



important hints:

- Watch movie from 5:00 AM and answer question until 23:00.
- Solution movie and points provided at 8:00 the next morning.
- Answer weekend questions until Monday evening 23:00.
- Answer **exactly once**. Answers cannot be changed.
- In case of questions, ask them via contact form **before** answering.
- Additional hints might be given in the „hint of the day“
- Start with two jokers. Gain another joker by watching 10 solution movies. Jokers are played automatically in case of need.
- New - **Audience Joker**: See how the other participants voted and then decide. You can use this joker only once.
- New - **50:50-Joker**: Reduce the selection to only two options, one correct one and another one. You can use this joker only once.

This year, you can also receive PiA messages via Telegram channel <https://t.me/PhysicsInAdvent>

Shopping list for PiA – Physics in Advent 2019

www.physics-in-advent.org

- | | | |
|--|----------------------------|--|
| 1.) | • tealight or other candle | • table edge |
| | • matches or lighter | |
| 2.) | • tealight | 6.) |
| | • mustard jar | • Plastic yoghurt or cream pots |
| | • matches or lighter | • Needle or nail |
| 3.) | | • drinking glass |
| • matchbox | | • salt |
| • 20 cents or 50 cents coin | | • tablespoons |
| 4.) | | • food colouring |
| • shower head (best in the bathroom) | | • transparent water bowl |
| • bucket | | 7.) |
| • Shashlik skewers or pens | | • 50 cm parcel string |
| • adhesive tape | | • scissors |
| • Plastic bag or garbage bag | | • 10 hexagon nuts (approx. size M10) |
| • scissors | | 8.) |
| 5.) | | • none |
| • 30 cm long ruler made of plastic (or wood) | | 9.) |
| | | • a full and an empty AA or AAA battery. |



10.)

- Incense sticks or incense hats
- Tealight aluminium bowl
- balloon
- adhesive tapes
- 0,5l PET bottles
- scissors or handicraft knife

11.)

- round, bulbous wine glass
- water
- game figure, which is distinguishable right-left-up-down (e.g. by lifting arm, turning head)

12.)

- flashlight or mobile phone lamp
- cardboard roll (toilet roll or kitchen paper)
- white wall

13.)

- conical plastic drinking cup
- sink basin with flat bottom
- water jet

14.)

- two shashlik skewers (wood, approx. 20 cm)
- two cocktail tomatoes (or two equally sized plasticine balls)

15.)

- rigid 30 cm long ruler (made of wood or plastic)
- a pen
- two coins (20 cents or 50 cents)

16.)

- tealight or light candle
- sponge cloth
- matches or lighter

17.)

- DIN-A4 cardboard box (not too thick)
- adhesive tape
- two coins
- scissors

18.)

- a very loose pair of scissors, where the blades rotate very easily.
- Cushions, newspapers, bags to intercept the scissors

19.)

- a transparent plastic container
- a water glass which fits in the container
- a bunch of coins and screws

20.)

- two balloons
- a straw
- PVC rod or plastic fork
- 60 cm string
- adhesive tapes
- a smooth plate (glass plate, mirror or plastic plate)
- soap bubbles lye

21.)

- a spoonful of soluble coffee powder (instant coffee)
- glass with still water
- glass with sparkling water (classic)

22.)

- audio files linked to the PiA website
- Smartphone app PhyPhox

23.)

- two toilet paper rolls, with paper
- adhesive tapes
- table

24.)

- two identical PET bottles, e.g. 1.5 litres
- four straws
- a drill, nail or screw of the same diameter as the straws
- possibly adhesive, kneading rubber or chewing gum
- scissors