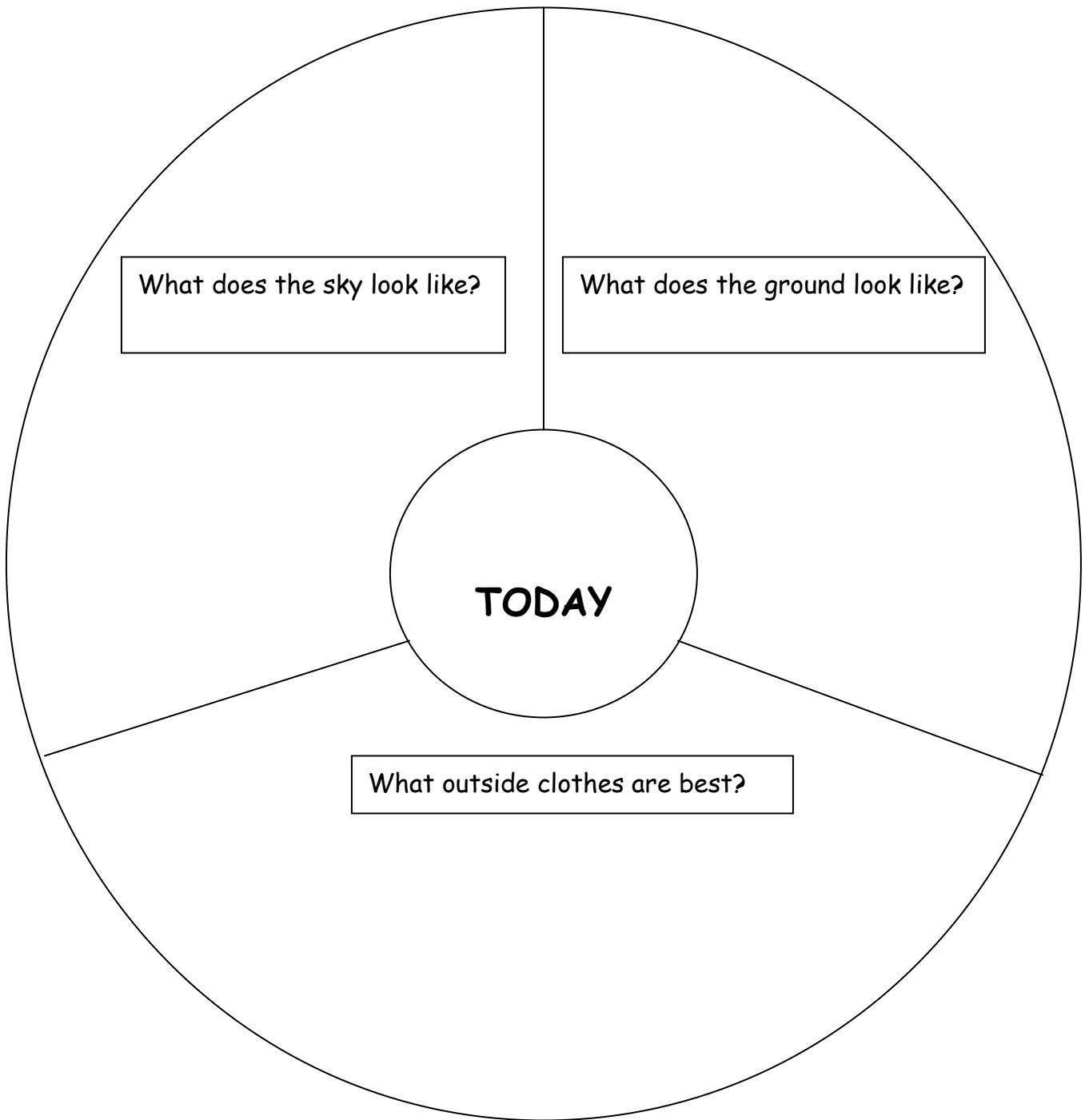
Time Requirements

- 20-30 minutes initially; 10 to 15 minutes after routine is established per student

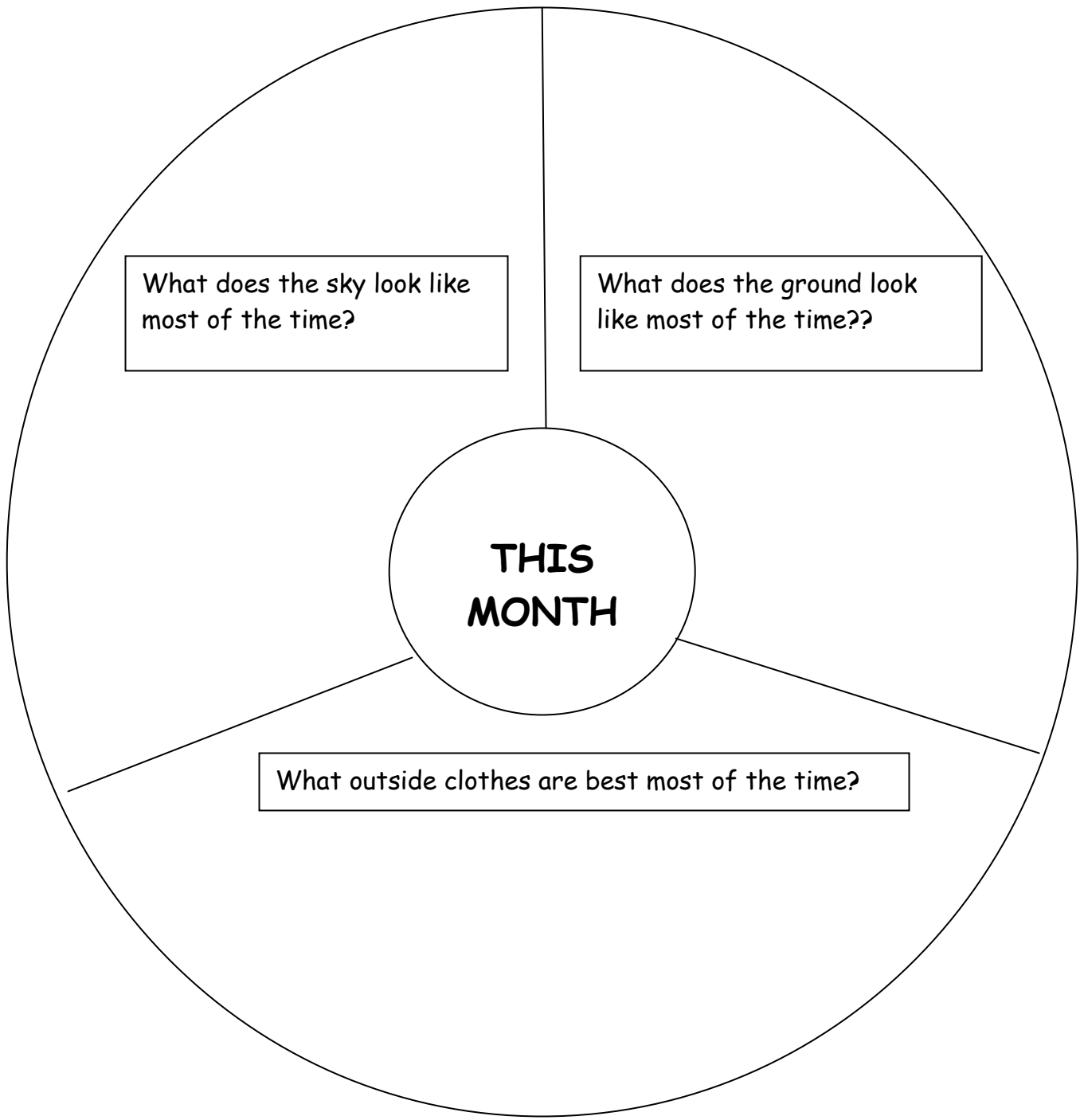
Resources

- Task pages for day, month and season
- Drawing instruments (e.g., crayons, markers)
- Science Rubric

NAME _____



NAME _____



NAME _____

